



OCOEE CITY COMMISSION

Ocoee Commission Chambers
1 N. Bluford Avenue
Ocoee, Florida

August 20, 2024

AGENDA

6:15 PM

REGULAR CITY COMMISSION MEETING

• CALL TO ORDER

Invocation

Pledge of Allegiance

Roll Call and Determination of Quorum

• PRESENTATIONS AND PROCLAMATIONS

West Orange Healthy Selfie Day Proclamation

9/11 Remembrance Day Proclamation

Recognition of TNXL Academy 2024 NAA Premier Division Championship by Coach Brian Martinez

• STAFF REPORTS AND AGENDA REVIEW

Emergency Item - Notification of Emergency Purchase of Water Meters, MXU's, and Backflows per Emergency Notification - Section 21.6, Chapter 21, City of Ocoee Code of Ordinances. **(Acting Utilities Director Bolling)**

• PUBLIC COMMENTS

• CONSENT AGENDA

Matters listed under the consent agenda are considered to be routine and will be acted upon by one motion. There will be no separate discussion of these items unless discussion is desired by a member of the commission on a motion and a second, in which case the Mayor will instruct the City Clerk to remove that item from the Consent Agenda and such item will be considered separately.

1. Approval of Minutes from the Regular City Commission Meeting held August 6, 2024, and Budget Workshop Meeting held August 12, 2024. **(City Clerk Sibbitt)**
2. Approval of the 2025 Holiday Schedule and Canceling Five (5) Scheduled Meeting Dates. **(City Clerk Sibbitt)**
3. Approval of Ocoee High School Homecoming Parade and Pep Rally on September 25, 2024. **(Acting Assistant City Manager Rumer)**
4. Approval of All-Way Stop Control (AWSC) Warrants and Conclusion Reports for Adair/Wurst and White/Montgomery Roads. **(Acting Assistant City Manager Rumer)**
5. Approval of 606 Ocoee Apopka Sports Training Center Large Scale Final Site Plan & Development Agreement - LS-2024-0002. **(Acting Assistant City Manager Rumer)**
6. Approval of the Scope of Services for the Marketing and Graphics Firms for the City of Ocoee's 100-Year Anniversary. **(Acting Support Services Director Gaines)**

7. Approval to Replace Electrical Panels at City of Ocoee Lift Stations 14, 15, 46, 47. **(Acting Utility Director Bolling)**
8. Approval of an Escrow Agreement with Lamberts Cable Splicing Company, LLC for Replacement of City's Force Main. **(Acting Utility Director Bolling)**
9. Approval of the First Amendment to the Development Agreement with GS Crown Point Owner, LLC. **(Concurrency & Commitment Coordinator McFarlane)**
10. Approval of Interlocal Agreement Between Orange County and City of Ocoee for Fire Dispatch Services. **(Deputy Fire Chief Van Camp)**
11. Approval of Wynwood Phase 1 & 2A Replat; Project No. LS-2024-004. **(Development Engineer Keaton)**
12. Approval of a Two-Year Warranty Surety and Maintenance, Materials, and Workmanship Agreement for SYM Capital Partners, LLC for the Hampton Inn Ocoee. **(Development Engineer Keaton)**
13. Approval of Piggyback Uniform Vendor Contract. **(Police Lieutenant Olson)**
14. Approval of Stormwater Improvement Projects for 2024-2025 with Inliner Solutions. **(Public Works Director Krug)**
15. Approval of a Resolution Adopting the Vision Zero Philosophy and Action Plan. **(Redevelopment Program Manager Vaca)**

• **FIRST READING OF ORDINANCE**

16. First Reading of Ordinance for a Temporary Six (6) Month Moratorium on the Processing and Consideration of Development Approvals. **(Acting Assistant City Manager Rumer)**

• **SECOND READING OF ORDINANCE – PUBLIC HEARING**

• **PUBLIC HEARING**

17. Approval of a Resolution to Opt Out of the Live Local Act Property Tax Exemption. **(Concurrency & Commitment Coordinator McFarlane)**

• **REGULAR AGENDA**

• **COMMENTS FROM COMMISSIONERS**

(Limit to Five Minutes)

• **ADJOURNMENT**

APPEALS: In accordance with Florida Statutes § 286.0105: Any person who desires to appeal any decision at this meeting will need a record of the proceedings and for this purpose may need to ensure that a verbatim record of the proceedings is made which includes the testimony and evidence upon which the appeal is based.

ACCOMMODATIONS FOR DISABILITIES: In accordance with Florida Statute § 286.26: Persons with disabilities needing assistance to participate in any of these proceedings should contact the Office of the City Clerk, 1 N. Bluford Avenue, Ocoee, FL 34761, (407) 905 -3105 48 hours in advance of the meeting.



Proclamation

- Whereas,** Healthy West Orange inspires healthy behaviors and provides resources to help residents make better lifestyle choices; and
- Whereas,** Healthy West Orange champions healthy programs that deliver health and wellness activities; and
- Whereas,** The City of Ocoee partnered with Healthy West Orange to build the Healthy West Orange Wellness Park which is a popular wellness destination for Ocoee residents to walk, run, bike and train.
- Whereas,** Healthy West Orange unites health-minded organizations for whom a healthy community provides meaningful benefits; and
- Whereas,** Healthy West Orange advocates for healthy community decisions and encourages local leaders to keep their communities' health and wellness a top priority; and
- Whereas,** Healthy West Orange declares the third Friday in September as the Annual West Orange Healthy Selfie Day.
- Therefore,** It is my great pleasure and privilege as the Mayor of the City of Ocoee to declare Friday, September 20, 2024, as

West Orange Healthy Selfie Day

and in celebration of the 8th Anniversary of Healthy Selfie, I urge all citizens to join in supporting this initiative.

In witness thereof, I have hereunto set my hand and caused the City Seal to be affixed this 20th day of August, 2024.

Rusty Johnson, Mayor



Never Forget



Proclamation

Whereas: The earth shook on September 11, 2001, from an assault on The United States of America; and

Whereas: The democratic freedoms we all share were attacked by terrorists from afar; and

Whereas: Nearly 3,000 perished in the attack, with more than 400 of those being first responders who sacrificed their lives in an attempt to save others, all innocent victims of an evil beyond our comprehension; and

Whereas: This loss of life and the savagery of the attack on icons of our freedoms have left few Americans untouched; and

Whereas: We want to reach out to those families that have been sacrificed for a meaningless representation of a radical political view; and

Whereas: Our standard has been “One Nation under God,” and we should stand up for our right and freedom with God’s guidance; and

Whereas: These terrorists must be shown what freedom means to Americans, including the right to worship our God without fear of intimidation; and

Whereas: In memory of those we lost on this tragic day, we pray to never see a day like this again, and know the American spirit can never be broken and the unbreakable spirit lives on today in the courage of the first responders who safeguard our city each day, and the patriotism that lives on in the citizens of our great community.

Now, Therefore: The City Commission of the City of Ocoee, Florida, proclaims that September 11, 2024, be known as a day of prayer, remembrance, and rededication to patriotism and love for our country that will be recognized forever.

IN WITNESS WHEREOF, I hereunto have set my hand and caused the Seal of the City of Ocoee to be affixed this 20th Day of August 2024.

Rusty Johnson, Mayor

May God Bless America and May She Survive Forever.



Meeting Date: August 20, 2024
Item #:

Contact Name: Jen Bolling
Contact Number: Ext. 4021

Department Director: Jen Bolling
City Manager: Craig Shadrix

Subject: Emergency Item - Notification of Emergency Purchase of Water Meters, MXU's, and Backflows per Emergency Notification - Section 21.6, Chapter 21, City of Ocoee Code of Ordinances. (Acting Utilities Director Bolling)

Background Summary:

As part of the approved City of Ocoee Budget for Fiscal Year 2023-2024, the Water Field Operations budget includes \$300,000.00 to purchase new water meters, MXU's & backflows. These items have been in short supply and our supplier, Core & Main, notified the Utilities Department that a small supply of water meters, MXU's & backflows became available. A purchase order for water meters was issued to Core & Main in November 2023 in the amount of \$200,000.00. In order to secure the newly available supplies, an emergency purchase order increase of \$86,000.00 was done and the items will ship to the City of Ocoee this week. This brings the total amount of the purchase order to \$286,000.00, which is below the budgeted amount.

Issue:

Provide notification to Mayor and City Commissioners of Emergency Purchase exceeding City Manager's normal purchase authority as provided by Section 21.6 Emergency Purchase, Chapter 21 of City Code of Ordinances.

Recommendations:

N/A

Attachments:

None

Financial Impacts:

None, as this purchase remains within the budgeted amount.

Type of Item: Staff Action Items

OCOEE CITY COMMISSION
Ocoee Commission Chambers
1 N. Bluford Avenue
Ocoee, Florida

August 6, 2024

MINUTES

6:15 PM

REGULAR CITY COMMISSION MEETING

• **CALL TO ORDER 6:15 PM**

Mayor Johnson called the regular session to order at 6:15 PM in the Commission Chambers of City Hall. The invocation was led by **Ages Hart**, *Ocoee Resident*, followed by the Pledge of Allegiance to the Flag led by **Commissioner Kennedy**. **City Clerk Sibbitt** called the roll and declared a quorum present.

Present: Mayor Johnson, Commissioner Kennedy, Commissioner Wilsen, Commissioner Firstner, Commissioner Oliver

Also Present: Assistant City Manager Shadrix, City Attorney Geller, City Clerk Sibbitt

• **PRESENTATIONS AND PROCLAMATIONS - None**

• **STAFF REPORTS AND AGENDA REVIEW 6:17 PM**

Assistant City Manager Shadrix informed the City Commission that city staff has received the traffic study from the City's consultant, Kinley Horn, regarding the intersections of Adair and Wurst Road and Montgomery and White Road. Both intersections warrant stop signs. City staff will present an agenda item at the August 20th City Commission meeting for approval of the stop sign placements.

• **PUBLIC COMMENTS 6:18 PM**

The following persons addressed the City Commission:

- **Brad Lomneck**, *Ocoee Resident*, expressed that the residents of Admiral Point and Veronica Circle have requested that landscaping be included in the budget for the upcoming budget season.
- **Dr. Lori Hart**, *Ocoee Resident*, expressed her gratitude and thanks to the commission and city staff, and her family for the support given as she pursued and graduated with her Doctoral Degree from the University of Central Florida.

• **CONSENT AGENDA 6:21 PM**

Consent Agenda Motion

Motion: Move to adopt the Consent Agenda Item #1-16; Moved by Commissioner Wilsen, seconded by Commissioner Kennedy; Motion carried 5-0.

1. Approval of Minutes from the Regular City Commission Meeting held July 16, 2024. **(City Clerk Sibbitt)**
2. Approval of Annual Fire Protection Assessment Tax Roll Resolution for the Fiscal Year 2025. **(Acting Support Services Director Gaines)**

3. Approval of Police Department Vehicle Purchase. **(Assistant Police Chief McKinstry)**
4. Approval of Police Department Vehicle Lease. **(Assistant Police Chief McKinstry)**
5. Approval of Federal Fiscal Year 2023 Edward Byrne Memorial Justice Assistance Grant (JAG) Program (JAG Countywide-State Solicitation). **(Assistant Police Chief McKinstry)**
6. Approval of Educational Affiliation Agreement with Lake Tech College. **(Deputy Fire Chief Van Camp)**
7. Approval for the Renewal of a Facility Sublicense Agreement with Valencia College and the Ocoee Fire Department. **(Deputy Fire Chief Van Camp)**
8. Approval of Utilities Easement Agreement for Bluford Warehouse & Office aka U.S. Aluminum. **(Development Engineer Keaton)**
9. Approval of a Two-Year Warranty Surety and Maintenance, Materials, and Workmanship Agreement for Magnolia Reserve Townhomes. **(Development Engineer Keaton)**
10. Approval of Correction on Workshop Date for FY 2024/2025 Budget Process. **(Finance Director Roberts)**
11. Approval of School Justice Partnership Agreement with Orange County Public Schools. **(Police Chief Ogburn)**
12. Approval to Award Invitation to Bid (ITB) #24-011 Job Order for Construction of Restroom at Healthy West Orange Wellness Park. **(Procurement Manager Tolbert)**
13. Approval to Award Request for Proposals (RFP) #24-009 Emergency-Disaster Debris Removal Term Contract. **(Procurement Manager Tolbert)**
14. Approval to Extend Existing Contract for Continuing Water Quality Professional Services. **(Public Works Director Krug)**
15. Approval of the Certification of Non-Ad Valorem Assessment Roll for Stormwater Inclusion on the Orange County Tax Roll for FY 2024/2025. **(Public Works Director Krug)**
16. Approval of the Certification of Non-Ad Valorem Assessment Roll for Solid Waste Inclusion on the Orange County Tax Roll for FY 2024/2025. **(Public Works Director Krug)**

• **FIRST READING OF ORDINANCE - None**

• **SECOND READING OF ORDINANCE – PUBLIC HEARING 6:22 PM**

17. Second Reading of Ordinance for Land Development Code Amendment Implementing the Live Local Act. **(Zoning Manager Whitfield)**

City Attorney Geller read the title of the ordinance.

Development Services Director Rumer presented a brief overview of the proposed ordinance implementing the Live Local Act which was signed into law. The primary purpose of the Bill is to increase the availability of affordable housing in the State of Florida. He summarized the preemptions on Counties and Cities, the minimum requirements for qualifying for affordable housing projects, and what this ordinance means to the City.

City Attorney Geller provided an overview on the objectives of the ordinance. He summarized height approval and protection for adjacent properties, density definition, eligible zoning districts, and local law and regulation compliance requirements.

The public hearing was opened.

The following person(s) addressed the City Commission:

- **Nicole MacInnes**, *Attorney with Sterns Weaver Miller Alhadeff & Sitterson*, expressed concerns with the proposed ordinance and offered recommendations on changes to the ordinance. **City Attorney Geller** countered the comments made by Ms. MacInnes, and provided the City Commission with context, noting that her comments were related to a rejected application for the Swanson Land Co. project, which she represents.

The public hearing was closed.

Commissioner Oliver asked about the original Lake Lotta PUD ordinance from 1994 and whether there have been any amendments regarding height, density, or zoning. **Development Services Director Rumer** addressed his question. **Commissioner Oliver** confirmed that the purpose of the proposed ordinance being considered tonight is to address the gaps not covered by the recently passed Senate Bill. **Development Services Director Rumer** answered affirmatively, and added that the ordinance will also reference the Land Development Code as the next document to address the requirements.

Motion: Move to adopt Ordinance No. 2024-25, to amend the Land Development Code relative to Qualifying Affordable Housing Projects under the requirements of Senate Bill 102 (2023), as modified by Senate Bill 328 (2024), also known as the Live Local Act; moved by Commissioner Wilsen, seconded by Commissioner Oliver; Motion carried 5-0.

• **PUBLIC HEARING 6:54 PM**

18. Public Hearing to Adopt the Annual Code Enforcement Abatement Assessment Resolution to Certify the FY 2025 Non-Ad Valorem Assessment Tax Roll. (**Acting Support Services Director Gaines**)

Support Services Director Gaines briefed the City Commission on the collection of abatement costs utilizing the special assessment process.

City Attorney Geller read the title of the resolution.

The public hearing was opened. As no speaker forms were received, the public hearing was closed.

Motion: Move to Adopt the Annual Code Enforcement Abatement Assessment Resolution No. 2024-08 and Certify the Fiscal Year 2025 Non-Ad Valorem Assessment Tax Roll for Abatement Cost Recovery; Moved by Commissioner Oliver, seconded by Commissioner Wilsen; Motion carried 5-0.

• **REGULAR AGENDA 6:56 PM**

19. Update and Request Direction on Review of the City's Wastewater Permit and Associated Lease with ZHA Incorporated (Owner's Rep Services RFP#23-005).

Robert Utsey, Representative with ZHA Incorporated explained they were contracted by the City to provide an analysis and conduct a study on the current ground lease and wastewater permit at Forest Lake Golf Club. Information has been provided to the City Commission on what has been completed to date and what information is still needed from the lessee. Their request this evening is to ask the City Commission to request the City Attorney to compel the lessee to provide the outstanding requested information so they may complete their report.

Assistant City Manager Shadrix provided a background summary on the workshop held in 2020, and explained that the City's entire wastewater permit is associated with the Forest Lake Golf Course property. He clarified the purpose of contracting ZHA Incorporated and recommended that the City Commission allow him, the City Attorney, and the consultant to proceed with the process in the City's best interest.

Logan Opshal, Attorney with Lowndes Law Firm, stated that Forest Lake Golf Course has always valued its partnership with the City. However, he noted that, without a letter of intent or a contractual agreement, they believe it is inappropriate to provide the requested financial information. He explained that they felt the nature of some of the items requested, should not be open to the public.

Motion: Move to authorize the City Manager, City Attorney, and Consultants to complete all actions necessary for the evaluation of the lease, permit, and all other analysis and correspondence for the Forest Lake Golf Course property; Moved by Commissioner Firstner, seconded by Commissioner Wilsen; Motion carried 4-1 with Commissioner Oliver opposing.

20. Update and Request Direction: Kurt Ardaman of the City Attorney's Office (Fishback Dominick) regarding City-owned property located at 10521 Clarcona Ocoee Road (Forest Lake Golf Course).

Kurt Ardaman, Attorney with Fishback Dominick, briefed the City Commission on a letter dated June 26, 2024, received from Attorney Opshal, which notified the City that it has sixty (60) days to exercise its right of first refusal. He explained that, in addition to the purchase and sale agreement, the City also needs information from the assignee, JA Hospitality LLC. Therefore, the City is requesting an additional sixty (60) days to gather the necessary information for evaluation and to bring a recommendation back to the City Commission.

Logan Opshal, Attorney with Lowndes Law Firm, shared his client is ready to retire and pass the business to another golf course operator. He mentioned that they are ready to provide information related to the perimeter that approves the assignment under the ground lease. However, he noted that he is unable to speak on behalf of the buyer this evening.

Commissioner Wilsen expressed concerns about ensuring that all relevant information is available before making a decision regarding the Forest Lake Golf Course property.

Commissioner Oliver echoed Commissioner Wilsen's concerns, and emphasized the need for additional time to review and fully understand the requests being made.

Commissioner Wilsen clarified that the City is not selling the land; the sale and purchase agreement pertains solely to the business, not the property.

Motion: Move to authorize the City Manager, Fishback Dominick (the City's law firm), and the City's consultants to evaluate and respond to the cover letter from Logan Opshal dated June 26, 2024, and purchase and sales agreement, regarding the lease of City-owned real property located at 10521 Clarcona Ocoee road (Forest Lake Golf Course); Moved by Commissioner Kennedy, seconded by Commissioner Wilsen; Motion carried 5-0.

• **COMMENTS FROM COMMISSIONERS 7:21 PM**

Commissioner Kennedy – No further comments.

Commissioner Wilsen – Commented on the following:

- 1) Expressed how important the businesses of Ocoee are and urged residents to support the local businesses.

Commissioner Firstner– No further comments.

Commissioner Oliver – Commented on the following:

- 1) Inquired on an update for the Clarke Rd widening project. **Assistant City Manager Shadrix** informed the City Commission that the project will be starting back up on August 19th. He explained the reason for the delay and shared the City's website will be updated to reflect the updated schedule.
- 2) Read an inspirational quote.

Mayor Johnson – Commented on the following:

- 1) Announced that school starts back up on August 12th and urged everyone to be careful and watchful of the children.
- 2) Questioned putting sprinklers back on in the right-of-way near Veronica Place. **Commissioner Wilsen** stated that she has been in communication with the president of the HOA on those issues.

• **ADJOURNMENT 7:27 PM**

APPROVED:

Attest:

City of Ocoee

Melanie Sibbitt, City Clerk

Rusty Johnson, Mayor

Ocoee City Commission
Ocoee Commission Chambers
1 N. Bluford Avenue
Ocoee, Florida

August 12, 2024

MINUTES

6:00 PM

BUDGET WORKSHOP

• **CALL TO ORDER**

Mayor Johnson called the workshop to order at 6:00 PM in the Commission Chambers of City Hall. **City Clerk Sibbitt** called the roll and declared a quorum present.

Present: Mayor Johnson, Commissioner Kennedy, Commissioner Wilsen, Commissioner Firstner, and Commissioner Oliver

Also Present: Acting City Manager Shadrix, Finance Director Roberts, Assistant Finance Director Lawitzke, Chief Accountant Meruena, and City Clerk Sibbitt

• **FISCAL YEAR 2024/2025 BUDGET OVERVIEW**

Finance Director Roberts informed the City Commission on the handouts provided, which outlined the line items for contractual services and equipment maintenance contracts for each department, should they have any questions. She also gave a brief summary of the updates to this year's budget book, highlighting the differences from last year's version. Finally, she announced the millage rate, the percentage increase over the rollback rate, and provided the ad valorem revenue figures.

• **DISCUSSION**

Acting City Manager Shadrix informed the City Commission that the landscape is evolving and that discussions will take place over the next week regarding public safety and other employee expenses. He mentioned that plans are in place to address these concerns once the City Commission provides direction. He stated that this year's budget covers the essentials, ensuring the City's finances are balanced, and noted that he has already spoken with several members of the City Commission on their requests for FY 24/25.

Mayor Johnson opened the floor for questions from the City Commission.

Commissioner Oliver inquired if future budget books could be printed double-sided. **Finance Director Roberts** addressed his request. He mentioned that he met with the Acting City Manager and most of his questions were addressed, but he still had an inquiry about the Fire Tower Truck 25 listed on page 21. He asked whether the amount listed was for a partial payment on that truck or for a new fire truck, and whether service and rating were being compromised. **Finance Director Roberts** and **Fire Chief Smothers** addressed his question. **Commissioner Oliver** referenced a previous discussion at a Commission Meeting regarding traffic signals at Clarke Road & Hackney Prairie Road and Clarke Road & Ocoee Vista Parkway. He then asked if the costs listed on page 18 include both the installation and operation of these traffic lights. **Public Works Director Krug** addressed his question. **Commissioner Oliver** opined that the installation of the Clarke Road & Ocoee Vista Parkway traffic signal should be considered to be installed first as it is near a fire station. **Public Works Director Krug** informed him it would be considered based on the traffic study. **Commissioner Oliver** asked about sidewalk repairs, noting that some residents have compiled a list of needed repairs within their subdivision. **Public Works Director Krug** addressed his question. **Commissioner Oliver** inquired about a new line item under Capital Improvements Projects which referenced street paving projects. **Finance Director**

Roberts addressed his question and explained the new line item called General Government Repairs and Replacement.

Commissioner Firstner commented that he agrees with the Enhancement Service Delivery in the Budget Message on page CM-3. He further noted that he also supports the statement on page CM-6 which referenced remaining competitive in both Police and Fire Services.

Commissioner Wilsen expressed her support on the budget message and thanked all the departments for their efforts in maintaining a balanced budget. She emphasized the importance of being fiscally responsible with the budget presented.

Commissioner Kennedy echoed the sentiments of Commissioner Firstner and Commissioner Wilsen. He shared that he did not have any questions but thanked staff for including projects in the budget that he requested in the last year. He commented on the reality of the budget year and challenges that may arise due to inflation and public safety concerns.

Mayor Johnson expressed the need to prioritize warranted traffic signals. He remarked that sidewalk repairs could be minimized if the City prevents certain trees from being planted near sidewalks. He further commented on the need for additional public safety and pay increases for general employees. **Mayor Johnson** thanked the Finance Department for the ease with the budget books as it was easy to follow. He announced that he has requested City staff to consider a different approach for the Ocoee Music Festival and instead suggested sponsoring several smaller concerts throughout the year. He recommended funds be placed aside to purchase a stage for these small concert series. Brief discussion ensued on the Ocoee Music Festival budget and retaining the name of the event as Ocoee Music Festival. **Consensus of the City Commission was to proceed with several small concert series for the Ocoee Music Festival; and further, have the Parks and Recreation Director provide them with price estimates.**

Mayor Johnson inquired about the cost of living percentage for general employees. **Acting City Manager Shadrix** shared there is a 5% increase built into the budget. He briefed the City Commission on some of the police and public safety issues they will need to tackle in an executive session.

Acting City Manager Shadrix shared that healthcare cost will also be increasing and he has tasked the City's consultant to conduct a performance audit of their system to be sure that their cost is in line with where it should be.

Acting City Manager Shadrix commented that he did receive a request from Commissioner Oliver regarding a program he wanted to discuss. **Commissioner Oliver** shared he wanted to propose a free-swimming program for children with disabilities and children between the ages of 1-10 years old. He shared it would require about \$35,000 to be budgeted. Brief discussion ensued on whether this was a program the City could undertake at this time. **Parks and Recreation Director Johnson** addressed this request and explained the issues they may encounter due to time slot availability for swim lessons and staffing.

Mayor Johnson shared that the next Budget Workshop is not needed; therefore, the next budget meeting is the Tentative Budget Public Hearing scheduled for September 11th. He further thanked all the employees and acknowledged Acting City Manager Shadrix in his new role.

• **ADJOURNMENT**

The meeting adjourned at 6:49 PM.

APPROVED:

Attest:

City of Ocoee

Melanie Sibbitt, City Clerk

Rusty Johnson, Mayor

STAFF REPORT

Meeting Date: August 20, 2024
Item #: 2

Contact Name: Melanie Sibbitt
Contact Number: Ext. 1026

Department Director: Melanie Sibbitt
City Manager: Craig Shadrix

Subject: Approval of the 2025 Holiday Schedule and Canceling Five (5) Scheduled Meeting Dates. (City Clerk Sibbitt)

Background Summary:

Section 8.01 of the Personnel Rules and Regulations lists Holidays that will be observed annually in the City of Ocoee. Each year the City Commission approves those holidays as well as selects dates for those holidays that fall on weekend days. Due to time-sensitive development projects, the Development Services Department would benefit from advance notification of planned cancelations of the Planning and Zoning and City Commission Meetings.

Issue:

Should the Honorable Mayor and City Commissioners approve the Holiday Schedule for 2025; and further, approve canceling five (5) scheduled meeting dates as recommended by staff listed below?

Recommendations:

APPROVED HOLIDAYS	DATES AS APPROVED	RECOMMENDATIONS
New Year's Day	January 1st	Wednesday, January 1, 2025
Martin Luther King, Jr. Day	Third Monday in January	Monday, January 20, 2025
Memorial Day	Last Monday in May	Monday, May 26, 2025
Independence Day	July 4th	Friday, July 4, 2025
Labor Day	First Monday in September	Monday, September 1, 2025
Thanksgiving Day	Fourth Thursday in November	Thursday, November 27, 2025
Day after Thanksgiving	Day after Fourth Thursday	Friday, November 28, 2025
Christmas	December 25th	Thursday, Dec. 25, 2025
Day Before or After Christmas	As determined by Commission	Friday, Dec. 26, 2025

Meetings	Holidays/Election Day	2025 Recommended Dates
City Commission Meeting	Martin Luther King, Jr. Day	January 21, 2025
Planning & Zoning Meeting	Municipal Election Day	March 11, 2025
City Commission Meeting	4th of July - Independence Day	July 1, 2025
City Commission Meeting	Labor Day	September 2, 2025
City Commission Meeting	NLC 2025 November Conference	November 18, 2025

Attachments:

1. 2025 Calendar
2. PRR Section 8.01

Financial Impacts:

None

Type of Item: Consent

2025 Calendar

January						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

March						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Federal Holidays 2025

Jan 1	New Year's Day	May 26	Memorial Day	Sep 1	Labor Day	Nov 27	Thanksgiving Day
Jan 20	Martin Luther King Day	Jun 19	Juneteenth	Oct 13	Columbus Day	Dec 25	Christmas Day
Feb 17	Presidents' Day	Jul 4	Independence Day	Nov 11	Veterans Day		

SECTION 8

HOLIDAYS

8.01 Days Observed

- A. When a holiday falls on Saturday or Sunday, the Friday preceding or Monday following shall be designated a substitute holiday and observed as the official holiday.
- B. The observed holidays are:
- | | |
|----------------------------|--|
| January 1 | New Year's Day |
| January - Third Monday | Martin Luther King, Jr. Day |
| May - Last Monday | Memorial Day |
| July 4 | Independence Day |
| September - First Monday | Labor Day |
| November - Fourth Thursday | Thanksgiving Day |
| November - Fourth Friday | Day after Thanksgiving |
| December | Day Before or After Christmas Day,
as Determined by City Commission |
| December 25 | Christmas Day |
- C. The City Manager will determine which departments or operations will be closed in observance of a holiday.

8.02 Eligibility for Holiday Pay

- A. All holidays must be taken as time off except for departments where employees work 24 hours.
- B. An employee must be on an approved paid leave for or work the normal schedule of hours, on the regularly scheduled working day immediately prior to and immediately following a holiday, in order to qualify for the holiday time or pay. Absences not approved in advance may not be approved depending on whether the employee's excuse and verification of the reason for the absence are acceptable to management, which, may at its option, require a doctor's excuse as well as any other evidence it deems necessary.
- C. Holiday Pay

Full-time non-exempt employees, except those covered by a Collective Bargaining Agreement, who work a regular schedule of 8, 9, 10 or 12 hour days shall receive eight (8), nine (9), ten (10) or twelve (12) hours at their straight time hourly rate.

2. Regular part-time employees who are assigned a regular schedule of more than twenty (20) but less than forty (40) hours a week, shall receive four (4) hours at their regular hourly rate provided they meet the requirements of Section 8.02(B) above and provided they are on a paid status.



Meeting Date: August 20, 2024
Item #: 3

Contact Name: Michael Rumer
Contact Number: Ext. 1018

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of Ocoee High School Homecoming Parade and Pep Rally on September 25, 2024. (Acting Assistant City Manager Rumer)

Background Summary:

The applicant, Garrett Kelly, with Orange County Public Schools (Ocoee High School) is requesting the closure of public roads within the downtown, which is located in District 2 on Wednesday, September 25, 2024, from 4:00 p.m. to 7:00 p.m. for an Ocoee High School Homecoming Parade and Pep Rally. The applicant states the parade is intended to highlight Ocoee High School Sports and Organizations, the Homecoming Court, Ocoee High Band, and Mr. and Miss Ocoee. The parade will begin and end at Bill Breeze Park. Consistent with each year's parade, a Special Event permit has been applied for by the applicant.

Issue:

Should the Honorable Mayor and City Commissioners approve the closure of Downtown Roads (S Lakewood, Lafayette St., S Bluford Ave, and drive between Old City Hall and Maguire House) on Wednesday, September 25th, between the hours of 4:00 p.m. and 7:00 p.m. for an Ocoee High School Parade and Pep Rally?

Recommendations:

Staff recommends the Honorable Mayor and City Commissioners approve the closure of Downtown Roads (S Lakewood, Lafayette St., S Bluford Ave, and drive between Old City Hall and Maguire House) on Wednesday, September 25th, between the hours of 4:00 p.m. and 7:00 p.m. for an Ocoee High School Parade and Pep Rally.

Attachments:

1. 08.06.2024 OHS 2024 Parade Special Event Application Form
2. 08.06.2024 OHS 2024 Parade Route

Financial Impacts:

Costs for Public Works and Ocoee Police to monitor the road closures.

Type of Item: Consent



SPECIAL EVENT PERMIT APPLICATION

Development Services – Building Division
 1 North Bluford Avenue ▪ Ocoee, Florida 34761
 Online Services: <https://permits.ocoe.org>
 Email: inspections@occoee.org
 Phone: 407-905-3104

An application for a Special Event Permit shall be filed not more than 180 days before and not less than 30 days before the date and time which the proposed special event is to take place.

Event Name: Ocoee High School Homecoming Parade

Event Address: 125 N Lakeshore Dr, Ocoee, FL 34761

Applicant Name: Garett Kelly

Phone: 4079053000

Email: garett.kelly@ocps.net

Mobile: 3219476855

Applicant Address: 1925 Ocoee Crown Point Pkwy

Organization Name: Ocoee High School

Phone: _____

Email: _____

Mobile: _____

Headquarters Address: _____

☒ Tax Exempt IRS 501(C)(3)

☒ Copy of Certificate provided (REQUIRED)

EVENT REPRESENTATIVE (If different than the applicant)

Representative Name: Garett Kelly

Phone: _____

Email: garett.kelly@ocps.net

Mobile: 3219476855

Address: 2052 Farnham Drive, Ocoee

EVENT CATEGORY: ☐ Private Event ☒ Public Event ☐ City Sponsored Event

TYPE OF EVENT: (check all that apply)

☐ Amusement Rides

☐ Community Event

☐ Festival

☒ Parade

☐ Art/Craft Vendors

☐ Concert

☐ Fireworks

☐ Petting Zoo

☐ Beer Sales

☐ Dancing

☒ Food Vendors

☒ Road Closure

☐ Block Party

☐ Demonstration

☐ Fundraiser

☐ Running Race

☐ Circus

☐ Exhibition

☐ Inflatables

☐ Other _____

Describe in detail the event activities and the purpose of the event:

Annual homecoming parade through downtown Ocoee. Small pep rally in Bill Breeze park afterwards,
the band will play and we will attempt to get food trucks to come out and celebrate.

Setup Date: September 25 Start Date: September 25 End Date: September 25 Total Days: 1

Event Activities Schedule: _____ Start Time: 6pm End Time: 7pm

Expected number of spectators & participants per day: 200

EVENT LOCATION: ☒ City Facility ☐ Private Residence ☐ Commercial Location
Exact Location Address: 125 N Lakeshore Dr, Ocoee, FL 34761 ☐ Parking Lot Only
Name of the Facility/Location: Bill Breeze Park

SIGNAGE: (check all that apply)

- ☐ Temporary Directional Signs @ \$5.00 per sign: _____ x \$5.00 = \$_____
☐ Sports Sign-Ups ☐ Banners ☐ Flags ☐ Streamers ☐ Balloons ☐ Others _____

EVENT INFORMATION: (check all that apply)

- ☐ Will sound amplification be used? Date: _____ Time: _____
Describe type of sound equipment: _____
☐ Does your event have tents, canopies, music stages?
Size(s): _____ Quantity of each: _____
☐ Will there be open flame cooking? Describe: _____
☐ Will you be providing portable restrooms and handwashing stations? Number of Units: _____
☐ Number of: ADA accessible restrooms: _____
☒ Clean up after event: Describe: SGA students will clean up the park (as will the band students)
☐ Will the event use power generators? Describe: _____
☐ Will you be providing Road Closure Barricades? Describe: _____
☐ Will any part of the event be held in the parking lot? Describe: _____
☐ Exact location for public parking: _____

PARADES:

- ☐ State Roadway Permit (if applicable): _____
☒ Exact Location of Marshalling & Staging Area: Bill Breeze Park
☒ Time at which units of Parade – Begin to arrive: 5:30 To be Dispersed: 7
☐ Time at which units of Parade will be dispersed: _____
☒ Route Map must indicate the exact route to be traveled
☒ Number of vehicles/floats participating: 5~
☒ Approximate number of participants & spectators: 200
☐ Number and type of animals participating: _____
☒ Will Parade occupy all of the width of the street, road or sidewalk? Describe: Yes

FIREWORKS (the following shall be attached to the application):

- ☐ Itemized listing of the type and quantity of the fireworks to be used
☐ Detailed written statement outlining all appropriate safety procedures which will be used at fireworks display in order to protect the safety of the public and all surrounding property
☐ Detailed written statement describing what facilities and containers will be used to store fireworks.
☐ If applicable, applicants Federal License number for transporting fireworks across state lines
☐ Complete list of names, addresses, occupations and backgrounds of all individuals who will be responsible for the actual display, use or explosion of any fireworks. The Backgrounds statement should include a complete history of the experience of the individuals involved with respect to their use of fireworks, including a detailed list and explanation of each and every accident resulting from the use of fireworks which the individual has been responsible for or involved in.
☐ Map showing the exact launch point and area of fallout

REQUIRED DOCUMENTS:

- ☒ **Site Plan Map:** Must indicate exact location of activities and equipment: Tents, Portable Restrooms, Stages, Road Closures, Vendors, Power Generators, Barricades, Parking Areas, Staging Areas, and Trash Bins etc.
- ☐ **Building Permits & Fire Permits:** Tents, Flame Cooking, Fireworks, and other activities may require a permit.
- ☐ **Certificate of Insurance:** Events held within City of Ocoee property must provide Commercial General Liability Coverage. Please contact the Risk Management Division for requirement details: (407) 905-3154
- ☐ **State Licenses/Permits:** Must provide copies of current licenses for activities regulated by any state agency. Including and not limited to: Beer Sales, fireworks, pyrotechnics, food, amusement rides, petting zoo etc.
- ☐ **Local Business Tax:** Must provide copies of current Local Business Tax Receipts applicable to outside businesses.
- ☐ **Department of Health Inspection Report:** Must provide report, applicable to activities regulated by DOH.
- ☐ **Event Advertisement:** Copies of pamphlets, schedule of activities, flyers, promotional materials, maps, etc.
- ☐ **Property Owner Notarized Authorization Letter:** Consent by legal property owner where event is to take place.
- ☐ **Organization Authorization Letter:** Consent must be signed by legal officer/owner of organization, authorizing the Applicant/Agent to sign application.

All information on the permit application must be provided. Failure to complete may cause a delay in processing or issuing your permit.

Applicant Signature: Garrett Kelly Date: 7/3/2024

I, _____, the legal property owner/property manager of the above
(Property Owner)
referenced address, hereby authorize _____ to apply for a Special Event
(Applicant Name)
permit for _____, which is to be held on _____ day(s) of _____, 20____.
(Name of Event)

Property Address Property Owner Signature Date

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization this _____ day of _____, 20____ by _____ who ☐ is personally known to me, or ☐ has produced _____ as identification and who did not take an oath.

Signature of Notary Public

(Seal)





Meeting Date: August 20, 2024
Item #: 4

Contact Name: Michael Rumer
Contact Number: Ext. 1018

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of All-Way Stop Control (AWSC) Warrants and Conclusion Reports for Adair/Wurst and White/Montgomery Roads. (Acting Assistant City Manager Rumer)

Background Summary: With authorization from the Honorable Mayor and City Commission, staff engaged the services of Kimley Horn Engineering to look into safety improvements at the intersection of Montgomery Ave/White Road and Adair St./Wurst Road. Kimley Horn studied a potential shift from two-way stop controls at both intersections to All-Way Stop Control (AWSC) to address safety concerns. The All-Way Stop Control Warrant study is primarily based on traffic volumes (collected by the City) and crash history (from FDOT). Additionally, the study looks at the following warrants:

- Warrant A: Crash History - If there are a certain number of crashes within 12 months or 36 months which could be corrected by AWSC, then AWSC should be considered.
- Warrant B: Sight Distance - If sight distance from a minor street is limited, then AWSC should be considered.
- Warrant C: Transition - If a traffic signal or roundabout will be installed at an intersection, then AWSC should be considered as a temporary measure.
- Warrant D: 8-Hour Volume - If the minimum volume thresholds are met along both the major street and minor street for at least 8 hours, then AWSC should be considered.
- Warrant E: Other Factors - Other factors may support the installation of AWSC such as the need to control left-turn conflicts, to improve operations, or for pedestrian safety.

Based on the studies provided, warrants were met for both intersections:

For Wurst Rd. and Adair Street, the study found that Warrant(s) A and E were satisfied.

For White Rd, and Montgomery Ave, the study found that Warrant(s) B, D, and E were satisfied.

As a result of the analysis, staff is seeking City Commission approval of the studies and authorization to move forward with the construction of the All-Way Stop improvements.

Issue:

Should the Honorable Mayor and City Commissioners approve the All-Way Stop Control (AWSC) studies by Kimley Horn to address safety concerns at the intersections of Adair/Wurst Road and Montgomery/White Roads and authorize Public Works to construct the improvements?

Recommendations:

Staff recommends the Honorable Mayor and City Commissioners approve the All-Way Stop Control (AWSC) studies by Kimley Horn to address safety concerns at the intersections of Adair/Wurst Road and Montgomery/White Roads and authorize Public Works to construct the improvements.

Attachments:

1. Wurst at Adair AWSC Warrant
2. Orlando Avenue at Montgomery AWSC Warrant

Financial Impacts:

Funding for the improvements to include stop signs and stop bars is in the current budget.

Type of Item: Consent

MEMORANDUM

To: Michael Rumer
City of Ocoee

From: James M. Taylor, P.E.
Kimley-Horn and Associates, Inc.

Date: August 5, 2024

Subject: Wurst Road at Adair Street All-Way Stop Control Warrant
City of Ocoee, FL

JAMES MICHAEL TAYLOR, P.E.

STATE OF FLORIDA,
PROFESSIONAL ENGINEER,
LICENSE NO. 69979

THIS ITEM HAS BEEN DIGITALLY SIGNED
AND SEALED BY
JAMES MICHAEL TAYLOR, P.E. ON THE
DATE INDICATED HERE.

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

Digitally signed by James M Taylor
DN: cn=James M Taylor, c=US, o=KIMLEY-HORN AND ASSOCIATES INC, email=james.taylor@kimley-horn.com
Date: 2024.08.05 17:07:26 -04'00'

PURPOSE

This All-Way Stop Control Warrant was performed to evaluate current conditions at the intersection of Wurst Road at Adair Street in the City of Ocoee, Florida to determine if all-way stop control is warranted. In addition to vehicular volumes, other factors were considered such as crash data and intersection sight distance.

This study was conducted in accordance with the guidelines and procedures outlined in the Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD), as well as standard engineering practice.

ROADWAY CHARACTERISTICS

The roadways within the study network have the following characteristics:

Wurst Road is an undivided, two-lane roadway with a posted speed limit of 25 MPH in the vicinity of the study intersection. The City of Ocoee's adopted context classification on Wurst Road is C3R (Suburban Residential). Counts collected by the City of Ocoee indicate an Average Daily Traffic (ADT) volume of 9,040 vehicles per day in April 2024.

Adair Street is an undivided, two-lane roadway with a posted speed limit of 25 MPH in the vicinity of the study intersection. The City of Ocoee's adopted context classification on Adair Street is C3R. Counts collected by the City of Ocoee indicate an ADT volume of 4,960 vehicles per day in June 2024.

DATA COLLECTION

Vehicle speed data was collected by the City of Ocoee along Wurst Road and Adair Street. To ensure the various geometric conditions along the corridor were accounted for, the speed was measured in both directions. **Table 1** summarizes the collected speed volumes on each approach. **Attachment A** provides a summary of the collected data.

Table 1: Speed Data Summary							
Location	Direction	Collection Dates	ADT	Posted Speed Limit (MPH)	85 th Percentile (MPH)	Average Speed (MPH)	Pace Speed
Wurst Road	Eastbound	4/5/2024-4/17/2024	3,700	25	31.6	27.2	22-32
	Westbound	3/25/2024-4/5/2024	5,340	25	31.5	26.4	21-31
Adair Street	Northbound	6/19/2024-6/25/2024	3,210	25	34.2	29.7	25-35
	Southbound	6/19/2024-6/25/2024	1,750	25	33.2	29.6	25-35

ALL-WAY STOP CONTROL WARRANT

An All-Way Stop Control (AWSC) warrant analysis was performed based on the criteria contained in the *Manual on Uniform Traffic Control Devices (MUTCD)*, 11th Edition, 2023 published by the Federal Highway Administration (FHWA).

According to the MUTCD, the investigation of the need for AWSC shall include an analysis of the applicable factors contained in the following all-way stop control warrants and other factors related to existing operation and safety at the study location:

- **Warrant A: Crash Experience**
- **Warrant B: Sight Distance**
- Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection
- **Warrant D: 8-Hour Volume**
- **Warrant E: Other Factors**

Warrant C is not applicable for this intersection; therefore it is not considered in this analysis. Additionally, the MUTCD provides the following guidance:

“...Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification to install or not install all-way stop control...”

“...All-way stop controls at intersections with substantially differing approach volumes can reduce the effectiveness of these devices for all roadway users...”

Warrant A: Crash Experience

The MUTCD states:

“For a three-leg intersection, there are four or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of all-way stop control.”

Crash data from January 1, 2022 – July 31, 2024 was obtained from Florida's Signal Four Analytics system with a 300-foot influence area from the center of the intersection. Eight (8) crashes were identified:

1. **24606625 (2022)** – Vehicle 1 was traveling south on Adair Street and entered the intersection, colliding with Vehicle 2 which was traveling west on Wurst Road. Vehicle 2 rolled and collided into a third vehicle which was traveling east on Wurst Road. *This crash is susceptible to correction by the installation of AWSC.*
2. **24606475 (2022)** – Vehicle 1 was traveling south on Adair Street approaching Wurst Road. Vehicle 1 went through the intersection without turning, striking a fence on the opposite side of Wurst Road. *This crash is NOT susceptible to correction by the installation of AWSC.*
3. **24093642 (2022)** – Vehicle 1 and Vehicle 2 were traveling south on Adair Street approaching Wurst Road. Vehicle 1 failed to slow in an appropriate manner, colliding with Vehicle 2. *This crash is NOT susceptible to correction by the installation of AWSC.*
4. **89037848 (2022)** – Vehicle 1 was traveling west on Wurst Road and collided with a bicyclist crossing northbound across the intersection. *This crash is susceptible to correction by the installation of AWSC.*
5. **24606439 (2023)** – Vehicle 1 was traveling south on Adair Street and continued through the stop sign. Vehicle 2 was traveling westbound on Adair Street and collided with Vehicle 1. *This crash is susceptible to correction by the installation of AWSC.*
6. **25359103 (2023)** – Vehicle 1 was traveling east Wurst Road and attempted to make a left-turn onto Adair Street. Vehicle 2 was traveling west on Wurst Road and was not able to avoid Vehicle 1, colliding with Vehicle 1. *This crash is susceptible to correction by the installation of AWSC.*
7. **25359381 (2023)** – Vehicle 1 was traveling south on Adair Street approaching Wurst Road. Vehicles 2 and 3 were stopped on Adair Street due to heavy traffic turning onto Wurst Road. Vehicle 1 failed to stop in time, and collided with Vehicle 2, sending it into Vehicle 3. *This crash is NOT susceptible to correction by the installation of AWSC.*
8. **25360404 (2024)** – Vehicles 1 and 2 were traveling south on Adair Street and stopped at the stop sign. Vehicle 1 started backing up to give more room to a truck attempting to turn from Wurst Road onto Adair Street and backed into the front of Vehicle 2. *This crash is susceptible to correction by the installation of AWSC, as the AWSC would help the intersection clear to give the truck space to turn.*

Based on a review of the crashes, five (5) crashes susceptible to correction by the installation of AWSC occurred at the study intersection within the 36-month period; therefore, Warrant A is satisfied.

Warrant B: Sight Distance

The MUTCD states:

“All-way stop control may be installed at an intersection where an engineering study indicates that sight distance on the minor-road approaches controlled by a STOP sign is not adequate for a vehicle to turn onto or cross the major (uncontrolled) road.”

Per the Florida Department of Transportation (FDOT) Design Standards, 335' of sight distance must be provided for passenger vehicles. Sight-distance along the side-street approach of the intersection was taken and from Google Streetview.



Figure 1: Adair Street looking west



Figure 2: Adair Street looking east

As shown in **Figure 1** and **Figure 2**, there are no obstructions or horizontal/vertical curvature which would limit sight distance for vehicles turning from Adair Street. Measurements indicate that over 335' of sight distance is provided in each direction, satisfying FDOT guidelines. Field verification of sight distance is recommended. It should be noted that Google Streetview is not taken at the driver eye-height recommended for sight distance evaluations.

As adequate sight distance is provided along from Adair Street, Warrant B is not satisfied, pending field verification.

Warrant D: 8-Hour Volume

The MUTCD states minimum volume thresholds that must be met by both the major and minor street approaches during the same 8 hours on any given day. It additionally states that if the 85th percentile approach speed of the major street traffic exceeds 40 MPH, the minimum volume warrants may be reduced by 70%.

As stated previously, the 85th percentile does not exceed 40 MPH; therefore, the minimum volume warrants were not reduced. Detailed AWSC vehicular volume warrant analyses are provided in **Attachment B**. Based on the analysis, 0 out of 8 hours satisfied the minimum volume warrants; therefore, Warrant D is not satisfied. Traffic volumes on Wurst Road exceeds 300 vehicles per hour for over 8 hours; however, traffic volumes along Adair Street entering the intersection do not exceed the minimum 200 vehicles per hour any hour of the day.

Warrant E: Other Factors

The MUTCD states:

“All-way stop control may be installed at an intersection where an engineering study indicates that all-way stop control is needed due to other factors not addressed in the other all-way stop control warrants. Such other factors may include, but are not limited to, the following:

- A. The need to control left-turn conflicts,*
- B. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection, or*
- C. Where pedestrian and/or bicyclist movements support the installation of all-way stop control..”*

Based on these other factors provided by the MUTCD, pedestrian and/or bicyclist movements may support the installation of all-way stop control. A crosswalk was recently installed across the eastern leg of Wurst Road. This crosswalk is located on an uncontrolled approach, where vehicles are not typically required to stop. Providing AWSC would create a safer condition for pedestrians and bicyclists, therefore, Warrant E is satisfied.

FINDINGS AND RECOMMENDATIONS

This All-Way Stop Control Warrant was performed to evaluate current conditions at the intersection of Wurst Road at Adair Street in the City of Ocoee, Florida to determine if all-way stop control is warranted. In addition to vehicular volumes, crash data, intersection sight distance and other factors were considered. A summary of findings is provided below:

- A total of 5 crashes susceptible to correction by all-way stop control have been reported over a three-year period. As this meets the threshold of five (5) crashes for a three-leg intersection, **Warrant A is satisfied.**
- Adequate sight distance appears to be provided from Adair Street, therefore Warrant B is not satisfied, pending field verification.
- A total of 0 out of 8 hours satisfied the minimum volume warrants for all-way stop control, therefore Warrant D is not satisfied.
- A pedestrian crosswalk is provided at the intersection across the east leg of Wurst Road, which is an uncontrolled approach where vehicles are not typically required to stop. Providing all-way stop control would create a safer condition for pedestrians and bicyclists, therefore, **Warrant E is satisfied.**

Based on these findings, it is recommended to install all-way stop control at the intersection of Wurst Road at Adair Street. The installation of AWSC would improve safety and access for vehicles, pedestrians, and bicyclists.

ATTACHMENT A
Collected Traffic Data



Start: 2024-04-05
End: 2024-04-17
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 13

Speed Limit: 25

Average Speed: 27.2

50th Percentile Speed: 27.27

85th Percentile Speed: 31.65

Pace Speed Range: 22-32

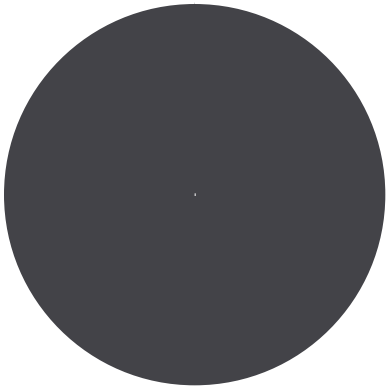
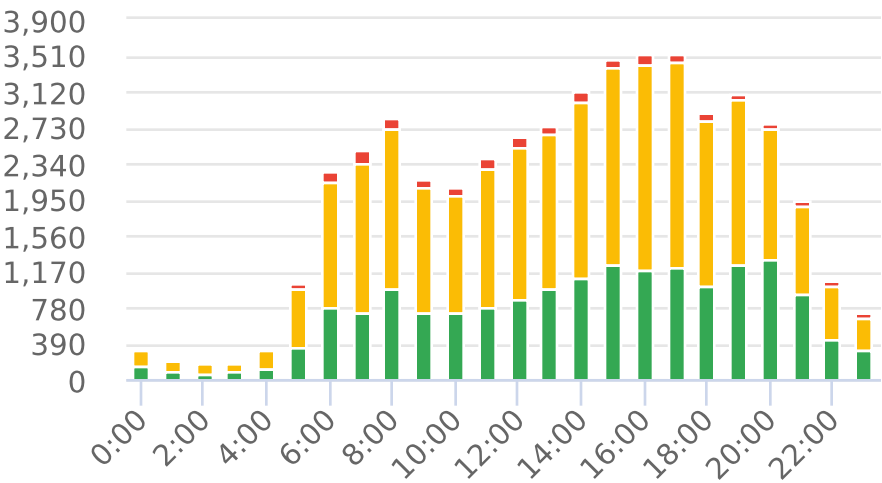
Minimum Speed: 12

Maximum Speed: 76

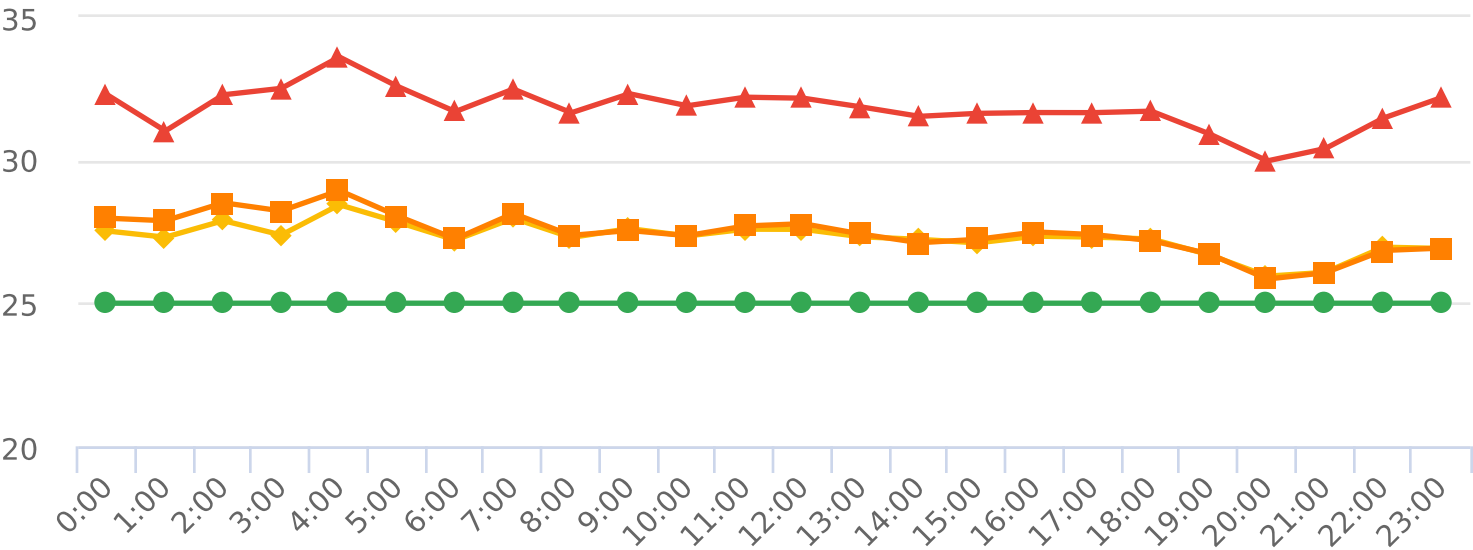
Display Mode: Unknown

Average Volume per Day: 3696.8

Total Volume: 48058



● Violators ● Inside Threshold ● Compliant ● Vehicles Slowed ● Other



● Speed Limit ● Average Speed ● 50% Speed ● 85% Speed



Extended Speed Summary
Adair/Wurst, EB

Start: 2024-04-05
End: 2024-04-17
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Unknown	25	348	31	8.9%	29.0	2.6	15	51	27.5	28.0	32.3	0.0%
1:00	Unknown	25	212	9	4.2%	17.7	0.8	15	40	27.3	27.9	31.0	0.0%
2:00	Unknown	25	202	22	10.9%	16.8	1.8	15	48	27.9	28.5	32.3	0.0%
3:00	Unknown	25	191	16	8.4%	15.9	1.3	13	54	27.4	28.2	32.5	0.0%
4:00	Unknown	25	358	32	8.9%	29.8	2.7	14	53	28.4	28.9	33.6	0.0%
5:00	Unknown	25	1047	67	6.4%	87.3	5.6	15	51	27.8	28.1	32.6	0.0%
6:00	Unknown	25	2244	94	4.2%	187.0	7.8	13	52	27.2	27.2	31.7	0.0%
7:00	Unknown	25	2472	136	5.5%	206.0	11.3	12	47	28.0	28.1	32.5	0.0%
8:00	Unknown	25	2830	100	3.5%	235.8	8.3	13	46	27.3	27.4	31.7	0.0%
9:00	Unknown	25	2176	108	5.0%	181.3	9.0	14	48	27.6	27.5	32.3	0.0%
10:00	Unknown	25	2076	70	3.4%	159.7	5.4	13	53	27.3	27.4	31.9	0.0%
11:00	Unknown	25	2394	108	4.5%	184.2	8.3	13	46	27.6	27.7	32.2	0.0%
12:00	Unknown	25	2619	103	3.9%	201.5	7.9	12	53	27.6	27.8	32.2	0.0%
13:00	Unknown	25	2758	95	3.4%	212.2	7.3	14	45	27.3	27.4	31.9	0.0%
14:00	Unknown	25	3117	112	3.6%	239.8	8.6	12	48	27.2	27.1	31.5	0.0%
15:00	Unknown	25	3480	111	3.2%	267.7	8.5	12	46	27.1	27.2	31.6	0.0%
16:00	Unknown	25	3531	112	3.2%	271.6	8.6	12	50	27.3	27.5	31.7	0.0%
17:00	Unknown	25	3533	96	2.7%	271.8	7.4	12	46	27.3	27.4	31.7	0.0%
18:00	Unknown	25	2891	99	3.4%	222.4	7.6	12	46	27.2	27.2	31.7	0.0%
19:00	Unknown	25	3101	78	2.5%	238.5	6.0	12	50	26.7	26.7	30.9	0.0%
20:00	Unknown	25	2767	58	2.1%	212.8	4.5	12	56	25.9	25.8	30.0	0.0%
21:00	Unknown	25	1925	51	2.6%	160.4	4.3	13	48	26.1	26.1	30.4	0.0%
22:00	Unknown	25	1067	42	3.9%	88.9	3.5	13	52	27.0	26.8	31.5	0.0%
23:00	Unknown	25	719	45	6.3%	59.9	3.8	14	76	26.9	26.9	32.2	0.0%
Total Volumes/ Avg			48058	1795	3.7%	3798.0	142.9	12	76	27.3	27.5	31.8	0.0%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			48058	1795	3.7%	3798.0	142.9	12	76	27.3	27.5	31.8	0.0%



Start: 2024-03-25
End: 2024-04-05
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 9

Speed Limit: 25

Average Speed: 26.4

50th Percentile Speed: 26.51

85th Percentile Speed: 31.58

Pace Speed Range: 21-31

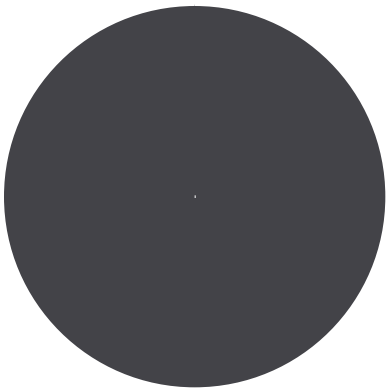
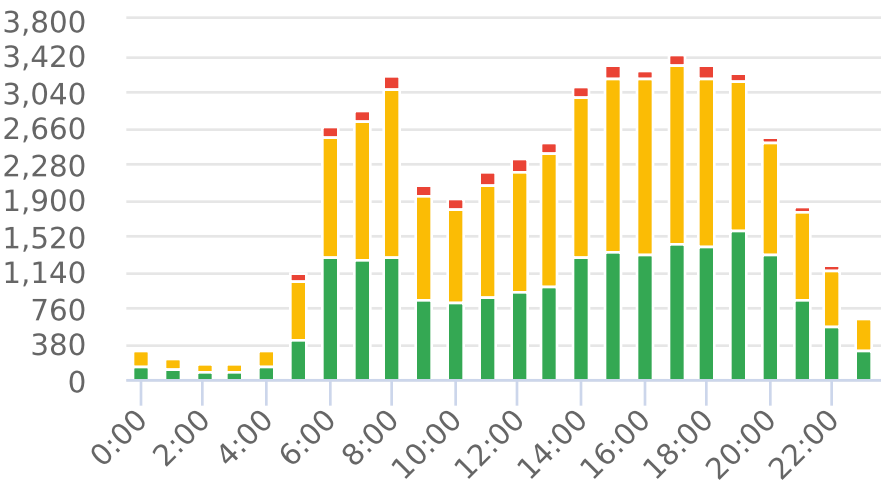
Minimum Speed: 12

Maximum Speed: 65

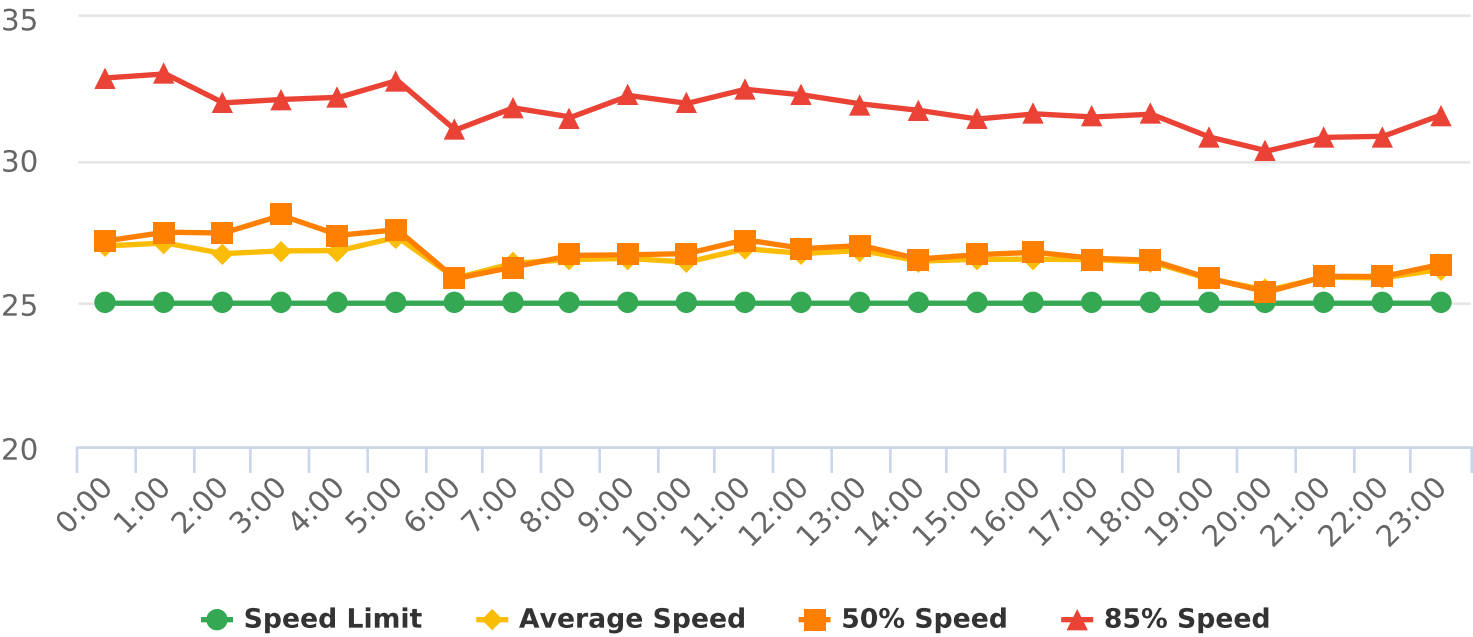
Display Mode: Unknown

Average Volume per Day: 5344.0

Total Volume: 48096



● Violators ● Inside Threshold ● Compliant ● Vehicles Slowed ● Other





Extended Speed Summary
Wurst/Adair, WB

Start: 2024-03-25
End: 2024-04-05
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Unknown	25	342	36	10.5%	42.8	4.5	12	55	27.0	27.2	32.9	0.0%
1:00	Unknown	25	243	29	11.9%	30.4	3.6	12	54	27.1	27.5	33.0	0.0%
2:00	Unknown	25	179	18	10.1%	22.4	2.3	12	47	26.7	27.5	32.0	0.0%
3:00	Unknown	25	194	13	6.7%	24.3	1.6	12	49	26.8	28.1	32.1	0.0%
4:00	Unknown	25	338	21	6.2%	42.3	2.6	13	50	26.8	27.4	32.2	0.0%
5:00	Unknown	25	1137	85	7.5%	142.1	10.6	12	59	27.3	27.6	32.8	0.0%
6:00	Unknown	25	2664	97	3.6%	333.0	12.1	12	53	25.9	25.9	31.1	0.0%
7:00	Unknown	25	2854	119	4.2%	356.8	14.9	12	47	26.4	26.3	31.8	0.0%
8:00	Unknown	25	3197	115	3.6%	399.6	14.4	12	54	26.5	26.7	31.5	0.0%
9:00	Unknown	25	2050	115	5.6%	227.8	12.8	12	52	26.6	26.7	32.3	0.0%
10:00	Unknown	25	1906	104	5.5%	238.3	13.0	12	48	26.4	26.7	32.0	0.0%
11:00	Unknown	25	2200	137	6.2%	314.3	19.6	12	57	26.9	27.2	32.5	0.0%
12:00	Unknown	25	2328	129	5.5%	332.6	18.4	12	50	26.7	26.9	32.3	0.0%
13:00	Unknown	25	2508	125	5.0%	358.3	17.9	12	49	26.8	27.0	32.0	0.0%
14:00	Unknown	25	3091	104	3.4%	441.6	14.9	12	54	26.5	26.5	31.7	0.0%
15:00	Unknown	25	3317	123	3.7%	473.9	17.6	12	50	26.5	26.7	31.4	0.0%
16:00	Unknown	25	3276	107	3.3%	468.0	15.3	12	45	26.5	26.8	31.6	0.0%
17:00	Unknown	25	3444	135	3.9%	492.0	19.3	12	47	26.5	26.6	31.5	0.0%
18:00	Unknown	25	3310	122	3.7%	472.9	17.4	12	52	26.4	26.5	31.6	0.0%
19:00	Unknown	25	3247	99	3.0%	463.9	14.1	12	57	25.8	25.9	30.8	0.0%
20:00	Unknown	25	2575	69	2.7%	367.9	9.9	12	46	25.5	25.4	30.3	0.0%
21:00	Unknown	25	1832	62	3.4%	261.7	8.9	12	53	25.9	25.9	30.8	0.0%
22:00	Unknown	25	1197	51	4.3%	171.0	7.3	12	65	25.9	25.9	30.8	0.0%
23:00	Unknown	25	667	33	4.9%	95.3	4.7	12	47	26.2	26.4	31.6	0.0%
Total Volumes/ Avg			48096	2048	4.3%	6572.7	277.7	12	65	26.5	26.7	31.8	0.0%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			48096	2048	4.3%	6572.7	277.7	12	65	26.5	26.7	31.8	0.0%



Start: 2024-06-19
End: 2024-06-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 7

Speed Limit: 25

Average Speed: 29.78

50th Percentile Speed: 29.52

85th Percentile Speed: 34.23

Pace Speed Range: 25-35

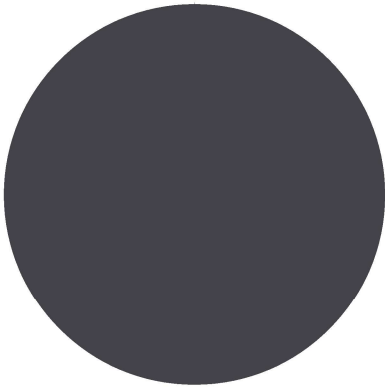
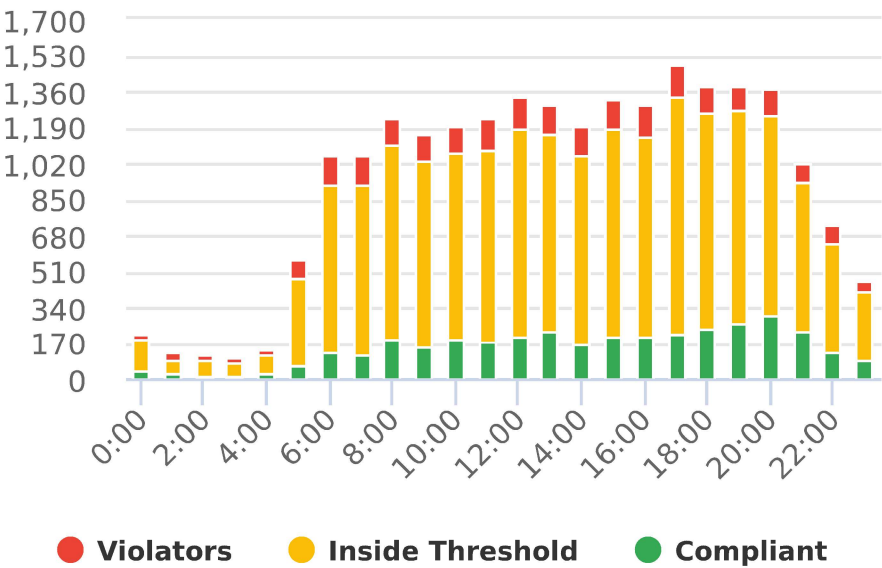
Minimum Speed: 12

Maximum Speed: 72

Display Mode: Unknown

Average Volume per Day: 3214.6

Total Volume: 22502





Extended Speed Summary
Ison Center, NB

Start: 2024-06-19
End: 2024-06-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Unknown	25	216	24	11.1%	36.0	4.0	17	58	29.6	29.6	34.0	0.0%
1:00	Unknown	25	124	30	24.2%	20.7	5.0	22	57	31.2	31.6	37.6	0.0%
2:00	Unknown	25	111	22	19.8%	18.5	3.7	21	51	31.1	31.8	35.4	0.0%
3:00	Unknown	25	97	19	19.6%	16.2	3.2	22	53	31.1	32.3	35.1	0.0%
4:00	Unknown	25	139	28	20.1%	23.2	4.7	15	47	30.8	31.1	36.1	0.0%
5:00	Unknown	25	561	78	13.9%	93.5	13.0	13	53	30.5	30.4	35.3	0.0%
6:00	Unknown	25	1063	139	13.1%	177.2	23.2	14	53	30.5	30.3	35.1	0.0%
7:00	Unknown	25	1058	143	13.5%	176.3	23.8	12	54	30.6	30.4	34.8	0.0%
8:00	Unknown	25	1233	130	10.5%	176.1	18.6	13	59	29.7	29.4	34.2	0.0%
9:00	Unknown	25	1164	131	11.3%	166.3	18.7	15	55	30.0	29.5	34.4	0.0%
10:00	Unknown	25	1195	124	10.4%	170.7	17.7	12	54	29.7	29.5	34.2	0.0%
11:00	Unknown	25	1238	150	12.1%	176.9	21.4	14	55	30.0	29.6	34.4	0.0%
12:00	Unknown	25	1338	158	11.8%	191.1	22.6	14	60	29.9	29.6	34.4	0.0%
13:00	Unknown	25	1301	140	10.8%	185.9	20.0	13	72	29.6	29.3	34.0	0.0%
14:00	Unknown	25	1197	142	11.9%	171.0	20.3	15	55	30.0	29.6	34.4	0.0%
15:00	Unknown	25	1328	147	11.1%	189.7	21.0	16	51	29.8	29.6	34.3	0.0%
16:00	Unknown	25	1292	145	11.2%	184.6	20.7	13	55	29.8	29.4	34.2	0.0%
17:00	Unknown	25	1487	158	10.6%	212.4	22.6	12	50	29.8	29.7	34.1	0.0%
18:00	Unknown	25	1387	130	9.4%	198.1	18.6	12	58	29.5	29.2	33.8	0.0%
19:00	Unknown	25	1386	112	8.1%	198.0	16.0	15	50	29.1	28.9	33.2	0.0%
20:00	Unknown	25	1370	128	9.3%	195.7	18.3	13	59	29.0	28.6	33.6	0.0%
21:00	Unknown	25	1017	91	8.9%	145.3	13.0	15	45	29.1	28.8	33.6	0.0%
22:00	Unknown	25	728	82	11.3%	104.0	11.7	15	47	29.5	29.3	34.4	0.0%
23:00	Unknown	25	472	61	12.9%	67.4	8.7	13	51	29.7	29.8	34.9	0.0%
Total Volumes/ Avg			22502	2512	11.2%	3294.8	370.5	12	72	30.0	29.9	34.6	0.0%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			22502	2512	11.2%	3294.8	370.5	12	72	30.0	29.9	34.6	0.0%



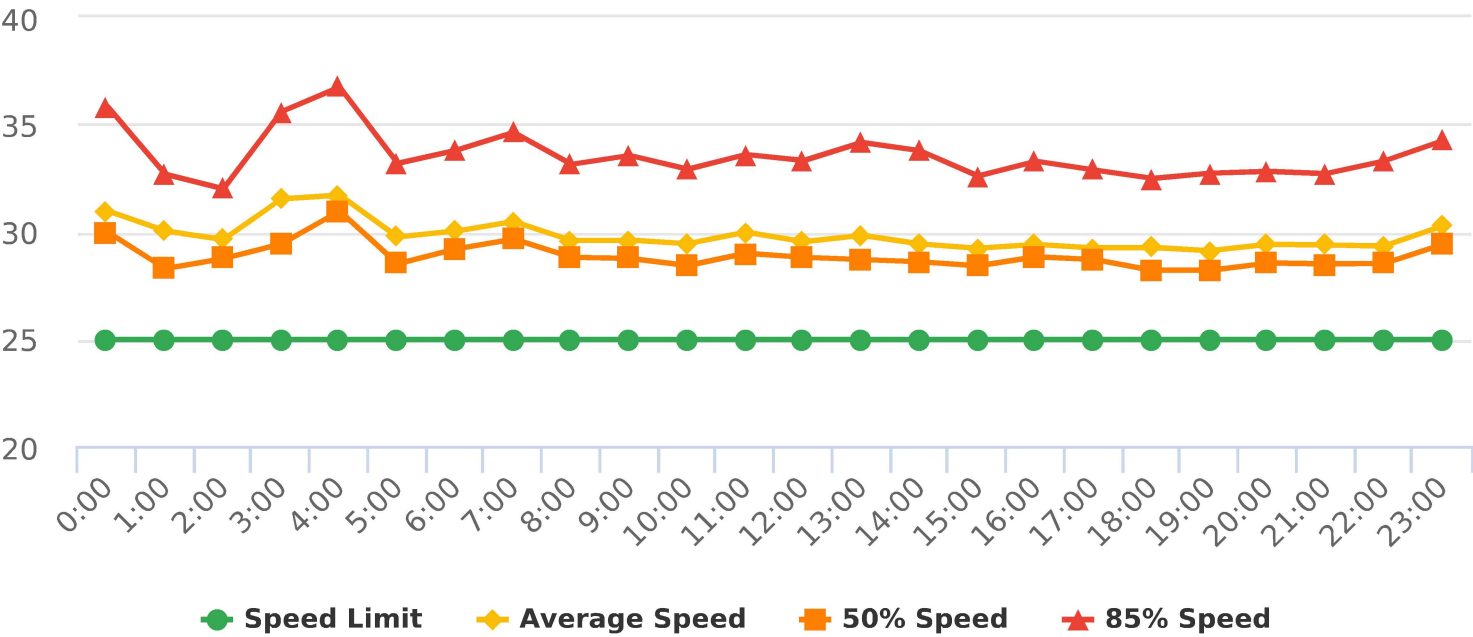
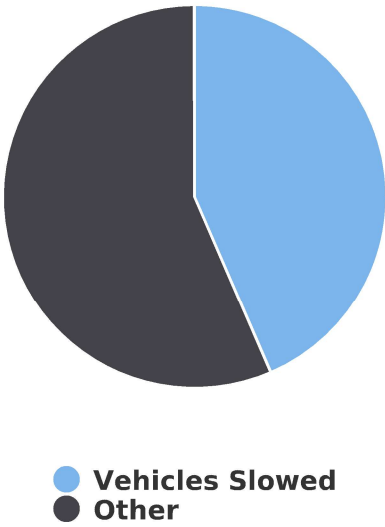
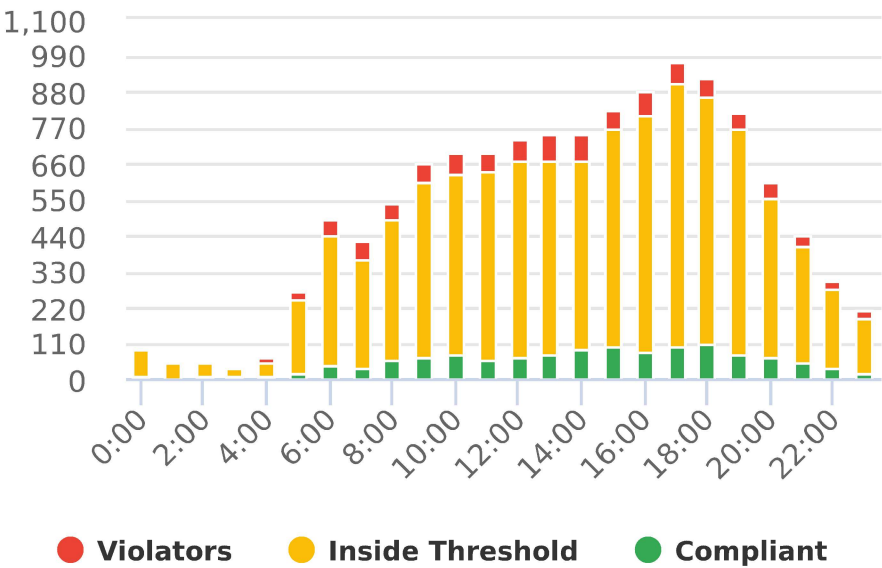
Start: 2024-06-19
End: 2024-06-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 7
Speed Limit: 25
Average Speed: 29.57
50th Percentile Speed: 28.71
85th Percentile Speed: 33.27
Pace Speed Range: 25-35

Minimum Speed: 25
Maximum Speed: 75
Display Mode: Speed Display
Average Volume per Day: 1750.6
Total Volume: 12254





Extended Speed Summary

Adair and Northern Durango, SB

Start: 2024-06-19

End: 2024-06-25

Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10

Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Speed Display	25	98	12	12.2%	16.3	2.0	25	53	31.0	30.0	35.8	40.9%
1:00	Speed Display	25	51	6	11.8%	8.5	1.0	25	53	30.0	28.3	32.7	39.3%
2:00	Speed Display	25	51	5	9.8%	8.5	0.8	25	40	29.6	28.8	32.0	47.2%
3:00	Speed Display	25	43	10	23.3%	7.2	1.7	25	56	31.5	29.4	35.6	23.5%
4:00	Speed Display	25	62	16	25.8%	10.3	2.7	25	47	31.7	31.0	36.7	37.0%
5:00	Speed Display	25	265	24	9.1%	44.2	4.0	25	49	29.8	28.5	33.2	43.0%
6:00	Speed Display	25	489	52	10.6%	81.5	8.7	25	50	30.0	29.2	33.8	40.7%
7:00	Speed Display	25	423	54	12.8%	70.5	9.0	25	44	30.5	29.7	34.6	47.7%
8:00	Speed Display	25	539	52	9.6%	77.0	7.4	25	49	29.6	28.8	33.1	45.7%
9:00	Speed Display	25	657	55	8.4%	93.9	7.9	25	52	29.6	28.8	33.5	43.6%
10:00	Speed Display	25	689	60	8.7%	98.4	8.6	25	53	29.5	28.4	32.9	47.7%
11:00	Speed Display	25	689	57	8.3%	98.4	8.1	25	52	30.0	29.0	33.6	45.5%
12:00	Speed Display	25	737	66	9.0%	105.3	9.4	25	48	29.5	28.8	33.3	44.5%
13:00	Speed Display	25	747	79	10.6%	106.7	11.3	25	54	29.8	28.7	34.2	44.1%
14:00	Speed Display	25	748	80	10.7%	106.9	11.4	25	50	29.4	28.6	33.8	46.9%
15:00	Speed Display	25	825	61	7.4%	117.9	8.7	25	50	29.2	28.4	32.6	46.3%
16:00	Speed Display	25	876	71	8.1%	125.1	10.1	25	50	29.4	28.8	33.3	43.1%
17:00	Speed Display	25	971	64	6.6%	138.7	9.1	25	48	29.3	28.7	32.9	47.3%
18:00	Speed Display	25	922	57	6.2%	131.7	8.1	25	75	29.3	28.2	32.5	45.0%
19:00	Speed Display	25	816	50	6.1%	116.6	7.1	25	45	29.1	28.2	32.7	41.5%
20:00	Speed Display	25	603	49	8.1%	86.1	7.0	25	55	29.4	28.6	32.8	37.7%
21:00	Speed Display	25	442	31	7.0%	63.1	4.4	25	45	29.4	28.5	32.7	31.9%
22:00	Speed Display	25	302	24	7.9%	43.1	3.4	25	45	29.3	28.5	33.3	32.5%
23:00	Speed Display	25	209	23	11.0%	29.9	3.3	25	48	30.3	29.4	34.2	37.0%
Total Volumes/ Avg			12254	1058	8.6%	1785.9	155.2	25	75	29.9	28.9	33.6	41.6%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			12254	1058	8.6%	1785.9	155.2	25	75	29.9	28.9	33.6	41.6%

ATTACHMENT B
AWSC Volume Warrant Table

Wurst Road at Adair Street

ALL-WAY STOP WARRANT ANALYSIS

BASED ON 2023 MUTCD

INTERSECTION NAME: Wurst Road at Adair Street

INTERSECTION CONDITION: Side-Street Stop-Control

MAJOR STREET: Wurst Road

MINOR STREET: Adair Street

85th PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

			MAJOR STREET (BOTH APPROACHES)	MINOR STREET (BOTH APPROACHES)	MAJOR STREET	MINOR STREET	BOTH MET
THRESHOLD VALUES →					300	200	
12:00 AM	TO	01:00 AM	65	14			
01:00 AM	TO	02:00 AM	43	7			
02:00 AM	TO	03:00 AM	35	7			
03:00 AM	TO	04:00 AM	36	6			
04:00 AM	TO	05:00 AM	65	9			
05:00 AM	TO	06:00 AM	207	38			
06:00 AM	TO	07:00 AM	469	70	Y		
07:00 AM	TO	08:00 AM	507	60	Y		
08:00 AM	TO	09:00 AM	573	77	Y		
09:00 AM	TO	10:00 AM	395	94	Y		
10:00 AM	TO	11:00 AM	371	98	Y		
11:00 AM	TO	12:00 PM	429	98	Y		
12:00 PM	TO	01:00 PM	460	105	Y		
01:00 PM	TO	02:00 PM	491	107	Y		
02:00 PM	TO	03:00 PM	583	107	Y		
03:00 PM	TO	04:00 PM	636	118	Y		
04:00 PM	TO	05:00 PM	636	125	Y		
05:00 PM	TO	06:00 PM	654	139	Y		
06:00 PM	TO	07:00 PM	590	132	Y		
07:00 PM	TO	08:00 PM	599	117	Y		
08:00 PM	TO	09:00 PM	499	86	Y		
09:00 PM	TO	10:00 PM	352	63	Y		
10:00 PM	TO	11:00 PM	215	43			
11:00 PM	TO	12:00 AM	129	30			
			9,041	1,751	HOURS MET: 0		
					8 HOURS NEEDED NOT SATISFIED		

MEMORANDUM

To: Michael Rumer
City of Ocoee

From: James M. Taylor, P.E.
Kimley-Horn and Associates, Inc.

Date: August 5, 2024

Subject: Orlando Avenue at Montgomery Avenue All-Way Stop Control Warrant
City of Ocoee, FL

JAMES MICHAEL TAYLOR, P.E.

STATE OF FLORIDA,
PROFESSIONAL ENGINEER,
LICENSE NO. 69979

THIS ITEM HAS BEEN DIGITALLY SIGNED
AND SEALED BY
JAMES MICHAEL TAYLOR, P.E. ON THE
DATE INDICATED HERE.

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

Digitally signed by James
M Taylor
DN: cn=James M Taylor,
c=US, o=KIMLEY-HORN
AND ASSOCIATES INC,
email=james.taylor@kimley-
horn.com
Date: 2024.08.05 17:20:27
-04'00'

PURPOSE

This All-Way Stop Control Warrant was performed to evaluate current conditions at the intersection of Orlando Avenue at Montgomery Avenue in the City of Ocoee, Florida to determine if all-way stop control is warranted. In addition to the vehicular volumes, other factors were considered including crash data and intersection sight distance.

This study was conducted in accordance with the guidelines and procedures outlined in the Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD), as well as standard engineering practice.

ROADWAY CHARACTERISTICS

The roadways within the study network have the following characteristics:

Orlando Avenue is an undivided, two-lane roadway with a posted speed limit of 30 MPH in the vicinity of the study intersection. For approximately 250' on either side of Montgomery Avenue, a center left-turn lane is provided. The City of Ocoee's adopted context classification on Orlando Avenue is C3R (Suburban Residential). Counts collected by the City of Ocoee indicate an Average Daily Traffic (ADT) volume of 5,980 vehicles per day in February 2024.

Montgomery Avenue is an undivided, two-lane roadway with a posted speed limit of 25 MPH in the vicinity of the study intersection. The City of Ocoee's adopted context classification on Montgomery Avenue is C3R. Counts collected by the City of Ocoee indicate an ADT volume of 4,790 vehicles per day in July 2024.

DATA COLLECTION

Vehicle speed data was collected by the City of Ocoee along Orlando Avenue and Montgomery Avenue. **Table 1** summarizes the collected volumes and vehicle speeds on each approach. **Attachment A** provides a summary of the collected data.

Table 1: Speed Data Summary							
Location	Direction	Collection Dates	ADT	Posted Speed Limit (MPH)	85 th Percentile (MPH)	Average Speed (MPH)	Pace Speed
Orlando Avenue	Eastbound	2/11/2024-2/25/2024	2,090	30	36.1	31.4	26-36
	Westbound	2/11/2024-2/25/2024	3,880	30	37.3	31.0	28-38
Montgomery Avenue	Northbound	7/23/2024-7/25/2024	3,130	25	26.4	22.2	17-27
	Southbound	7/23/2024-7/25/2024	1,660	25	22.0	15.1	9-19

ALL-WAY STOP CONTROL WARRANT

An All-Way Stop Control (AWSC) warrant analysis was performed based on the criteria contained in the *Manual on Uniform Traffic Control Devices (MUTCD), 11th Edition, 2023* published by the Federal Highway Administration (FHWA).

According to the MUTCD, the investigation of the need for AWSC shall include an analysis of the applicable factors contained in the following all-way stop control warrants and other factors related to existing operation and safety at the study location:

- **Warrant A: Crash Experience**
- **Warrant B: Sight Distance**
- Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection
- **Warrant D: 8-Hour Volume**
- **Warrant E: Other Factors**

Warrant C is not applicable for this intersection; therefore, it is not considered in this analysis. Additionally, the MUTCD provides the following guidance to consider:

“...Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification to install or not install all-way stop control...”

“...All-way stop controls at intersections with substantially differing approach volumes can reduce the effectiveness of these devices for all roadway users...”

Warrant A: Crash Experience

The MUTCD states:

“For a four-leg intersection, there are five or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of all-way stop control.”

Crash data from January 1, 2021 – December 31, 2023 was obtained from Florida’s Signal Four Analytics system with a 300-foot influence area from the center of the intersection. Five (5) crashes were identified:

1. **24606174 (2021)** – Vehicle 1 was traveling south on Montgomery Avenue. Vehicle 2 was traveling eastbound on Orlando Avenue. Vehicle 1 failed to yield, and pulled out in front of Vehicle 2, causing a collision. *This crash is susceptible to correction by the installation of AWSC.*
2. **25359058 (2022)** – Vehicle 1 was traveling north on Montgomery Avenue. Vehicle 2 was traveling westbound on Orlando Avenue. Vehicle 1 believed that Vehicle 2 was going to stop at the intersection and pulled out in front of Vehicle 2, causing a collision. *This crash is susceptible to correction by the installation of AWSC.*
3. **25358516 (2022)** – Vehicle 1 was traveling north on Montgomery Avenue. Vehicle 2 was traveling eastbound on Orlando Avenue. Vehicle 1 failed to yield and collided with Vehicle 2. *This crash is susceptible to correction by the installation of AWSC.*
4. **87066541 (2022)** – Vehicle 1 was traveling south on Montgomery Avenue and proceeded around a disabled vehicle and proceeded into the intersection. Vehicle 2 was traveling east along Orlando Avenue. Vehicle 1 collided with Vehicle 2, causing it to roll over. *This crash is susceptible to correction by the installation of AWSC.*
5. **25359686 (2023)** – Vehicle 1 was traveling west on Orlando Avenue and attempted to turn left onto Montgomery Avenue. Vehicle 2 was traveling east on Orlando. Vehicle 1 failed to yield and turned in front of Vehicle 2, causing a collision. *This crash is susceptible to correction by the installation of AWSC.*

Based on a review of the crashes, only five (5) crashes susceptible to correction by the installation of all-way stop control occurred at the study intersection within the 36-month period; therefore, Warrant A is not satisfied.

Warrant B: Sight Distance

The MUTCD states:

“All-way stop control may be installed at an intersection where an engineering study indicates that sight distance on the minor-road approaches controlled by a STOP sign is not adequate for a vehicle to turn onto or cross the major (uncontrolled) road.”

Per the Florida Department of Transportation (FDOT) Design Standards, 390' of sight distance should be provided for passenger vehicles. Sight-distance along the side-street approach of the intersection was taken and from Google Streetview.



Figure 1: Montgomery Avenue (north) looking west

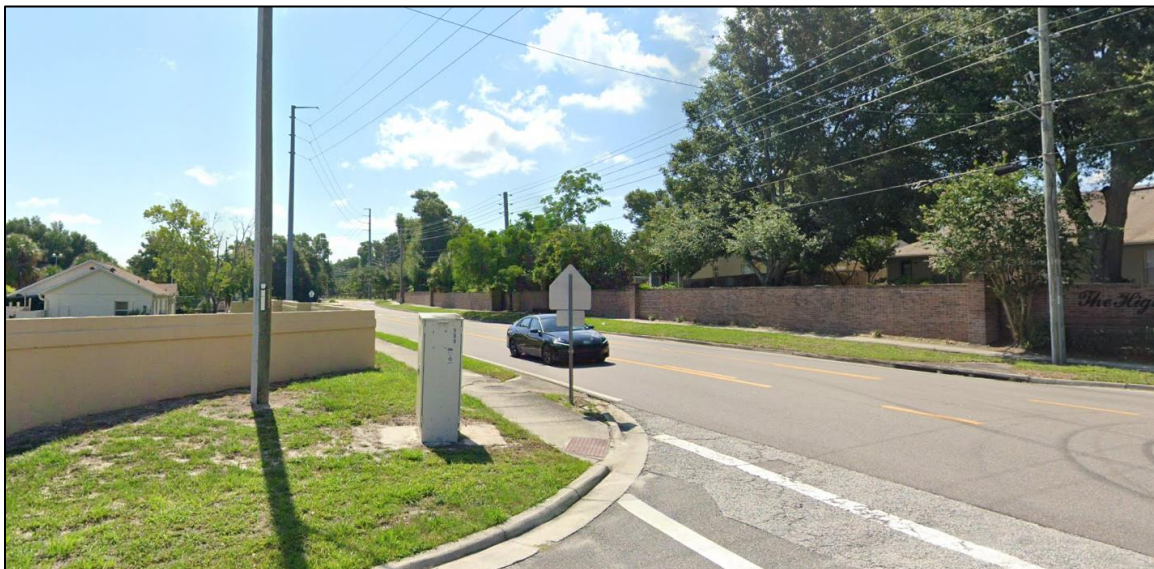


Figure 2: Montgomery Avenue (north) looking east



Figure 3: Montgomery Avenue (south) looking west



Figure 4: Montgomery Avenue (south) looking east

As shown in **Figure 1**, the signage and wall from the Veronica Place neighborhood may obstruct sight lines when looking west from the north leg of Montgomery Avenue. As shown in **Figure 4**, sight distance from the south leg of Montgomery Avenue looking east is limited by the horizontal curve along Orlando Road, however measurements indicate that over 390' of sight distance is provided, satisfying FDOT guidelines. **Figure 2** and **Figure 3** show that no obstructions limit sight distance from the other sidestreet approaches. Field verification of sight distance is recommended. It should be noted that Google Streetview is not taken at the driver eye-height recommended for sight distance evaluations.

As adequate sight distance may not be provided from the north leg of Montgomery Avenue looking west, Warrant B may be satisfied, pending field verification.

Warrant D: 8-Hour Volume

The MUTCD states minimum volume thresholds that must be met by both the major and minor street approaches during the same 8 hours on any given day. It additionally states that if the 85th percentile approach speed of the major street traffic exceeds 40 MPH, the minimum volume warrants may be reduced by 70%.

As stated previously, the 85th percentile does not exceed 40 MPH; therefore, the minimum volume warrants were not reduced. Detailed AWSC vehicular volume warrant analyses are provided in **Attachment B**. Based on the analysis, 12 out of 8 hours satisfied the minimum volume warrants; therefore, Warrant D is satisfied.

Warrant E: Other Factors

The MUTCD states:

“All-way stop control may be installed at an intersection where an engineering study indicates that all-way stop control is needed due to other factors not addressed in the other all-way stop control warrants. Such other factors may include, but are not limited to, the following:

- A. The need to control left-turn conflicts,*
- B. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection, or*
- C. Where pedestrian and/or bicyclist movements support the installation of all-way stop control..”*

Based on these other factors provided by the MUTCD, pedestrian and/or bicyclist movements may support the installation of all-way stop control. A crosswalk is provided across the western leg of Orlando Avenue. This crosswalk is located on an uncontrolled approach, where vehicles are not typically required to stop. Providing all-way stop control would create a safer condition for pedestrians and bicyclists, therefore, Warrant E is satisfied.

FINDINGS AND RECOMMENDATIONS

This All-Way Stop Control Warrant was performed to evaluate current conditions at the intersection of Orlando Avenue at Montgomery Avenue in the City of Ocoee, Florida to determine if all-way stop control is warranted. In addition to vehicular volumes, crash data, intersection sight distance and other factors were considered. A summary of findings is provided below:

- A total of 5 crashes susceptible to correction by all-way stop control have been reported over a three-year period. As this is less than the threshold of six (6) crashes for a four-leg intersection, Warrant A is not satisfied.
- The signage and wall from the Veronica Place neighborhood may obstruct sight lines from the north leg of Montgomery Avenue when looking east, therefore **Warrant B may be satisfied**, pending a field verification.
- A total of 12 out of 8 hours satisfied the minimum volume warrants for all-way stop control, therefore **Warrant D is satisfied**.
- A pedestrian crosswalk is provided at the intersection across the west leg of Orlando Avenue, which is an uncontrolled approach where vehicles are not typically required to stop. Providing all-way stop control would create a safer condition for pedestrians and bicyclists, therefore, **Warrant E is satisfied**.

Based on these findings, it is recommended to install all-way stop control at the intersection of Orlando Avenue at Montgomery Avenue.

ATTACHMENT A
Collected Traffic Data



Start: 2024-02-11
End: 2024-02-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 13

Speed Limit: 30

Average Speed: 31.4

50th Percentile Speed: 31.2

85th Percentile Speed: 36.11

Pace Speed Range: 26-36

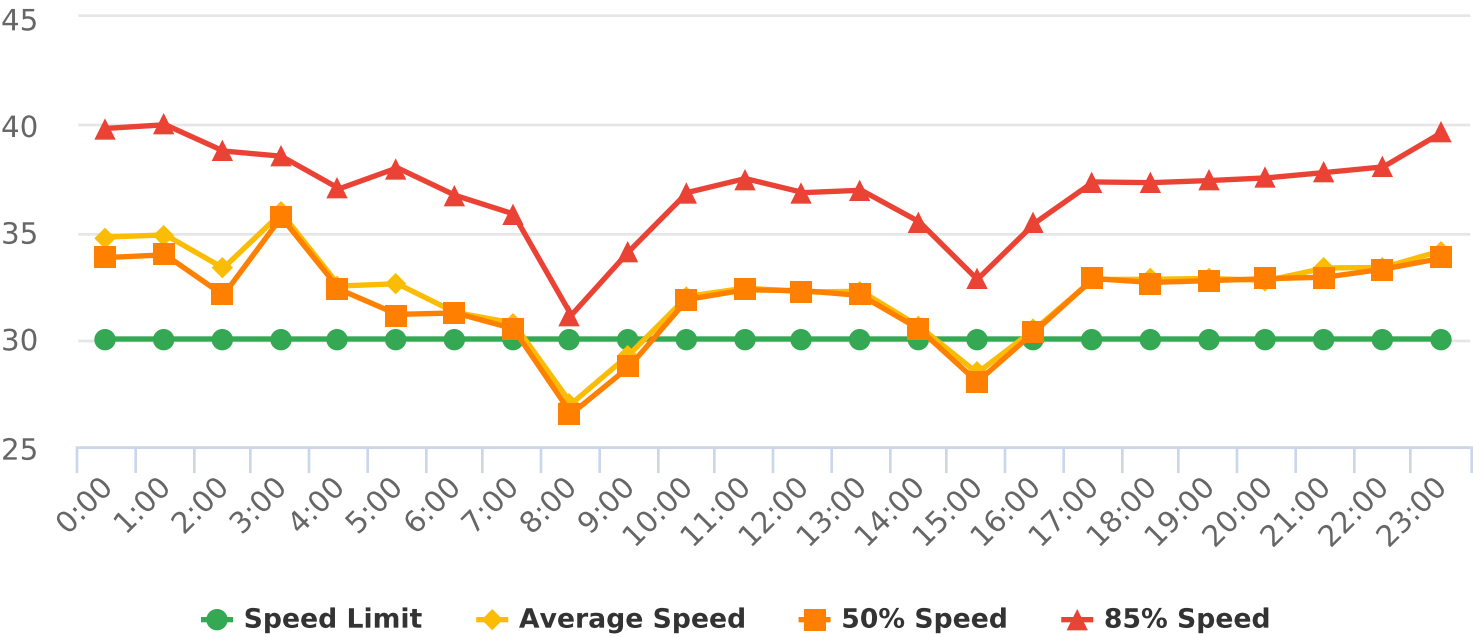
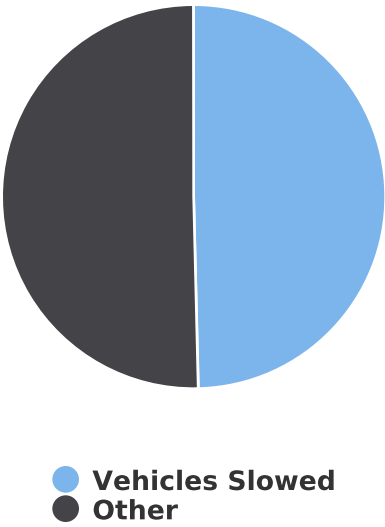
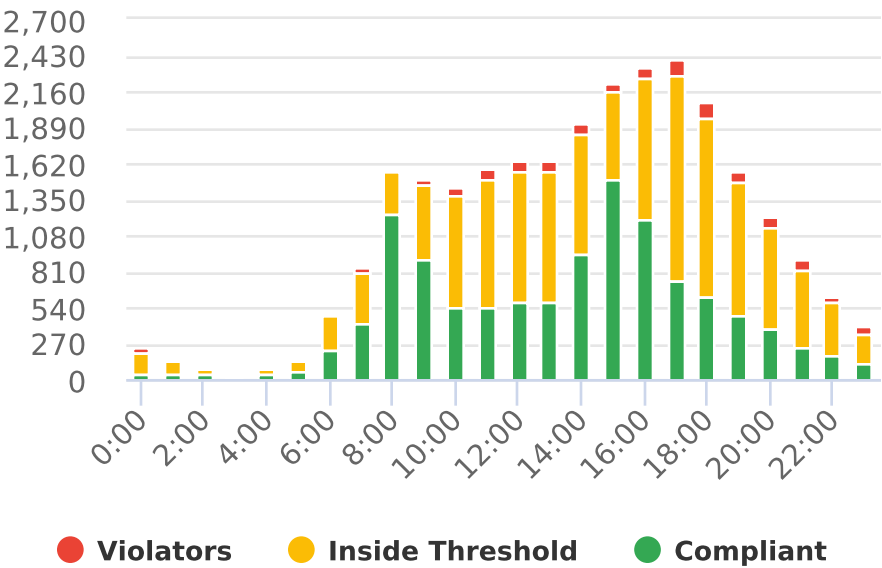
Minimum Speed: 20

Maximum Speed: 68

Display Mode: Speed Display

Average Volume per Day: 2093.8

Total Volume: 27220





Extended Speed Summary
Orlando Road/Banderas, EB

Start: 2024-02-11

End: 2024-02-25

Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10

Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Speed Display	30	236	39	16.5%	19.7	3.3	21	63	34.8	33.8	39.8	58.1%
1:00	Speed Display	30	165	24	14.5%	13.8	2.0	21	54	34.8	33.9	40.0	49.6%
2:00	Speed Display	30	99	13	13.1%	8.3	1.1	20	59	33.3	32.0	38.8	52.6%
3:00	Speed Display	30	64	14	21.9%	5.3	1.2	20	52	35.9	35.7	38.5	48.5%
4:00	Speed Display	30	96	10	10.4%	8.0	0.8	20	50	32.5	32.3	37.0	45.9%
5:00	Speed Display	30	150	18	12.0%	12.5	1.5	20	56	32.6	31.1	38.0	46.1%
6:00	Speed Display	30	505	19	3.8%	42.1	1.6	20	52	31.2	31.2	36.7	39.8%
7:00	Speed Display	30	850	46	5.4%	70.8	3.8	20	59	30.7	30.5	35.8	40.8%
8:00	Speed Display	30	1587	32	2.0%	132.3	2.7	20	54	27.0	26.5	31.1	32.7%
9:00	Speed Display	30	1499	45	3.0%	124.9	3.8	20	68	29.3	28.7	34.1	39.1%
10:00	Speed Display	30	1439	56	3.9%	119.9	4.7	20	52	32.0	31.8	36.8	53.9%
11:00	Speed Display	30	1588	81	5.1%	132.3	6.8	20	58	32.4	32.3	37.5	53.2%
12:00	Speed Display	30	1645	82	5.0%	137.1	6.8	20	55	32.2	32.3	36.8	57.1%
13:00	Speed Display	30	1636	81	5.0%	148.7	7.4	20	53	32.2	32.0	36.9	54.2%
14:00	Speed Display	30	1912	78	4.1%	173.8	7.1	20	52	30.6	30.5	35.5	46.5%
15:00	Speed Display	30	2218	49	2.2%	184.8	4.1	20	66	28.4	28.0	32.8	36.6%
16:00	Speed Display	30	2345	83	3.5%	195.4	6.9	20	60	30.5	30.4	35.4	47.1%
17:00	Speed Display	30	2408	134	5.6%	200.7	11.2	20	59	32.8	32.8	37.3	56.7%
18:00	Speed Display	30	2072	115	5.6%	172.7	9.6	20	66	32.8	32.6	37.3	56.4%
19:00	Speed Display	30	1560	76	4.9%	130.0	6.3	20	55	32.8	32.7	37.4	56.0%
20:00	Speed Display	30	1229	87	7.1%	102.4	7.3	20	54	32.7	32.8	37.5	59.2%
21:00	Speed Display	30	892	63	7.1%	74.3	5.3	20	55	33.3	32.9	37.8	52.2%
22:00	Speed Display	30	628	48	7.6%	52.3	4.0	20	66	33.3	33.3	38.0	57.1%
23:00	Speed Display	30	397	51	12.8%	33.1	4.3	20	65	34.1	33.8	39.6	56.9%
Total Volumes/ Avg			27220	1344	4.9%	2295.2	113.6	20	68	32.2	31.8	36.9	49.9%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			27220	1344	4.9%	2295.2	113.6	20	68	32.2	31.8	36.9	49.9%



Start: 2024-02-11
End: 2024-02-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 12

Speed Limit: 30

Average Speed: 31.05

50th Percentile Speed: 32.02

85th Percentile Speed: 37.34

Pace Speed Range: 28-38

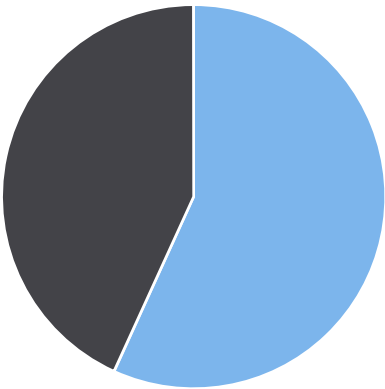
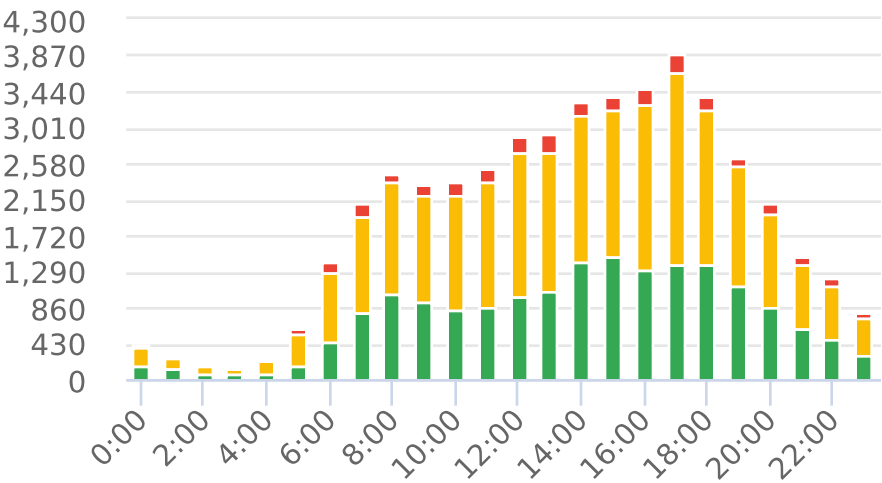
Minimum Speed: 10

Maximum Speed: 85

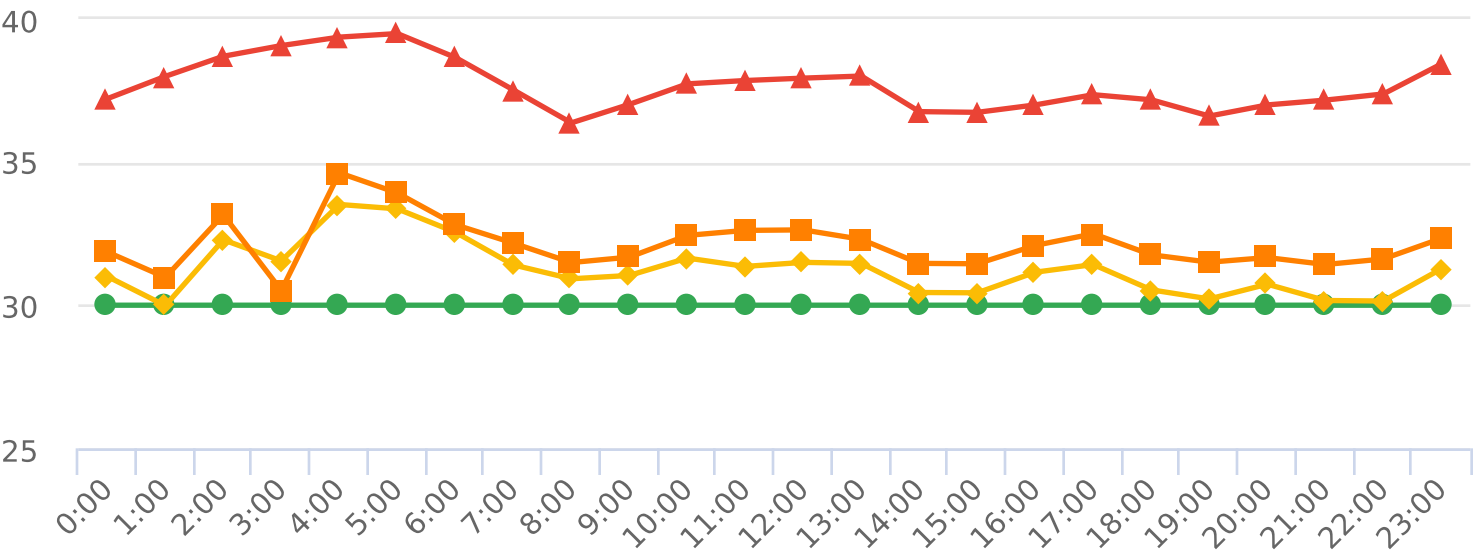
Display Mode: Speed Display

Average Volume per Day: 3880.3

Total Volume: 46564



● Violators ● Inside Threshold ● Compliant ● Vehicles Slowed ● Other



● Speed Limit ● Average Speed ● 50% Speed ● 85% Speed



Extended Speed Summary

Orlando Avenue, WB

Start: 2024-02-11

End: 2024-02-25

Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10

Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Speed Display	30	429	33	7.7%	47.7	3.7	10	52	31.0	31.9	37.2	60.2%
1:00	Speed Display	30	300	33	11.0%	33.3	3.7	10	61	30.0	31.0	38.0	57.9%
2:00	Speed Display	30	189	23	12.2%	21.0	2.6	10	85	32.3	33.2	38.7	56.2%
3:00	Speed Display	30	155	19	12.3%	17.2	2.1	10	61	31.5	30.5	39.1	55.5%
4:00	Speed Display	30	248	35	14.1%	27.6	3.9	10	48	33.5	34.6	39.4	49.5%
5:00	Speed Display	30	609	67	11.0%	67.7	7.4	10	56	33.4	33.9	39.5	48.1%
6:00	Speed Display	30	1416	131	9.3%	157.3	14.6	10	55	32.6	32.8	38.7	52.0%
7:00	Speed Display	30	2092	148	7.1%	232.4	16.4	10	55	31.4	32.2	37.5	56.1%
8:00	Speed Display	30	2465	101	4.1%	273.9	11.2	10	55	30.9	31.5	36.4	56.5%
9:00	Speed Display	30	2310	127	5.5%	231.0	12.7	10	66	31.0	31.7	37.0	54.5%
10:00	Speed Display	30	2372	162	6.8%	263.6	18.0	10	67	31.6	32.4	37.7	53.5%
11:00	Speed Display	30	2514	166	6.6%	251.4	16.6	10	52	31.4	32.6	37.9	54.6%
12:00	Speed Display	30	2900	193	6.7%	290.0	19.3	10	53	31.5	32.6	37.9	58.0%
13:00	Speed Display	30	2928	210	7.2%	292.8	21.0	10	54	31.5	32.3	38.0	57.9%
14:00	Speed Display	30	3320	166	5.0%	332.0	16.6	10	58	30.4	31.5	36.8	57.7%
15:00	Speed Display	30	3381	175	5.2%	338.1	17.5	10	51	30.4	31.4	36.7	60.0%
16:00	Speed Display	30	3456	179	5.2%	314.2	16.3	10	52	31.2	32.1	37.0	57.8%
17:00	Speed Display	30	3873	217	5.6%	387.3	21.7	10	58	31.4	32.5	37.4	59.7%
18:00	Speed Display	30	3390	173	5.1%	339.0	17.3	10	56	30.5	31.8	37.2	57.3%
19:00	Speed Display	30	2659	112	4.2%	265.9	11.2	10	52	30.2	31.5	36.6	57.0%
20:00	Speed Display	30	2094	117	5.6%	209.4	11.7	10	57	30.7	31.7	37.0	55.0%
21:00	Speed Display	30	1460	75	5.1%	146.0	7.5	10	79	30.2	31.4	37.2	56.4%
22:00	Speed Display	30	1204	82	6.8%	120.4	8.2	10	56	30.1	31.6	37.4	59.0%
23:00	Speed Display	30	800	78	9.8%	80.0	7.8	10	56	31.3	32.3	38.4	54.8%
Total Volumes/ Avg			46564	2822	6.1%	4739.1	289.0	10	85	31.3	32.1	37.7	56.1%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			46564	2822	6.1%	4739.1	289.0	10	85	31.3	32.1	37.7	56.1%



Start: 2024-07-23
End: 2024-07-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 3

Speed Limit: 25

Average Speed: 22.2

50th Percentile Speed: 22.1

85th Percentile Speed: 26.43

Pace Speed Range: 17-27

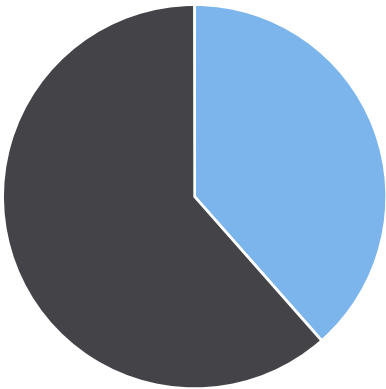
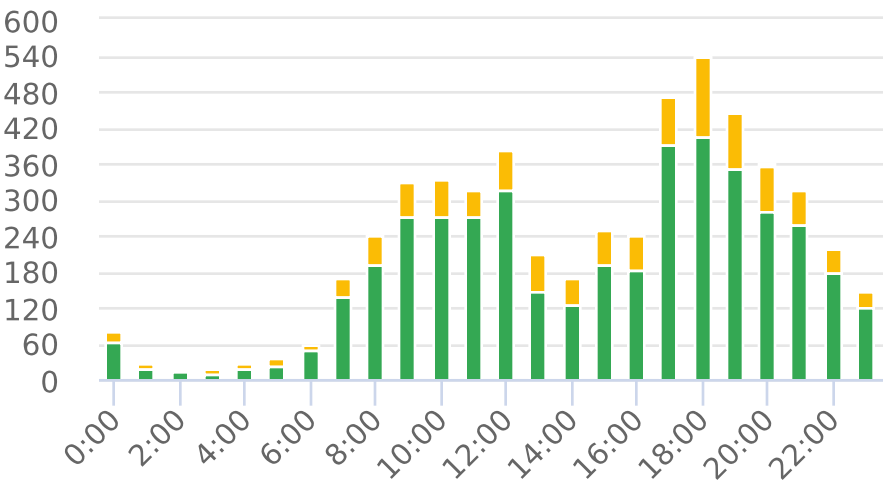
Minimum Speed: 9

Maximum Speed: 60

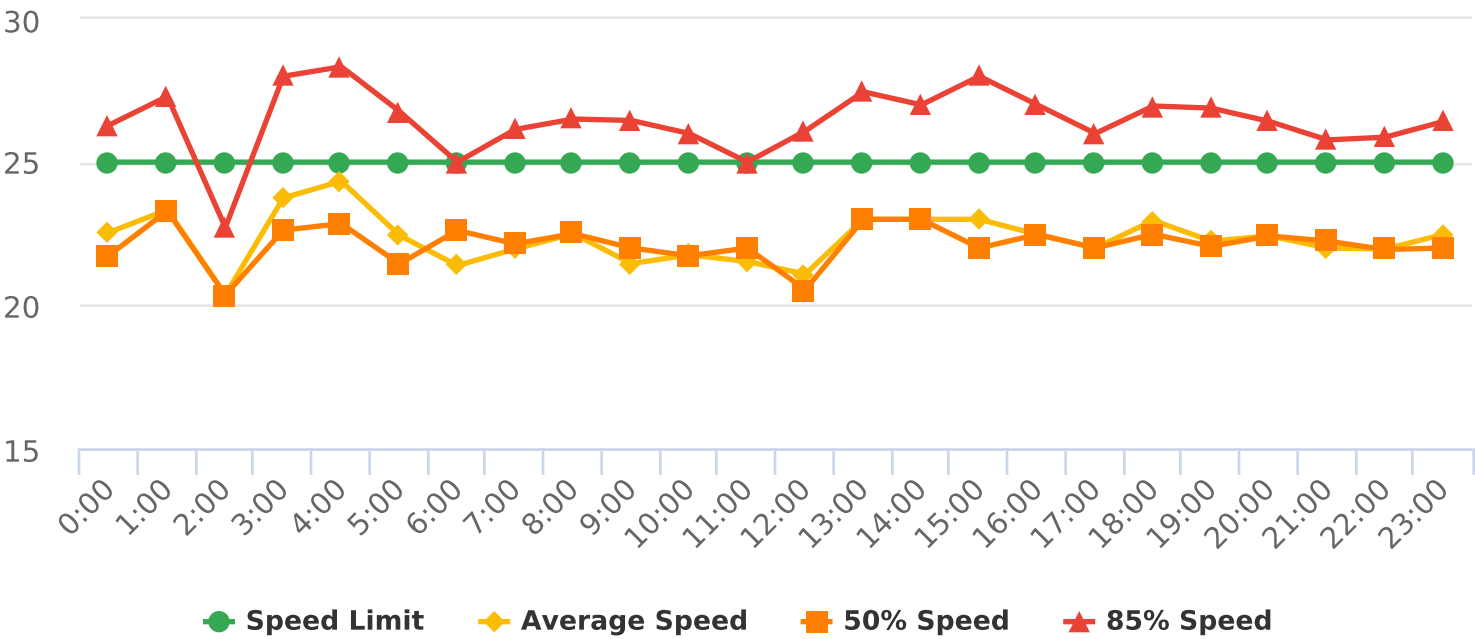
Display Mode: Speed Display

Average Volume per Day: 1797.0

Total Volume: 5391



● Violators ● Inside Threshold ● Compliant ● Vehicles Slowed ● Other





Extended Speed Summary

Montgomery Park, NB

Start: 2024-07-23

End: 2024-07-25

Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10

Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Speed Display	25	80	1	1.3%	40.0	0.5	12	40	22.6	21.8	26.3	43.7%
1:00	Speed Display	25	27	0	0.0%	13.5	0.0	12	30	23.3	23.3	27.3	55.4%
2:00	Speed Display	25	14	0	0.0%	7.0	0.0	13	31	20.4	20.4	22.7	78.8%
3:00	Speed Display	25	16	0	0.0%	8.0	0.0	14	33	23.8	22.6	28.0	50.0%
4:00	Speed Display	25	27	1	3.7%	13.5	0.5	16	36	24.3	22.9	28.3	29.9%
5:00	Speed Display	25	36	0	0.0%	18.0	0.0	14	31	22.4	21.4	26.8	44.6%
6:00	Speed Display	25	57	0	0.0%	28.5	0.0	10	30	21.4	22.6	25.0	45.6%
7:00	Speed Display	25	168	0	0.0%	84.0	0.0	11	31	22.0	22.1	26.1	41.1%
8:00	Speed Display	25	239	1	0.4%	119.5	0.5	11	38	22.5	22.5	26.5	36.5%
9:00	Speed Display	25	330	0	0.0%	165.0	0.0	9	34	21.5	22.0	26.5	41.1%
10:00	Speed Display	25	333	0	0.0%	166.5	0.0	9	35	21.8	21.7	26.0	37.0%
11:00	Speed Display	25	315	0	0.0%	157.5	0.0	10	35	21.5	22.0	25.0	35.5%
12:00	Speed Display	25	381	0	0.0%	190.5	0.0	10	34	21.1	20.5	26.1	41.6%
13:00	Speed Display	25	210	0	0.0%	210.0	0.0	10	35	23.0	23.0	27.5	37.5%
14:00	Speed Display	25	171	0	0.0%	171.0	0.0	9	35	23.0	23.0	27.0	37.0%
15:00	Speed Display	25	250	2	0.8%	250.0	2.0	9	37	23.0	22.0	28.0	31.0%
16:00	Speed Display	25	239	0	0.0%	239.0	0.0	11	33	22.5	22.5	27.0	39.5%
17:00	Speed Display	25	472	0	0.0%	236.0	0.0	10	35	22.0	22.0	26.0	34.5%
18:00	Speed Display	25	541	3	0.6%	270.5	1.5	10	42	23.0	22.5	27.0	35.1%
19:00	Speed Display	25	445	1	0.2%	222.5	0.5	9	39	22.2	22.1	26.9	34.9%
20:00	Speed Display	25	358	1	0.3%	179.0	0.5	10	38	22.4	22.4	26.4	41.4%
21:00	Speed Display	25	317	3	0.9%	158.5	1.5	9	60	22.0	22.2	25.8	41.0%
22:00	Speed Display	25	219	0	0.0%	109.5	0.0	9	33	22.0	21.9	25.9	42.4%
23:00	Speed Display	25	146	0	0.0%	73.0	0.0	12	35	22.5	22.0	26.4	53.0%
Total Volumes/ Avg			5391	13	0.2%	3130.5	7.5	9	60	22.3	22.1	26.4	42.0%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			5391	13	0.2%	3130.5	7.5	9	60	22.3	22.1	26.4	42.0%



Start: 2024-07-23
End: 2024-07-25
Times: 0:00:00-23:59:59

Speed Bins: Size 10, Range 1 to 150
Time View: By Day (Total Volumes)

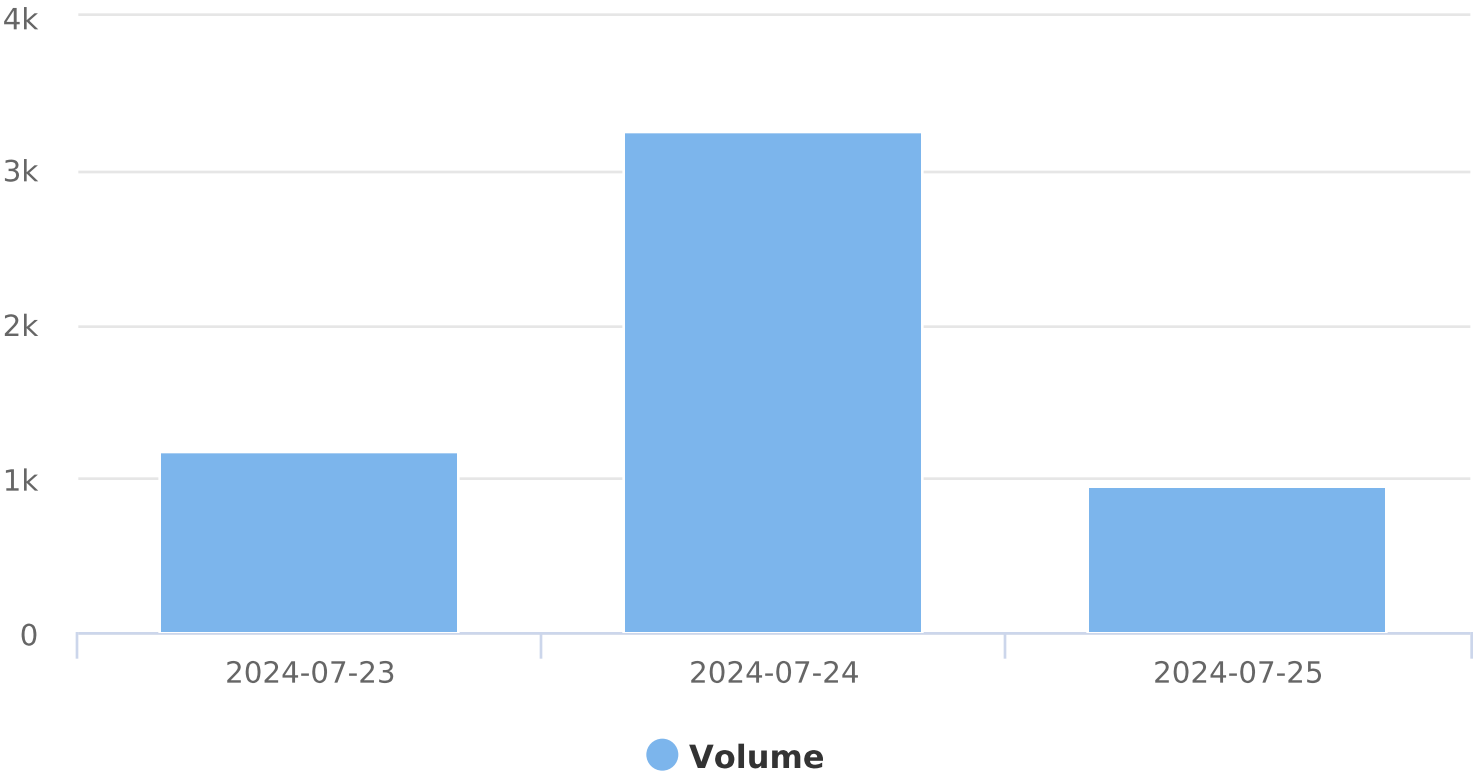
Date	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
07-23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	231	260	216	151	147	99	77	1181
07-24	36	14	11	10	13	8	35	84	120	180	178	166	207	210	171	250	239	241	281	229	207	170	120	69	3249
07-25	44	13	3	6	14	28	22	84	119	150	155	149	174	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	961
Total	80	27	14	16	27	36	57	168	239	330	333	315	381	210	171	250	239	472	541	445	358	317	219	146	5391



Start: 2024-07-23
End: 2024-07-25
Times: 0:00:00-23:59:59

Speed Bins: Size 10, Range 1 to 150
Time View: By Day (Total Volumes)

Daily Total Volume





Start: 2024-07-23
End: 2024-07-25
Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10
Speed Range: 1 to 150

Overall Summary

Total Days of Data: 3

Speed Limit: 25

Average Speed: 15.17

50th Percentile Speed: 14.54

85th Percentile Speed: 22.03

Pace Speed Range: 9-19

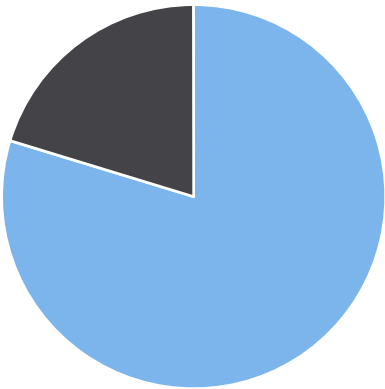
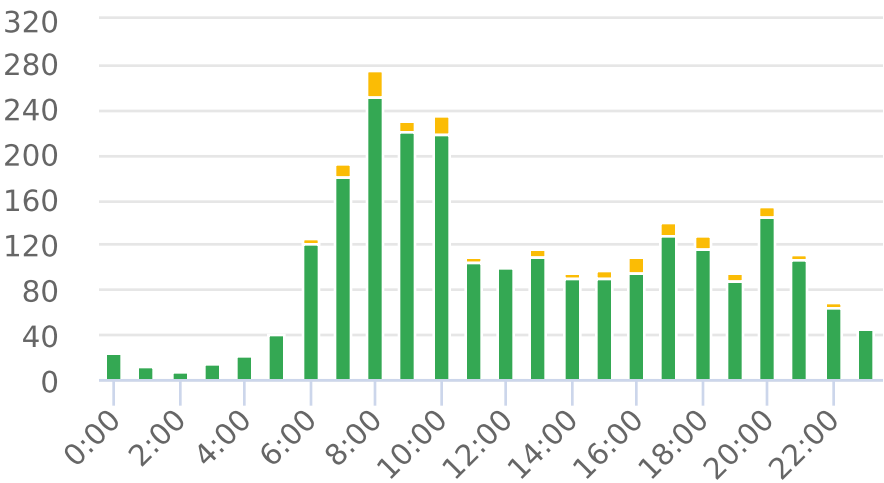
Minimum Speed: 5

Maximum Speed: 35

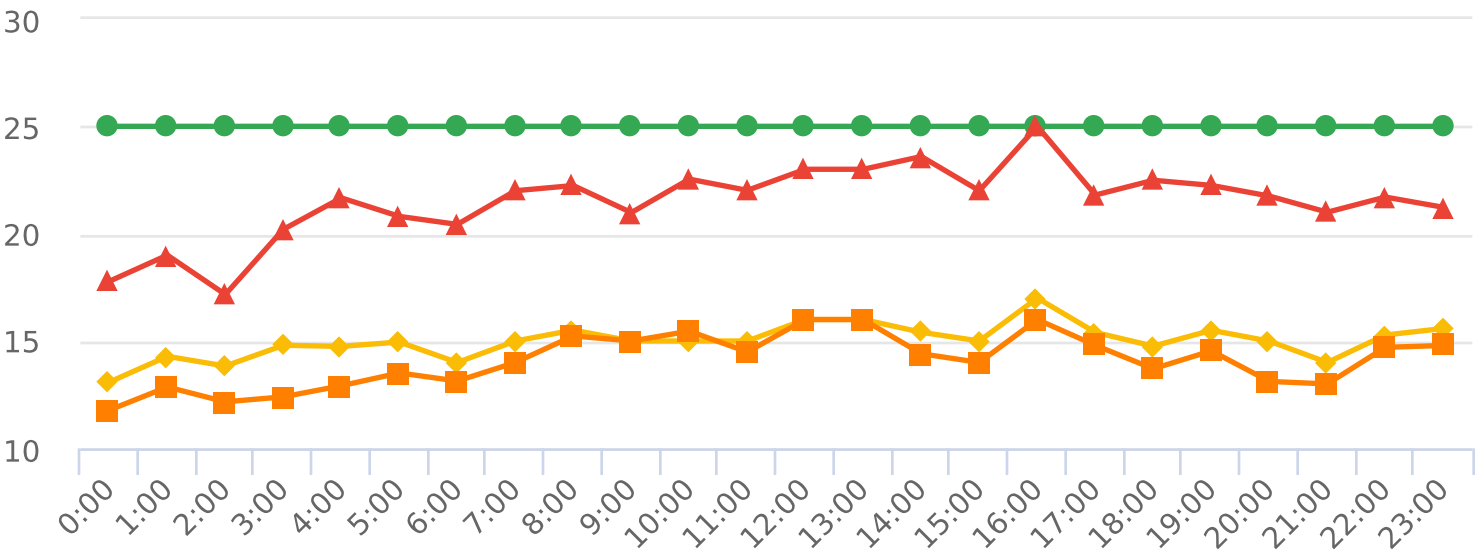
Display Mode: Daily Schedule

Average Volume per Day: 852.7

Total Volume: 2558



● Violators ● Inside Threshold ● Compliant ● Vehicles Slowed ● Other



● Speed Limit ◆ Average Speed ■ 50% Speed ▲ 85% Speed



Extended Speed Summary
Montgomery/Orlando, SB

Start: 2024-07-23

End: 2024-07-25

Times: 0:00:00-23:59:59

Violation Threshold: Speed Limit + 10

Speed Range: 1 to 150

Time	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violators	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Daily Schedule	25	23	0	0.0%	11.5	0.0	6	24	13.1	11.8	17.8	82.5%
1:00	Daily Schedule	25	14	0	0.0%	7.0	0.0	6	27	14.3	12.9	19.0	86.0%
2:00	Daily Schedule	25	6	0	0.0%	3.0	0.0	6	24	13.8	12.2	17.2	50.0%
3:00	Daily Schedule	25	15	0	0.0%	7.5	0.0	6	26	14.8	12.4	20.2	73.4%
4:00	Daily Schedule	25	24	0	0.0%	12.0	0.0	6	27	14.8	12.9	21.7	83.5%
5:00	Daily Schedule	25	41	0	0.0%	20.5	0.0	6	30	15.0	13.5	20.8	70.7%
6:00	Daily Schedule	25	125	0	0.0%	62.5	0.0	5	28	14.0	13.1	20.4	75.4%
7:00	Daily Schedule	25	192	0	0.0%	96.0	0.0	5	34	15.0	14.0	22.0	81.2%
8:00	Daily Schedule	25	276	0	0.0%	138.0	0.0	5	35	15.5	15.2	22.2	79.8%
9:00	Daily Schedule	25	230	0	0.0%	115.0	0.0	5	30	15.0	15.0	21.0	83.9%
10:00	Daily Schedule	25	235	0	0.0%	117.5	0.0	5	34	15.0	15.5	22.5	83.7%
11:00	Daily Schedule	25	110	0	0.0%	110.0	0.0	5	31	15.0	14.5	22.0	79.9%
12:00	Daily Schedule	25	103	0	0.0%	103.0	0.0	5	35	16.0	16.0	23.0	83.0%
13:00	Daily Schedule	25	116	0	0.0%	116.0	0.0	5	31	16.0	16.0	23.0	79.0%
14:00	Daily Schedule	25	96	0	0.0%	96.0	0.0	5	33	15.4	14.4	23.6	80.3%
15:00	Daily Schedule	25	97	0	0.0%	97.0	0.0	5	30	15.0	14.0	22.0	77.0%
16:00	Daily Schedule	25	109	0	0.0%	109.0	0.0	5	35	17.0	16.0	25.0	83.0%
17:00	Daily Schedule	25	140	0	0.0%	140.0	0.0	5	34	15.4	14.8	21.8	81.4%
18:00	Daily Schedule	25	129	0	0.0%	64.5	0.0	5	35	14.8	13.7	22.5	78.6%
19:00	Daily Schedule	25	96	0	0.0%	48.0	0.0	5	29	15.5	14.5	22.3	76.0%
20:00	Daily Schedule	25	153	0	0.0%	76.5	0.0	6	28	15.0	13.1	21.8	80.7%
21:00	Daily Schedule	25	112	0	0.0%	56.0	0.0	5	29	14.0	13.0	21.0	73.9%
22:00	Daily Schedule	25	68	0	0.0%	34.0	0.0	6	30	15.3	14.7	21.7	73.7%
23:00	Daily Schedule	25	48	0	0.0%	24.0	0.0	7	30	15.6	14.8	21.2	69.0%
Total Volumes/ Avg			2558	0	0.0%	1664.5	0.0	5	35	15.0	14.1	21.5	77.7%
Total/Avg w/o Feedback			0	0	0	0.0	0.0	n/a	n/a	n/a	n/a	n/a	n/a
Total/Avg w/ Feedback			2558	0	0.0%	1664.5	0.0	5	35	15.0	14.1	21.5	77.7%



Start: 2024-07-23
End: 2024-07-25
Times: 0:00:00-23:59:59

Speed Bins: Size 10, Range 1 to 150
Time View: By Day (Total Volumes)

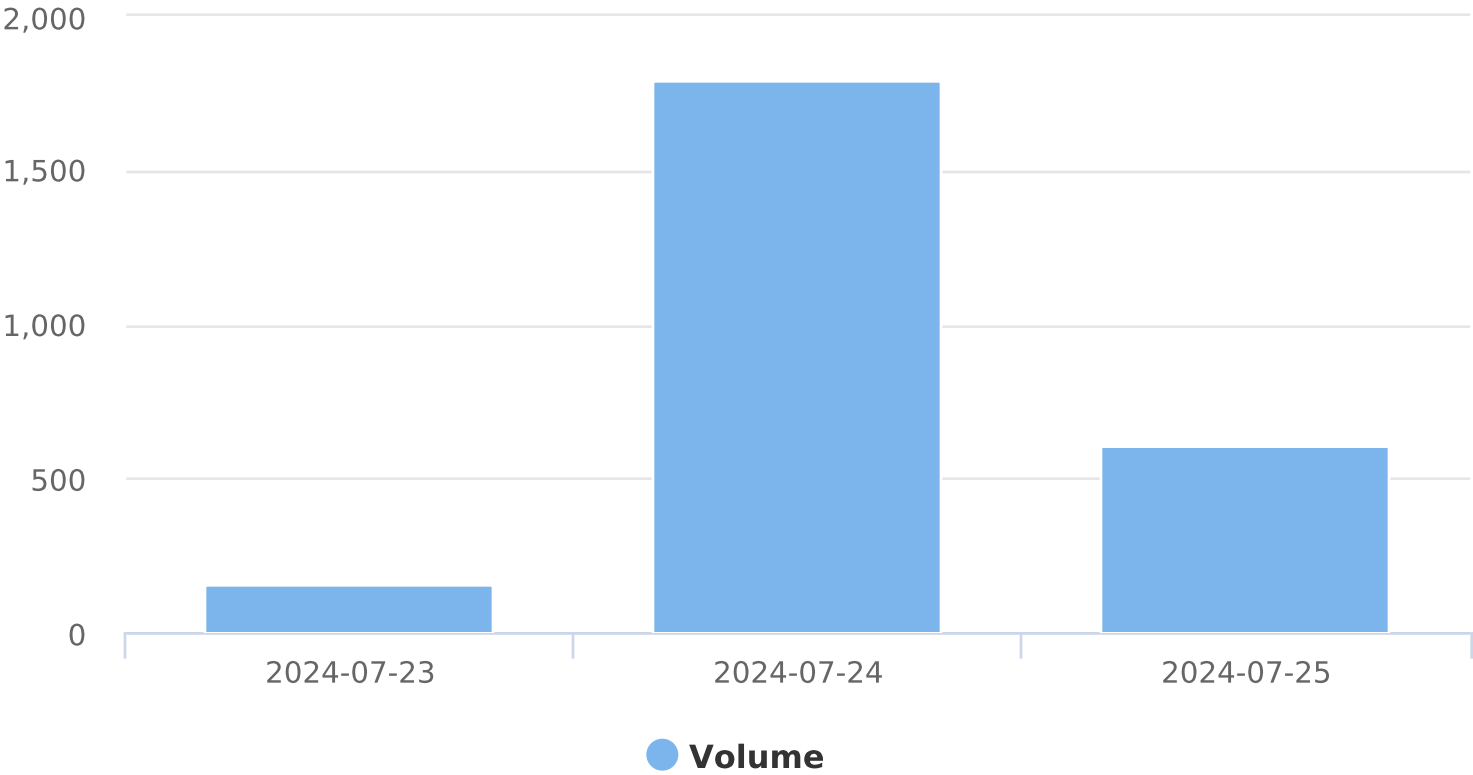
Date	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
07-23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7	4	63	40	29	15	158
07-24	7	12	5	3	10	18	54	86	154	117	108	110	103	116	96	97	109	140	122	92	90	72	39	33	1793
07-25	16	2	1	12	14	23	71	106	122	113	127	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	607
Total	23	14	6	15	24	41	125	192	276	230	235	110	103	116	96	97	109	140	129	96	153	112	68	48	2558



Start: 2024-07-23
End: 2024-07-25
Times: 0:00:00-23:59:59

Speed Bins: Size 10, Range 1 to 150
Time View: By Day (Total Volumes)

Daily Total Volume



ATTACHMENT B
AWSC Volume Warrant Table

Orlando Avenue at Montgomery Avenue

ALL-WAY STOP WARRANT ANALYSIS

BASED ON 2023 MUTCD

INTERSECTION NAME: **Orlando Avenue at Montgomery Avenue**

INTERSECTION CONDITION: **Side-Street Stop-Control**

MAJOR STREET: **Orlando Avenue**

MINOR STREET: **Montgomery Avenue**

85th PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR STREET (BOTH APPROACHES)	MINOR STREET (BOTH APPROACHES)	MAJOR STREET	MINOR STREET	BOTH MET
THRESHOLD VALUES					300	200	
12:00 AM	TO	01:00 AM	54	52			
01:00 AM	TO	02:00 AM	38	21			
02:00 AM	TO	03:00 AM	23	10			
03:00 AM	TO	04:00 AM	18	16			
04:00 AM	TO	05:00 AM	28	26			
05:00 AM	TO	06:00 AM	62	39			
06:00 AM	TO	07:00 AM	157	91			
07:00 AM	TO	08:00 AM	240	180			
08:00 AM	TO	09:00 AM	327	258	Y	Y	Y
09:00 AM	TO	10:00 AM	308	280	Y	Y	Y
10:00 AM	TO	11:00 AM	308	284	Y	Y	Y
11:00 AM	TO	12:00 PM	332	268	Y	Y	Y
12:00 PM	TO	01:00 PM	368	294	Y	Y	Y
01:00 PM	TO	02:00 PM	370	326	Y	Y	Y
02:00 PM	TO	03:00 PM	424	267	Y	Y	Y
03:00 PM	TO	04:00 PM	452	347	Y	Y	Y
04:00 PM	TO	05:00 PM	468	348	Y	Y	Y
05:00 PM	TO	06:00 PM	508	376	Y	Y	Y
06:00 PM	TO	07:00 PM	442	335	Y	Y	Y
07:00 PM	TO	08:00 PM	342	271	Y	Y	Y
08:00 PM	TO	09:00 PM	269	256		Y	
09:00 PM	TO	10:00 PM	190	215		Y	
10:00 PM	TO	11:00 PM	149	144			
11:00 PM	TO	12:00 AM	97	97			
			5,974	4,795	HOURS MET: 12		
					8 HOURS NEEDED SATISFIED		

STAFF REPORT

Meeting Date: August 20, 2024
Item #: 5

Contact Name: Michael Rumer
Contact Number: Ext. 1018

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of 606 Ocoee Apopka Sports Training Center Large Scale Final Site Plan & Development Agreement - LS-2024-0002. (Acting Assistant City Manager Rumer)

Background Summary: The subject property is zoned I-1 (Light Industrial) and has a Light Industrial Future Land Use Map designation. It is located on the west side of Ocoee Apopka Road, approximately 1,950 feet north of the intersection of Palm Drive and Ocoee Apopka Road. The property address is 606 Ocoee Apopka Road and consists of approximately 5.185 acres of undeveloped land. The table below lists the future land use designations, zoning classifications, and existing land uses of the surrounding parcels.

Direction	Future Land Use	Zoning Classification	Existing Land Use
North	Light Industrial	I-1	Industrial / Heavy Industrial
South	Light Industrial	I-1	Future 429 Business Center East
East	Low Density Residential	County A-1	Plant Nursery
West	Low Density Residential	County R-1A	Vacant

The subject property is also located within the SR 429 Overlay District Business Center Character Area and complies with the intent of the Overlay. The 606 Ocoee Apopka Sports Training Center is a proposed 51,721 SF one-story building that will be utilized as a commercial recreation facility providing athletic training. The building will be constructed as a grade height tilt wall building (see architectural renderings) with an adjacent 240x180 turf area providing the opportunity to provide multiple training opportunities at one location.

The site will be accessed via a new east-west road along the south side of the subject property. The road is being developed by the project on the south side (429 Business Center East & West) which will connect to Ocoee Apopka Road. Stormwater will be provided on-site at the rear of the property adjacent to the existing ditch. Buffering is being provided from the 100-year flood elevation line which is located within the ditch. Water will be provided by an existing water main and a new sewer force main being run to the property by the development on the south side.

In terms of traffic, as part of the Business Character Area Overlay, the City has negotiated with Orange County in the most recent 2019 Joint Planning Area Agreement to cooperate in efforts to facilitate improvements of Ocoee Apopka Road to a Complete Streets Road Design and widening. The Complete Streets design calls for

improvements such as a 12-foot-wide trail along the west side of Ocoee Apopka Road. This project will construct the 12-foot section of trail.

Issue:

Should the Honorable Mayor and City Commissioners approve a Large-Scale Final Site Plan for the 606 Ocoee Apopka Road Sports Training Facility located at 606 Ocoee Apopka Road and associated Development Agreement?

Recommendations: Staff Recommendation:

Staff recommends that the Honorable Mayor and City Commissioners approve the Large-Scale Final Site Plan for the 606 Ocoee Apopka Road Sports Training Facility and Development Agreement, subject to the following conditions:

- All remaining staff comments are satisfied, &
- The Final Site Plan approval and Site Permit issuance is predicated on the development to the south, bringing the sewer to the property, and constructing the new east / west road, which is the site's only access. If such infrastructure is not in place or revisions are made, the Final Site plan and Site permit will be affected by this project.

Attachments:

1. Civil Plans (11)
2. Landscape and Irrigation Plans
3. Architectural Elevations (1)
4. Photometric Plan
5. Development Agreement - 606 Sports Training

Financial Impacts:

None

Type of Item: Consent

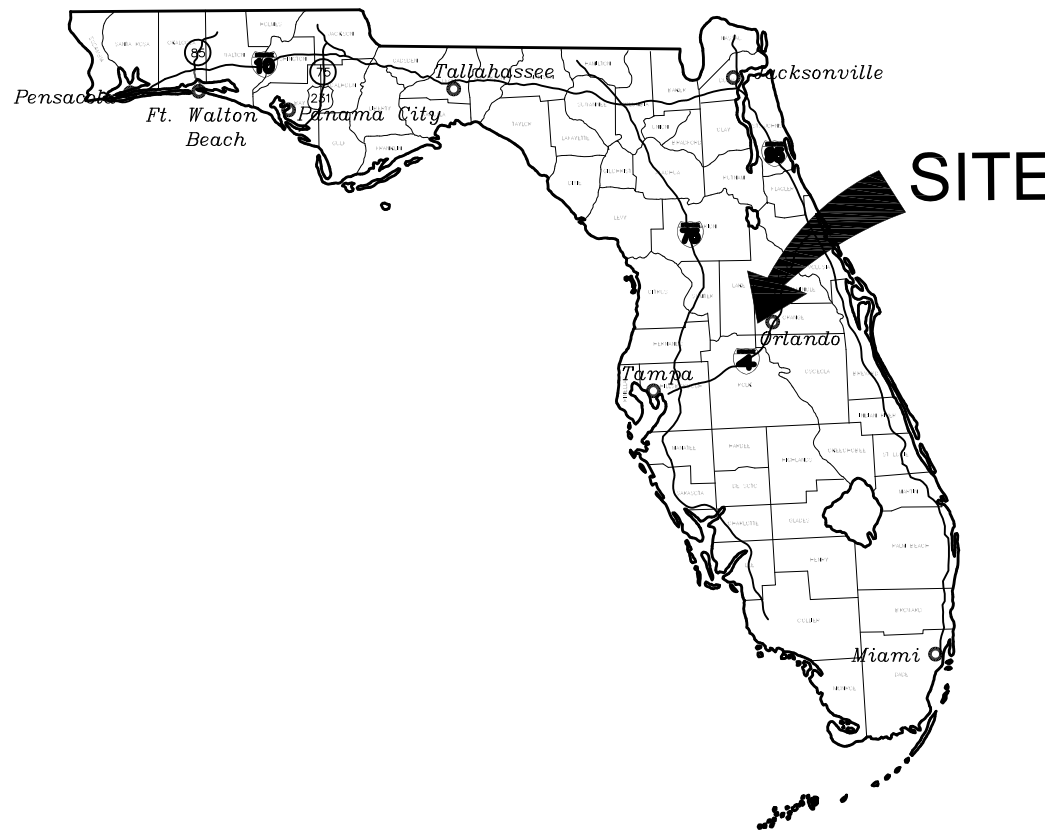
606 SPORTS TRAINING
OCOOE, FLORIDA
LARGE SCALE FINAL SITE PLAN

JUNE 2024

PARCEL IDs:

18-22-28-0000-00-001

18-22-28-0000-00-003



CONTACT INFORMATION:

DEVELOPER:

COTTON GOODMAN PROPERTIES, LLC
WILLIAM T. SELBY, MANAGER
1850 PARKWAY PLACE SE, SUITE 500
MARIETTA, GA 30067
E-MAIL: TSELBY@NPSGLOBAL.COM

OWNERS:

PARCEL 1: 18-22-28-0000-00-001
WILLIAM T. SELBY, MANAGER
COTTON GOODMAN PROPERTIES, LLC
1850 PARKWAY PLACE SE, SUITE 500
MARIETTA, GA 30067
TEL: 404-593-3480
E-MAIL: TSELBY@NPSGLOBAL.COM

2

PARCEL 2: 18-22-28-0000-00-003
STEVEN SITARIK
789 PINE STREET
OCOOE, FL 34761
TEL: 321-239-6767
E-MAIL: FLEXIBLEPROS@GMAIL.COM

2

SURVEYOR:
BENCHMARK SURVEYING & MAPPING, INC.
3110 RED FOX RUN
KISSIMMEE, FL 34746
TEL: 407.654.6183
ATTN: BILLY JOE JENKINS, JR. P.S.M.
E-MAIL: JOE@BENCHMARKSURVEYINGANDMAPPING.COM

ARCHITECT:

C4 ARCHITECTURE
CLARK STRANAHAN
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ORLANDO, FL 32801
TEL: 407-221-7864
E-MAIL: CSTRANAHAN@C4ARCHITECTURE.COM

ENGINEER:

KLIMA WEEKS CIVIL ENGINEERING, INC.
SELBY G. WEEKS, P.E., LEED AP
385 DOUGLAS AVE., STE. 2100
ALTAMONTE SPRINGS, FL 32714
TEL: 407.478.8750
FAX: 407.478.8749
E-MAIL: SWEEEKS@KLIMAWEEKS.COM

LANDSCAPE ARCHITECT:

BONNET DESIGN GROUP, LLC
TODD W. BONNET, RLA
400 S. ORLANDO AVENUE, SUITE 201
MAITLAND, FL 32751
TEL: 407-622-1588
E-MAIL: TODD@BONNETDESIGNGROUP.COM

ENVIRONMENTAL ENGINEER:

AUSTIN ENVIRONMENTAL CONSULTANTS, INC.
RANDY L. AUSTIN, M.S.
316 CHURCH STREET
KISSIMMEE, FLORIDA 34741
TEL: 407-935-0535
E-MAIL: RANDY@AUSTINEC.COM

GEOTECHNICAL ENGINEER:

ARDAMAN & ASSOCIATES, INC.
8008 S. ORANGE AVENUE
ORLANDO, FL 32809
TEL: 407-855-3860
FAX: 407-859-8121
ATTN: CHUCK CUNNINGHAM, P.E.
E-MAIL: CCUNNINGHAM@ARDAMAN.COM

TRAFFIC ENGINEER:

TRAFFIC PLANNING AND DESIGN, INC.
TURGUT DERSH, P.E., PRESIDENT
535 VERSAILLES DRIVE
MAITLAND, FL 32751
TEL: 407-628-9955
E-MAIL: TURGUT@TPDTRAFFIC.COM

WATER/SEWER/RECLAIM:

CITY OF OCOOE
1800 A. D. MIMS ROAD
OCOOE, FL 34761
TEL: 407-905-3159
FAX: 407-877-5899
ATTN: JAMIE CROTEAU
UTILITIES DIRECTOR

FIRE & RESCUE DEPARTMENT:

CITY OF OCOOE
563 S. BLUFORD AVE.
OCOOE, FL 34761
TEL: 407-905-3140
FAX: 407-905-3129
ATTN: JOHN MILLER
FIRE CHIEF

CITY OF OCOOE

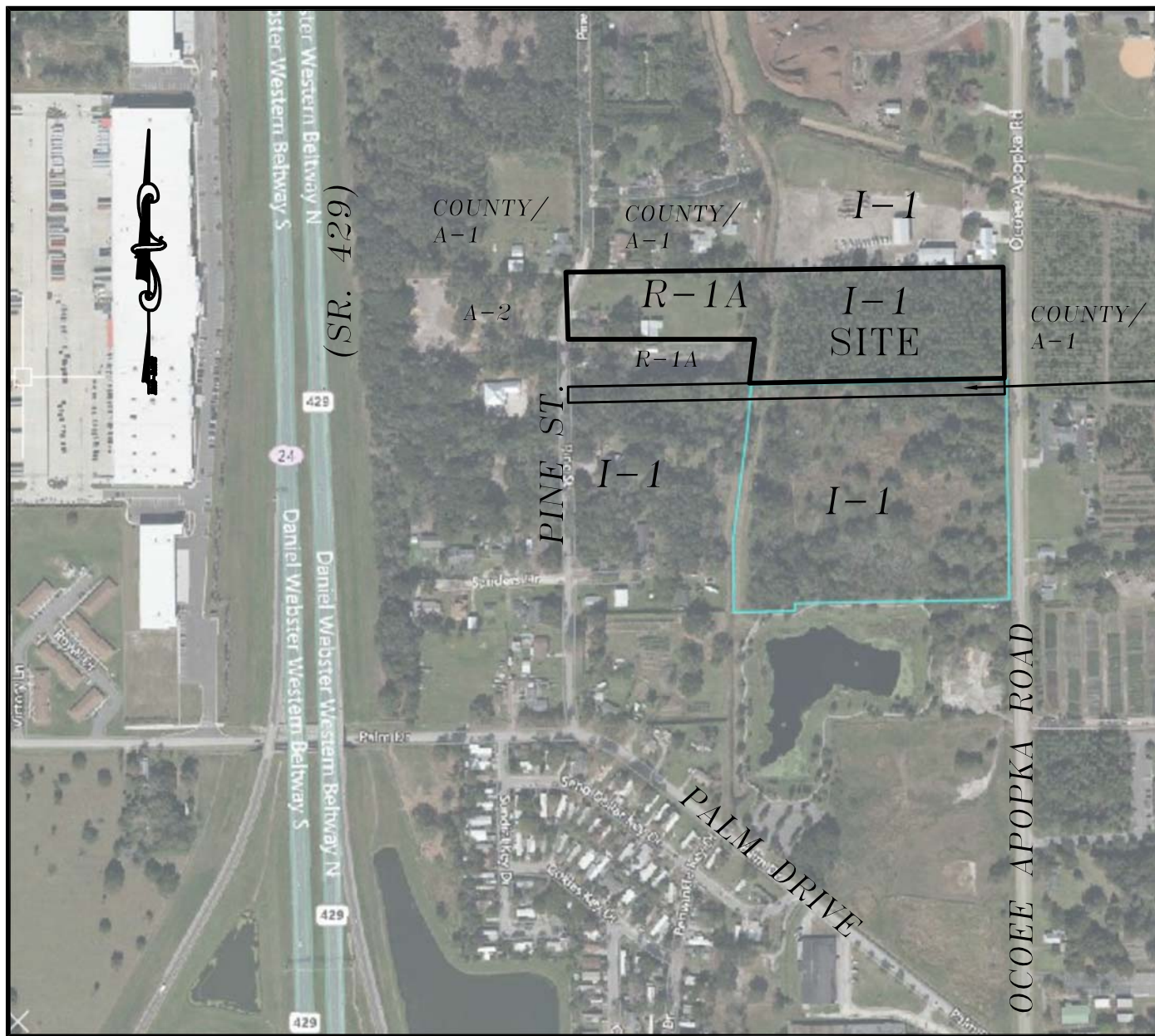
PLANNING, ZONING AND DEVELOPMENT DEPT.
1 N. BLUFORD AVENUE
OCOOE, FL 34761
TEL: 407-905-3157
FAX: 407-905-3158
ATTN: MICHAEL RUMER
DEVELOPMENT SERVICES DIRECTOR

ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

2501 S. BINION ROAD
APOPKA, FL 32703
TEL: 407-659-4800

SHEET INDEX:

C000	COVER SHEET
S1	BOUNDARY & TOPOGRAPHIC SURVEY
S2	BOUNDARY & TOPOGRAPHIC SURVEY
C100	SITE PLAN
C101	SITE PLAN
C200	EROSION CONTROL & DEMOLITION PLAN
C201	EROSION CONTROL & DEMOLITION PLAN
C300	GEOMETRY, STRIPING & SIGNAGE PLAN
C301	GEOMETRY, STRIPING & SIGNAGE PLAN
C400	GRADING & DRAINAGE PLAN
C401	GRADING & DRAINAGE PLAN
C500	UTILITY PLAN
C600	SITE DETAILS
C601	SITE DETAILS
C700	DRAINAGE DETAILS
C800	UTILITY DETAILS
C801	UTILITY DETAILS
C802	UTILITY DETAILS
C803	LIFT STATION DETAILS
C900	MAINTENANCE OF TRAFFIC
L400	LANDSCAPE PLAN
L401	LANDSCAPE PLAN
L410	LANDSCAPE DETAILS & NOTES
L500	IRRIGATION PLAN
L501	IRRIGATION PLAN
L510	IRRIGATION DETAILS & NOTES
L511	IRRIGATION DETAILS & NOTES
A100	ARCHITECTURE SITE PLAN (AND DUMPSTER DETAILS)
A301	OVERALL EXTERIOR ELEVATIONS
E200	PHOTOMETRIC PLAN



VICINITY & EXISTING ZONING MAP

N.T.S. 606 OCOOE APOPKA ROAD & 789 PINE STREET, OCOOE

ADDRESS:

606 OCOOE APOPKA ROAD & 789 PINE STREET, OCOOE, FL 34761

LEGAL DESCRIPTION:

THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4, AND A STRIP ON WEST 23 YARDS ON NORTH END AND 35 YARDS ON SOUTH END, ALL IN SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA.

PARCEL A:

BEGINNING 100 FEET SOUTH OF THE NORTHWEST CORNER OF THE FOLLOWING DESCRIBED PROPERTY: THE NORTH HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA, RUN THENCE SOUTH 100 FEET, THENCE EAST 150 FEET, THENCE NORTH 100 FEET, THENCE WEST 150 FEET TO THE POINT OF BEGINNING.

ALSO

THE SOUTH 100 FEET OF THE NORTH 200 FEET, LESS THE WEST 150 FEET THEREOF, OF THE FOLLOWING DESCRIBED TRACT: THE NORTH HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, LESS A TRACT ACROSS THE EAST END 23 YARDS WIDE AT THE NORTH END AND 35 YARDS WIDE AT THE SOUTH END.

PARCEL B:

THE NORTH 100 FEET OF THE FOLLOWING DESCRIBED PROPERTY: THE NORTH 1/2 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA, LESS ROAD RIGHT OF WAY AND LESS THE FOLLOWING: THE EAST END 23 YARDS WIDE AT THE NORTH END AND 35 YARDS WIDE AT THE SOUTH END.

ZONING AND FUTURE LAND USE:

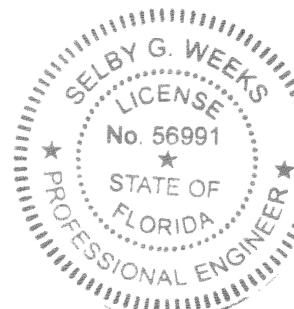
ZONING:	I-1 AND R-1A (R-1A PROPERTY WILL BE REZONED CONCURRENT WITH SITE PLAN REVIEW)
EXISTING USE:	VACANT LOT (I-1) AND SINGLE FAMILY RESIDENTIAL (R-1A)
PROPOSED USE:	SPORTS TRAINING FACILITY
FUTURE LAND USE:	(U) LIGHT INDUSTRIAL

CHARACTER AND INTENDED USE:

THE PROPOSED CONSTRUCTION CONSISTS OF A ONE-STORY 51,721 SF BUILDING WITH A 25,195 SF MEZZANINE - TOTALING 76,916 SF, PARKING LOT, ASSOCIATED WATER, SANITARY AND STORMWATER SYSTEMS.

FLOOD ZONE:

SUBJECT PROPERTY LIES WITHIN ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AND ZONE AE, AND AREA WHERE BASE FLOOD ELEVATIONS ARE DETERMINED TO BE BETWEEN 111'-113' ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP NUMBER 12095C0210H, DATED SEPTEMBER 24, 2021.



Digitally signed by Selby G. Weeks
DN: cn=Selby G. Weeks,
ou=Klima Weeks Civil Engineering, c=US
Reason: This item has been digitally signed and
sealed by Selby G. Weeks, P.E. on the date adjacent
to the seal. Printed copies of this document are not
considered signed and sealed and the signature must
be verified on electronic copies.
Date: 2024.06.21 15:57:06-0400

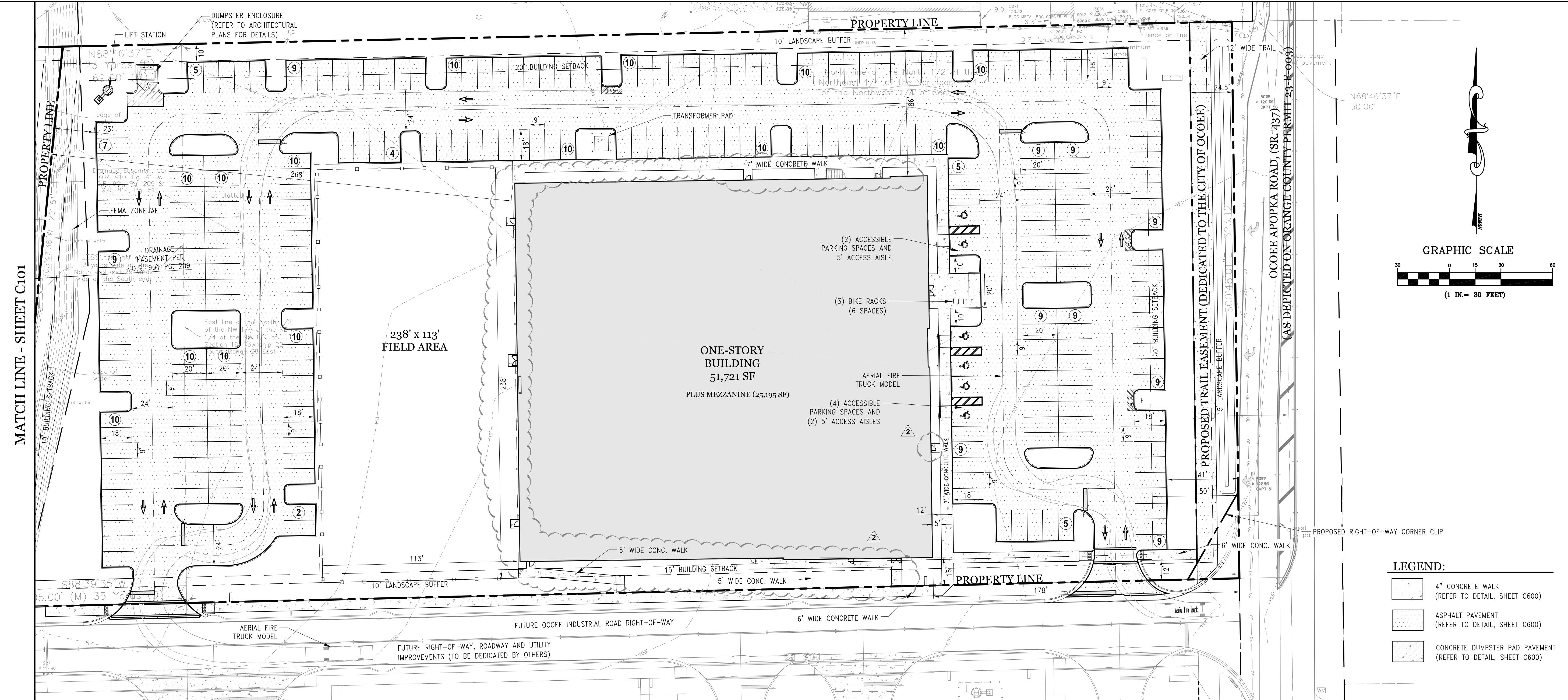
385 DOUGLAS AVENUE, STE. 2100
ALTAMONTE SPRINGS, FL 32714
TELEPHONE 407.478.8750
FACSIMILE 407.478.8749
www.klimaweeks.com

Klima
Weeks
CIVIL ENGINEERING

NO.	REVISION	BY	DATE
1	SJRWMD COMMENTS	JD	04.26.24
2	AGENCY COMMENTS	JD	06.18.24
3			
4			
5			

File Location : P:\Land Projects 2023\23ROMA001 - 606 Sports Training.dwg

Filename : C100-SITE-23ROMA001.dwg Plot Date : Jun. 21, 2024 9:22am



GENERAL INFORMATION

PROPERTY INFORMATION

PARCEL ID(s): 18-22-28-0000-00-001
18-22-28-0000-00-003

ADDRESS: 606 OCOEE APOPKA ROAD & 789 PINE STREET, OCOEE, FL 34761

EXISTING USE: VACANT LAND (606 OCOEE APOPKA RD.) / SINGLE FAMILY RESIDENTIAL (789 PINE ST.)
PROPOSED USE: SPORTS TRAINING FACILITY

CHARACTER AND INTENDED USE

THE PROPOSED CONSTRUCTION CONSISTS OF A ONE-STORY 51,721 SF BUILDING WITH A 25,195 MEZZANINE - TOTALING 76,916 SF, PARKING LOT, ASSOCIATED WATER, SANITARY AND STORMWATER SYSTEMS.

BUILDING SETBACKS:

YARD (IDENTIFICATION)	BUILDING SETBACK	
	REQUIRED	PROVIDED
FRONT (EAST) OCOEE APOPKA RD.-	50'	178'
REAR (WEST) -	10'	268'
SIDE (NORTH) -	20'	86'
SIDE (SOUTH) -	15'	16'

NOTE: BUILDING SETBACK DATA IS FOR PARCEL 1 (606 OCOEE APOPKA RD.) ONLY AS NO STRUCTURES ARE PROPOSED ON PARCEL 2 (789 PINE ST.). REQUIRED BUILDING SETBACKS FOR PARCEL 2 ARE SHOWN ON SHEET C101 PLAN.

LANDSCAPE BUFFERS

YARD (IDENTIFICATION)	LANDSCAPE BUFFERS	
	REQUIRED	PROVIDED
FRONT (EAST) OCOEE APOPKA RD.-	15'	41'
REAR (WEST) -	0'	23'
SIDE (NORTH) -	10'	10'
SIDE (SOUTH) -	10'	12'

NOTE: LANDSCAPE BUFFER DATA IS FOR PARCEL 1 (606 OCOEE APOPKA RD.) ONLY AS NO PAVEMENT, ACTIVE OR PASSIVE USES ARE PROPOSED ON PARCEL 2 (789 PINE ST.). REQUIRED BUFFERS FOR PARCEL 2 ARE SHOWN ON SHEET C101 PLAN.

PARKING COUNT:

REQUIRED:
THE CITY OF OCOEE DOES NOT HAVE A PARKING STANDARD FOR A SPORTS/ATHLETIC TRAINING FACILITY. THE OPERATOR OF THIS FACILITY HAS CONFIRMED THAT THE PROPOSED PARKING COUNT IS SUFFICIENT TO SUPPORT THE FACILITY PROGRAM.

TOTAL BUILDING AREA: 76,916 SF

PROVIDED PARKING:
PROPOSED REGULAR PARKING SPACES: 252
PROPOSED ACCESSIBLE PARKING SPACES: 6
TOTAL PROPOSED PARKING SPACES: 258

ZONING

SUBJECT SITE: I-1 (606 OCOEE APOPKA RD.) /
R-1A (789 PINE ST.)
NORTH: I-1 / COUNTY A-1
SOUTH: I-1 / R-1A
EAST: COUNTY A-1
WEST: A-2

NOTE: COMPREHENSIVE PLAN AMENDMENT AND REZONING ARE BEING PROCESSED CONCURRENT WITH FINAL SITE PLAN REVIEW.

FEMA FLOOD DATA

SUBJECT PROPERTY LIES WITHIN ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AND ZONE AE, AND AREA WHERE BASE FLOOD ELEVATIONS ARE DETERMINED (113') ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP NUMBER 12095C0210F, DATED SEPTEMBER 24, 2021.

AREA CALCULATIONS:

	SOILS		
	SF	AC	%
TOTAL PROJECT AREA:	337,965	7.76	100.0
EXISTING IMPERVIOUS:	10,700	0.25	3.2
EXISTING OPEN SPACE:	327,265	7.51	96.8
PROPOSED IMPERVIOUS:	157,272	3.61	46.5 ¹
PROPOSED OPEN SPACE:	180,893	4.15	53.5 ²

MAXIMUM PERMITTED IMPERVIOUS SURFACE: 70%
PROPOSED IMPERVIOUS SURFACE: 47%

¹ PROPOSED IMPERVIOUS SURFACE PERCENTAGE IS BASED ON THE SITE AREA PRIOR TO EASEMENT/RIGHT-OF-WAY DEDICATIONS.

² 3,793 SF (0.09 AC) OF PERVIOUS AREA IS CONTAINED WITHIN THE TRAIL EASEMENT AND RIGHT-OF-WAY DEDICATIONS.

BUILDING INFORMATION

PROPOSED BUILDING: ONE-STORY: 51,721 SF
MEZZANINE: 25,195 SF
TOTAL: 76,916 SF

CONSTRUCTION TYPE: II-B, SPRINKLERED, UNPROTECTED

MAXIMUM PERMITTED BUILDING HEIGHT: COMMERCIAL: FIVE-STORY
INDUSTRIAL: TWO-STORY

PROPOSED BUILDING HEIGHT: ONE-STORY WITH MEZZANINE, 42'

MAXIMUM PERMITTED BUILDING COVERAGE: 30%
PROPOSED BUILDING COVERAGE: 51,721 / 337,965 = 15%*

*PROPOSED BUILDING COVERAGE IS BASED ON THE SITE AREA PRIOR TO RIGHT-OF-WAY DEDICATIONS

FUTURE LAND USE

SITE: LI (606 OCOEE APOPKA RD.) /
LDR (789 PINE ST.)
NORTH: LI / LDR
SOUTH: LDR
EAST: LDR
WEST: LDR

GENERAL NOTES

- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION ACTIVITY FOR DIG PERMITS, ELECTRICAL PERMITS OR OTHER PERMITS AS APPLICABLE. CONTRACTOR IS ALSO TO COORDINATE FULLY WITH UTILITY COMPANIES ON EXACT LOCATION OF UNDERGROUND UTILITIES AND ANY UTILITY ADJUSTMENT REQUIRED. UTILITY COMPANIES SHALL BE NOTIFIED A MINIMUM OF THREE WORKING DAYS PRIOR TO EXCAVATION.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE DEPICTED FROM ACTUAL FIELD MEASUREMENTS AND/OR DERIVED FROM RECORD DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE LOCATION OF EXISTING UTILITIES TO DETERMINE IF THERE ARE ANY CONFLICTS WITH THE PROPOSED CONSTRUCTION AND TO COORDINATE WITH THE UTILITY OWNERS TO RESOLVE THESE CONFLICTS.
- THE SUBSURFACE INFORMATION FOR THIS PROJECT WAS OBTAINED FOR DESIGN PURPOSES AND MAY NOT BE AN ADEQUATE REPRESENTATION OF ACTUAL CONDITIONS FOR PROJECT CONSTRUCTION. INFORMATION SHOWN, INCLUDING WATER LEVELS, REPRESENTS EXISTING CONDITIONS AT THE SPECIFIC BORING LOCATIONS AT THE TIME THE BORINGS WERE MADE.
- ANY DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREON, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER, IN WRITING, WITHIN 48 HOURS OF DISCOVERY. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO SUCH DIFFERING CONDITIONS WILL BE ALLOWED IF HE OR SHE FAILS TO PROVIDE THE WRITTEN NOTIFICATION.
- ALL MATERIALS, INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF OCOEE AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WHERE THE SPECIFICATIONS CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY, AS DETERMINED BY THE ENGINEER-OF-RECORD OR THE CITY ENGINEER.
- THE CONTRACTOR SHALL PROVIDE ALL SHEETING, SHORING AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES AND UTILITIES OR MINIMIZE TRENCH WIDTH AS REQUIRED. SHEETING AND SHORING SHALL BE DESIGNED BY A STATE OF FLORIDA PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCING WORK.
- ALL DEBRIS AND WASTE MATERIALS GENERATED BY DEMOLITION OR SUBSEQUENT CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OFF-SITE IN A LEGAL MANNER AT AN APPROVED DISPOSAL FACILITY. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEMOLITION, CONSTRUCTION WORK AND HAULING WASTE MATERIAL. ALL ASSOCIATED COSTS AND PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ANY PUBLIC LAND CORNER, WITHIN THE LIMITS OF CONSTRUCTION, IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING ALTERED AND HAS NOT YET BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER WITHOUT DELAY.
- COORDINATE VALUES ARE BASED ON A LOCAL GRID ESTABLISHED BY THE SURVEY.
- ALL REFERENCES TO PROPOSED CONSTRUCTION INDICATES CONSTRUCTION INCLUDED IN THIS CONTRACT.
- ALL PIPING TO HAVE A MINIMUM OF THREE (3) FEET COVER UNLESS OTHERWISE NOTED ON PLANS.
- THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NECESSARY STRIPING, TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," LATEST EDITION, AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION FY 2023-24 STANDARD PLANS.
- MAINTENANCE OF TRAFFIC: ACCESS FOR LOCAL TRAFFIC SHALL BE MAINTAINED. IF, DURING CONSTRUCTION, ACCESS FOR LOCAL TRAFFIC IS CHANGED, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE JURISDICTIONAL AGENCY A MINIMUM OF THREE (3) WORKING DAYS IN ADVANCE. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH INDEX NO. 102 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION FY 2023-24 STANDARD PLANS.
- REFER TO FDOT ROADWAY AND TRAFFIC DESIGN (FY 2023-24) STANDARDS FOR THE FOLLOWING:
A. TYPE "C" INLET (INDEX No. 425-052)
B. MITERED END SECTION (INDEX No. 430-021)
C. CURB RAMP (INDEX No. 522-002)
D. CURB TRANSITION (INDEX No. 520-001)
E. CONCRETE BUMPER GUARD (WHEEL STOP) (INDEX No. 520-001)
F. CROSSWALK, STOP BAR (INDEX No. 711-001)
G. PAVEMENT ARROWS (INDEX No. 711-001)
H. STRUCTURE BOTTOMS TYPE "J" AND "P" (INDEX No. 425-010)
I. SUPPLEMENTARY DETAILS FOR MANHOLES AND INLETS (INDEX No. 425-001)
J. CONCRETE SIDEWALK (INDEX No. 522-001)
K. TYPE "D" CURB (INDEX No. 520-001)
L. TYPE "F" CURB & GUTTER (INDEX No. 520-001)
M. VALLEY GUTTER (INDEX No. 520-001)
(ALL NUMBERS REFERENCED ARE PER FDOT STANDARD PLAN INDEX)
- AS-BUILT DRAWINGS, SIGNED AND SEALED BY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA, SHALL BE PROVIDED PER THE PROJECT SPECIFICATIONS AND CITY OF OCOEE REQUIREMENTS, AND SHALL BE SUBMITTED TO THE CITY IN ACCORDANCE WITH SECTION 3.01.05 OF THE ENGINEERING STANDARDS MANUAL IN THE FOLLOWING FORMATS:
A. 1 PDF COPY
B. CAD COPY DRAWN IN STATE PLANE COORDINATES
AS-BUILT DRAWINGS MUST ALSO COMPLY WITH FDOT, ORANGE COUNTY AND SJRWMD REQUIREMENTS.
- ALL SIGNAGE FOR THE PROJECT SHALL COMPLY WITH THE ADOPTED CITY OF OCOEE SIGNAGE REGULATIONS.
- THE MOST STRINGENT STANDARDS BETWEEN THE CITY STANDARDS AND THE STANDARDS SET FORTH IN THESE GENERAL NOTES SHOULD BE FOLLOWED.
- FINISHED FLOOR ELEVATION WILL EXCEED THE 100-YEAR FLOODPLAIN BY A MINIMUM OF TWO FEET (2').
- CONTRACTOR SHALL REFER TO THE CITY OF OCOEE ENGINEERING STANDARDS MANUAL, LAND DEVELOPMENT CODE, APPROVED MATERIALS LIST, AND CITY DETAILS. THE MOST STRINGENT STANDARDS BETWEEN THE CITY OF OCOEE STANDARDS AND STANDARDS SET FORTH IN THESE NOTES SHALL BE FOLLOWED.

Selby G. Weeks 56991

606 SPORTS TRAINING 606 OCOEE APOPKA ROAD, OCOEE, FLORIDA SITE PLAN

revision	description	date
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△	SJRWMD COMMENTS	04.26.24
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△	AGENCY COMMENTS	06.18.24
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drawn by:	JD
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checked by:	SW
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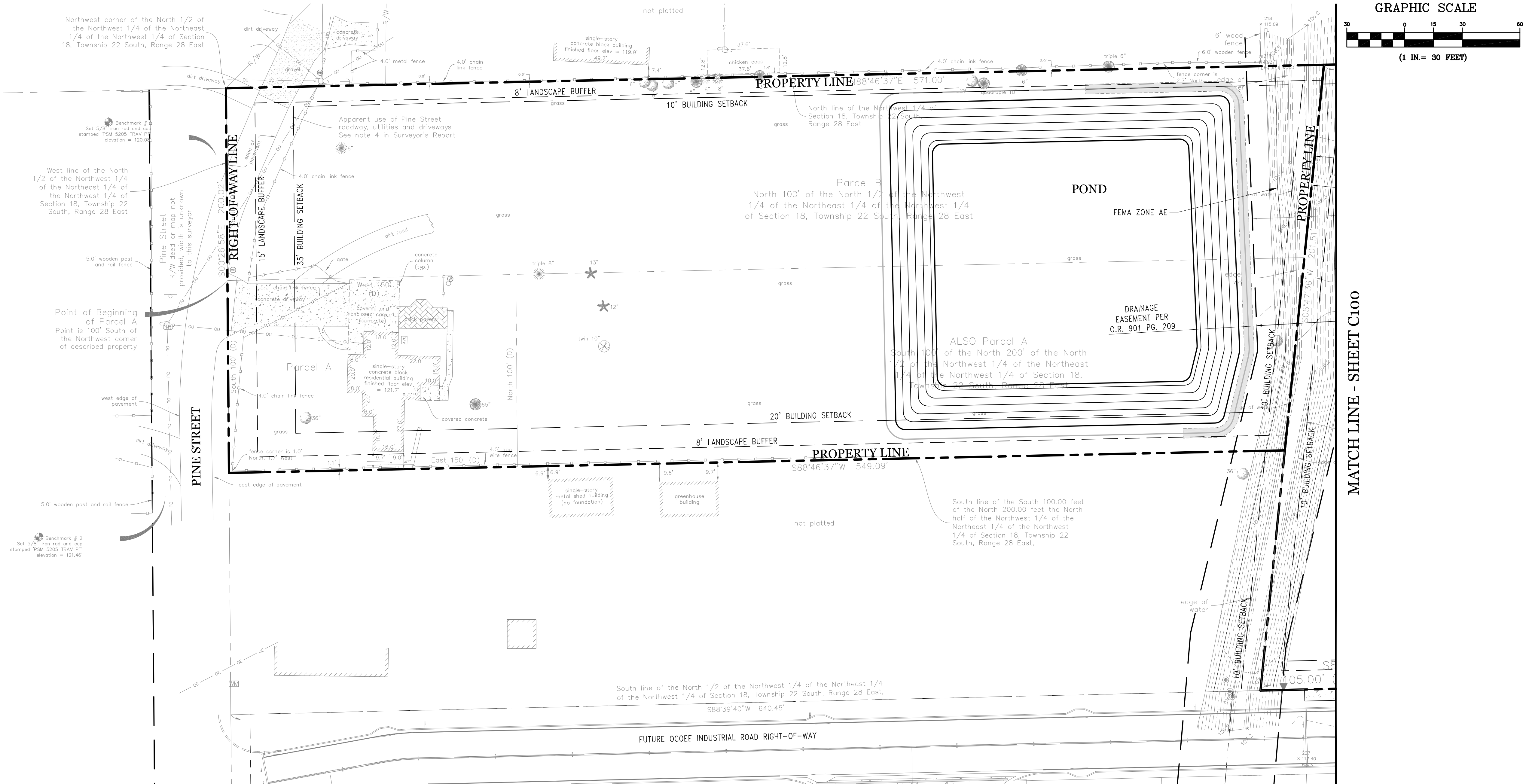
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project number:	23ROMA001
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file name:	C100-SITE-23ROMA001.DWG
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C100



606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA
SITE PLAN

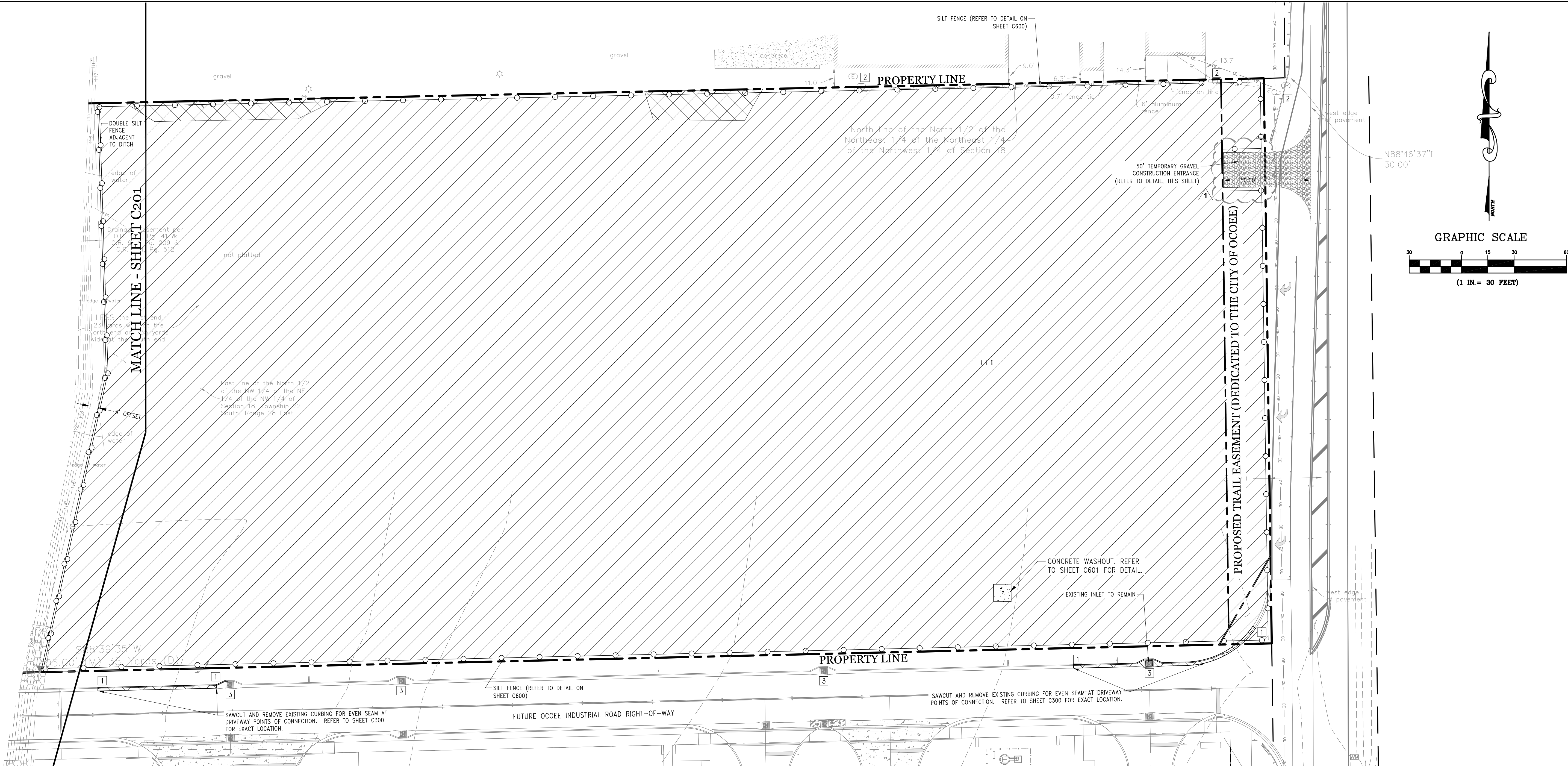
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△	AGENCY COMMENTS	06.18.24
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drawn by: JD
checked by: SW
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: C100-SITE-23ROMA001.DWG

C101

File Location : P:\Land Projects 2023\23ROMA001 - 606 Sports Training.dwg

Filename : C200-DEMO-23ROMA001.dwg Plot Date : Jun. 21, 2024 9:28am



EROSION CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS OF OCOEE, FLORIDA, ORANGE COUNTY AND THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
2. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN, CONSTRUCTION. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTATION OF SILT OFF THE SITE.
3. SOIL MATERIALS FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND NOT ALLOWED TO COLLECT ON ANY OFF-PERIMETER AREAS OR IN WATERWAYS. THESE INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
4. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION/SEDIMENT CONTROL EFFORTS. ANY NECESSARY REMEDIES SHALL BE PERFORMED WITHOUT DELAY.
5. ALL MUD, DIRT, OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC OR PRIVATE ROADS AND FACILITIES FROM THIS SITE, DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
6. ALL PERMANENT EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS AND ANY DISTURBED LAND AREAS SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING.
7. ALL TEMPORARY PROTECTION SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE AND ESTABLISHED.
8. THE EROSION CONTROL MEASURES ARE INTENDED AS MINIMUM STANDARDS. ANY EROSION CONTROL REQUIRED BEYOND THAT SPECIFIED SHALL BE CONSIDERED AS INCLUDED WITHIN THIS CONTRACT.
9. IF OFFSITE TURBIDITY BECOMES EXCESSIVE, CONTRACTOR IS RESPONSIBLE FOR INSTALLING FLOC BLOCS AS NEEDED.
10. IN THE EVENT OF EXCESSIVE OFF-SITE TRACKING, THE CONTRACTOR WILL BE OBLIGATED TO INSTALL ADDITIONAL MEASURES.

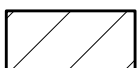
DEMOLITION NOTES:

1. UTILITY LINES, CONDUITS, & STRUCTURES WITHIN EXISTING EASEMENTS SHALL BE LOCATED AND PROTECTED THROUGHOUT CONSTRUCTION UNLESS SPECIFICALLY NOTED FOR RELOCATION OR REMOVAL.
2. UTILITY LINES, CONDUITS, & STRUCTURES WITHIN NEW BUILDING AREA SHALL BE DEMOLISHED, REMOVED FROM SITE, AND DISPOSED IN AN APPROVED WASTE DISPOSAL AREA.
3. "BUILDING AREAS" SHALL BE CLEANED OF ALL EXISTING PAVEMENT, BUILDING SLABS, FOOTINGS, FOUNDATIONS, UTILITIES AND SEWERS. NO EXISTING IMPROVEMENTS SHALL BE LEFT UNDER PROPOSED BUILDING AREAS.
4. ALL AREAS WHERE PAVEMENT, BUILDING SLABS, FOUNDATIONS, UTILITIES, CONDUITS, AND/OR UTILITY STRUCTURES HAVE BEEN REMOVED SHALL BE BACK FILLED WITH SELECT BACK FILL MATERIAL. ALL SELECT BACK FILL MATERIAL SHALL BE PLACED AND COMPACTED PER THE REQUIREMENTS OF THE SPECIFICATIONS AND THE ON-SITE GEOTECHNICAL ENGINEER.
5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION ACTIVITY FOR DIG PERMITS, ELECTRICAL PERMITS OR OTHER PERMITS AS APPLICABLE.
6. CONTRACTOR IS TO COORDINATE FULLY WITH UTILITY COMPANIES ON EXACT LOCATION OF UNDERGROUND UTILITIES PRIOR TO EXCAVATION. ALL DEBRIS AND WASTE MATERIALS GENERATED BY DEMOLITION OR SUBSEQUENT CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OFF-SITE IN A LEGAL MANNER AT AN APPROVED DISPOSAL FACILITY.
7. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEMOLITION, CONSTRUCTION WORK AND HAULING WASTE MATERIAL. ALL ASSOCIATED COSTS AND PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ASPHALT RESURFACING AND STRIPING TO ALL EXISTING ROADS WHICH ARE DAMAGED DURING CONSTRUCTION. ALL REPAIRS TO BE MADE IN ACCORDANCE WITH CITY OF OCOEE, ORANGE COUNTY AND FDOT REQUIREMENTS.
9. ANY ENCOUNTERED CONTAMINATED MATERIALS SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
10. THE CONTRACTOR IS ADVISED THAT UNCHARTED UTILITIES MAY BE FOUND TO EXIST WITHIN THE CONSTRUCTION AREA AND THAT CONSTRUCTION OPERATIONS SHOULD BE CONDUCTED WITH CAUTION.
11. ALL CONCRETE TO BE REMOVED SHALL BE SAW CUT AT THE NEAREST JOINT IN REASONABLY GOOD CONDITION, SO AS TO PRODUCE A CONNECTION WITH NEW CONCRETE THAT IS FREE OF CRACKS, DEFORMITY IN SHAPE, NOTICEABLE VOIDS, SURFACE IRREGULARITIES, AND OTHER DEFECTS. CONCRETE GUTTER SHALL BE SAW CUT BETWEEN ASPHALT AND GUTTER BEFORE REMOVAL.

DEMOLITION LEGEND

NOTE: REFER TO DEMOLITION NOTES, THIS SHEET, FOR ADDITIONAL DETAILS

—○—○—○— SILT FENCE (REFER TO DETAIL ON SHEET C600)

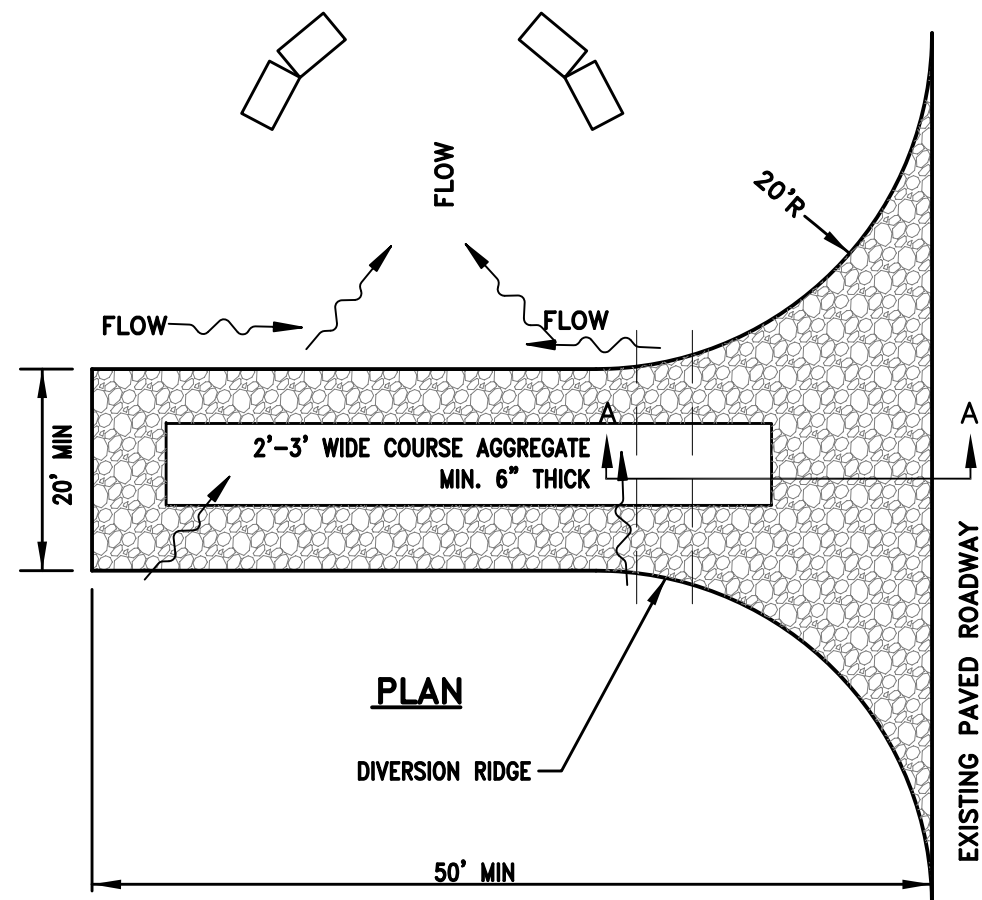
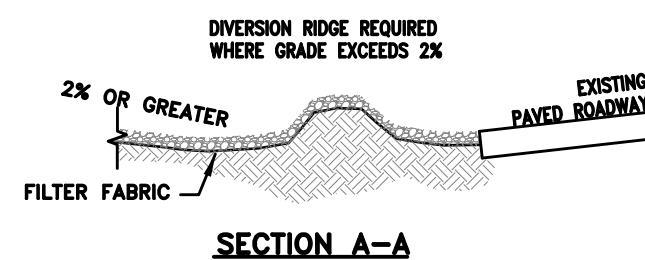
 LIMITS OF CLEARING AND GRUBBING.

 REMOVE EXISTING GRAVEL

1 SAWCUT EXISTING PAVEMENT SECTION/CONCRETE WALKS AND/OR CURBS AT ALL EXISTING EDGES TO REMAIN. REFER TO SHEETS C300 FOR LIMITS.

2 EXISTING POWER POLE AND ASSOCIATED ELECTRICAL COMPONENTS TO BE PROTECTED

3 PROVIDE SILT SACK IN GUTTER INLETS.



NOTE(S):

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. ALL EROSION CONTROL MATERIALS, CONSTRUCTION & MAINTENANCE TO BE PER APPLICABLE SECTIONS OF FDOT STANDARD SPECIFICATION #104.
5. USE SANDBAGS, SYNTHETIC BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN REQUIRED.
6. COURSE AGGREGATE & FILTER FABRIC TO BE PER SECTIONS OF FDOT STANDARD SPECIFICATION #901 & #985 RESPECTIVELY.
7. IN THE EVENT OF EXCESSIVE OFF-SITE TRACKING, THE CONTRACTOR WILL BE OBLIGATED TO INSTALL ADDITIONAL MEASURES.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE DETAIL

N.T.S.

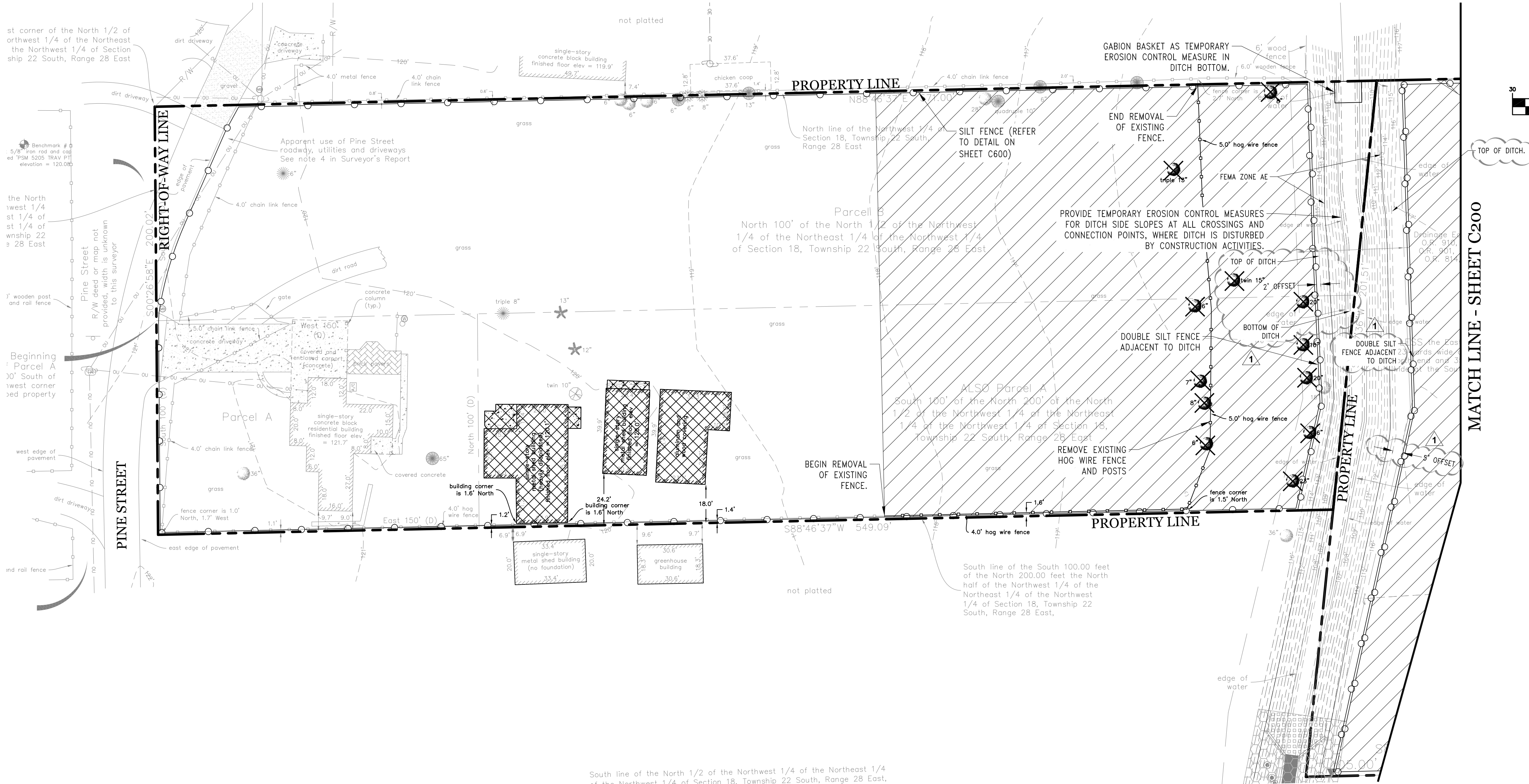
606 SPORTS TRAINING

606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

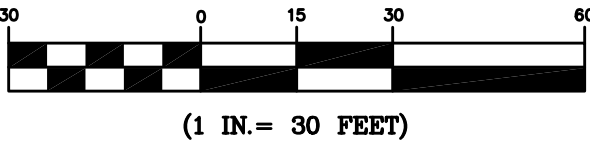
EROSION CONTROL & DEMOLITION PLAN

revision	description	date
△	SJRWMD COMMENTS	04.26.24
△	AGENCY COMMENTS	06.18.24
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drawn by: JD
checked by: SW
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: C200-DEMO-23ROMA001.DWG



GRAPHIC SCALE



Selby G. Weeks 56991

606 SPORTS TRAINING
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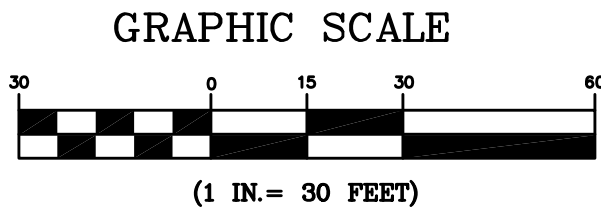
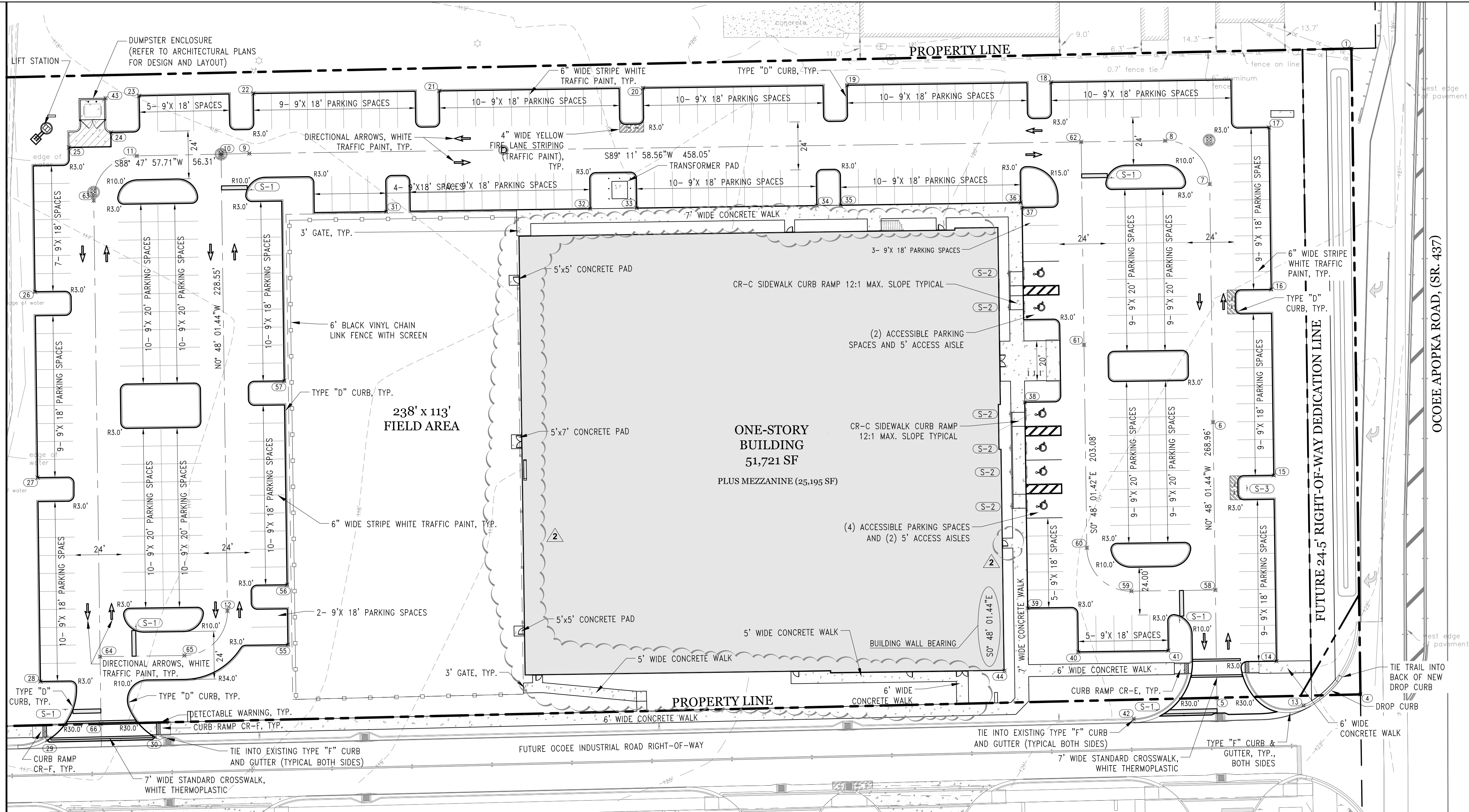
EROSION CONTROL & DEMOLITION PLAN

revision	description	date
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C201

MATCH LINE - SHEET C301



COORDINATE POINT TABLE:

Point Table			
Point #	Description	Northing	Eastng
1	Property Corner	1544233.7496	479345.3680
2	Property Corner	1544219.2556	478666.5207
3	Property Corner	1543893.9028	478633.5110
4	Property Corner	1543910.6622	479349.8818
5	CL	1543908.8961	479278.0965
6	CL	1544046.8506	479276.1692
7	CL	1544165.9601	479274.5052
8	CL	1544187.6506	479252.2000
9	CL	1544181.2523	478794.2061
10	CL	1544180.9556	478780.0498
11	CL	1544180.0723	478737.9043
12	CL	1543952.4267	478783.2424
13	EOP	1543905.1655	479321.4227
14	EOP	1543927.2813	479307.8426
15	EOP	1544020.2722	479306.5435
16	EOP	1544113.2632	479305.2443
17	EOP	1544194.2553	479304.1128
18	EOP	1544216.8562	479195.1294
19	EOP	1544215.4312	479093.1393
20	EOP	1544214.0064	478991.1493

Point Table			
Point #	Description	Northing	Eastng
21	EOP	1544212.5815	478889.1592
22	EOP	1544211.2824	478796.1683
23	EOP	1544210.1030	478739.0551
24	EOP	1544191.8032	478724.9398
25	EOP	1544184.3421	478703.9950
26	EOP	1544112.0979	478687.0026
27	EOP	1544019.1070	478688.3017
28	EOP	1543917.1170	478689.7265
29	EOP	1543887.6987	478693.1782
30	EOP	1543889.3138	478746.9560
31	EOP	1544152.2054	478862.6472
32	EOP	1544153.6303	478964.6373
33	EOP	1544153.9563	478987.9750
34	EOP	1544155.2136	479077.9662
35	EOP	1544155.3812	479089.9650
36	EOP	1544156.6384	479179.9563
37	EOP	1544154.1559	479180.6610
38	EOP	1544056.7704	479182.0215
39	EOP	1543953.8309	479183.4596
40	EOP	1543931.9340	479208.7679

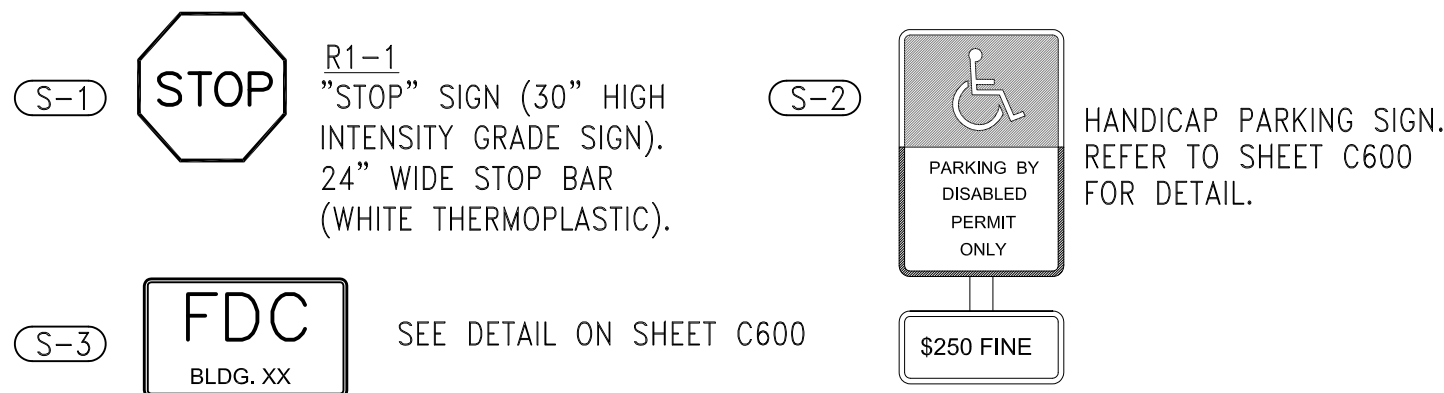
Point Table			
Point #	Description	Northing	Eastng
41	EOP	1543932.5626	479253.7636
42	EOP	1543898.5073	479236.5132
43	DUMPSTER	1544208.9506	478722.3231
44	Bldg. Control Pt.	1543922.5028	479171.8821
45	Pond TOB	1544194.4254	478440.5038
46	Pond TOB	1544199.5310	478445.3960
47	Pond TOB	1544203.0935	478612.2516
48	Pond TOB	1544198.3042	478617.3540
49	Pond TOB	1544072.3246	478622.6393
50	Pond TOB	1544068.1622	478622.2303
51	Pond TOB	1544036.8252	478614.6342
52	Pond TOB	1544033.0042	478609.8816
53	Pond TOB	1544029.5698	478449.0248
54	Pond TOB	1544034.4619	478443.9192
55	EOP	1543935.4973	478613.4819
56	EOP	1543965.4944	478813.0628
57	EOP	1544067.4845	478811.6379
58	CL	1543962.8950	479277.3421
59	CL	1543962.3083	479235.3462
60	CL	1543983.9988	479213.0411

Point Table			
Point #	Description	Northing	Eastng
61	CL	1544085.5314	479211.6226
62	CL	1544187.0639	479210.2042
63	CL	1544157.7698	478716.3674
64	CL	1543929.5349	478719.5560
65	CL	1543930.1248	478761.7289
66	CL	1543895.9268	478720.0255

GEOMETRY NOTES:

- THREE (3) FOOT CURB TRANSITION SHALL BE PROVIDED AT ALL CURB TERMINATIONS EXCEPT WHERE CURB ABUTS RAISED WALK.
- POINTS SHOWN ON THE PLANS HAVE BEEN SET AT FACE OF CURB, PC, PT, CURB MIDPOINT AND INTERSECTIONS LOCATIONS. POINTS SHOWN ON UTILITY & STORM STRUCTURES ARE AT THE CENTER OF THE STRUCTURE.
- REFER TO GRADING PLANS FOR LIMITS OF FLUSH AND RAISED CONCRETE WALKS. DISPOSITION OF WALK/ASPHALT INTERFACE IS PROVIDED BY SPOT ELEVATIONS.

SIGNAGE AND STRIPING LEGEND:



606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA
GEOMETRY, STRIPING & SIGNAGE PLAN

revision description date

△ SJRWMD COMMENTS 04.26.24

△ AGENCY COMMENTS 06.18.24

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drawn by: JD

checked by: SW

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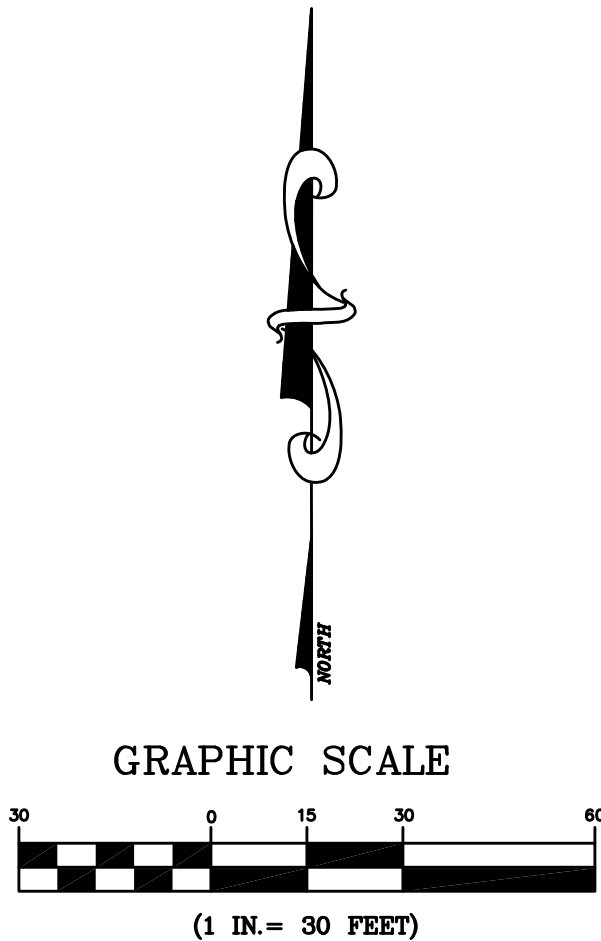
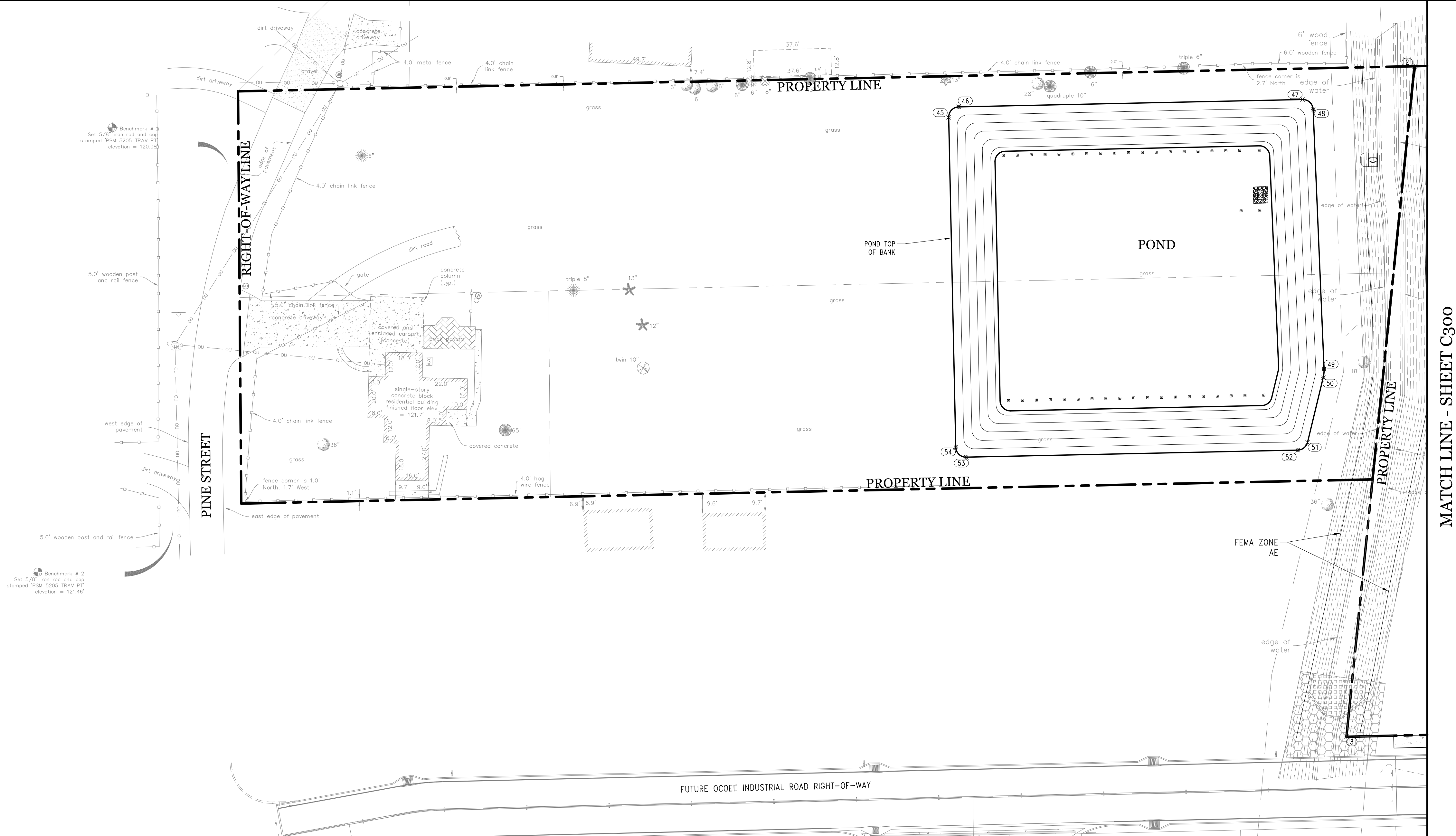
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File Location : P:\Land Projects 2023\23ROMA001 - 606 Sports Training.dwg

Filename : C300-GEOM-23ROMA001.dwg Plot Date : Jun. 21, 2024 9:30am



COORDINATE POINT TABLE:

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11	CL	1544180.0723	478737.9043
12	CL	1543952.4267	478783.2424
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15	EOP	1544020.2722	479306.5435
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31	EOP	1544152.2054	478862.6472
32	EOP	1544153.6303	478964.6373
33	EOP	1544153.9563	478887.9750
34	EOP	1544155.2136	479077.9662
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Point #	Description	Northing	Easting
41	EOP	1543932.5626	479253.7636
42	EOP	1543898.5073	479236.5132
43	DUMPSTER	1544208.9506	478722.3231
44	Bldg. Control Pt.	1543922.5028	479171.8821
45	Pond TOB	1544194.4254	478440.5038
46	Pond TOB	1544199.5310	478445.3960
47	Pond TOB	1544203.0935	478612.2516
48	Pond TOB	1544198.3042	478617.3540
49	Pond TOB	1544072.3246	478622.6393
50	Pond TOB	1544068.1622	478622.2303
51	Pond TOB	1544036.8252	478614.6342
52	Pond TOB	1544033.0042	478609.8816
53	Pond TOB	1544029.5689	478449.0248
54	Pond TOB	1544034.4619	478443.9192
55	EOP	1543935.4973	478813.4819
56	EOP	1543965.4944	478813.0628
57	EOP	1544067.4845	478811.6379
58	CL	1543962.8950	479277.5421
59	CL	1543962.3083	479235.3462
60	CL	1543983.9988	479213.0411

Point Table			
Point #	Description	Northing	Easting
61	CL	1544085.5314	479211.6226
62	CL	1544187.0639	479210.2042
63	CL	1544157.7698	478716.3674
64	CL	1543929.5349	478719.5560
65	CL	1543930.1248	478761.7289
66	CL	1543895.9268	478720.0255

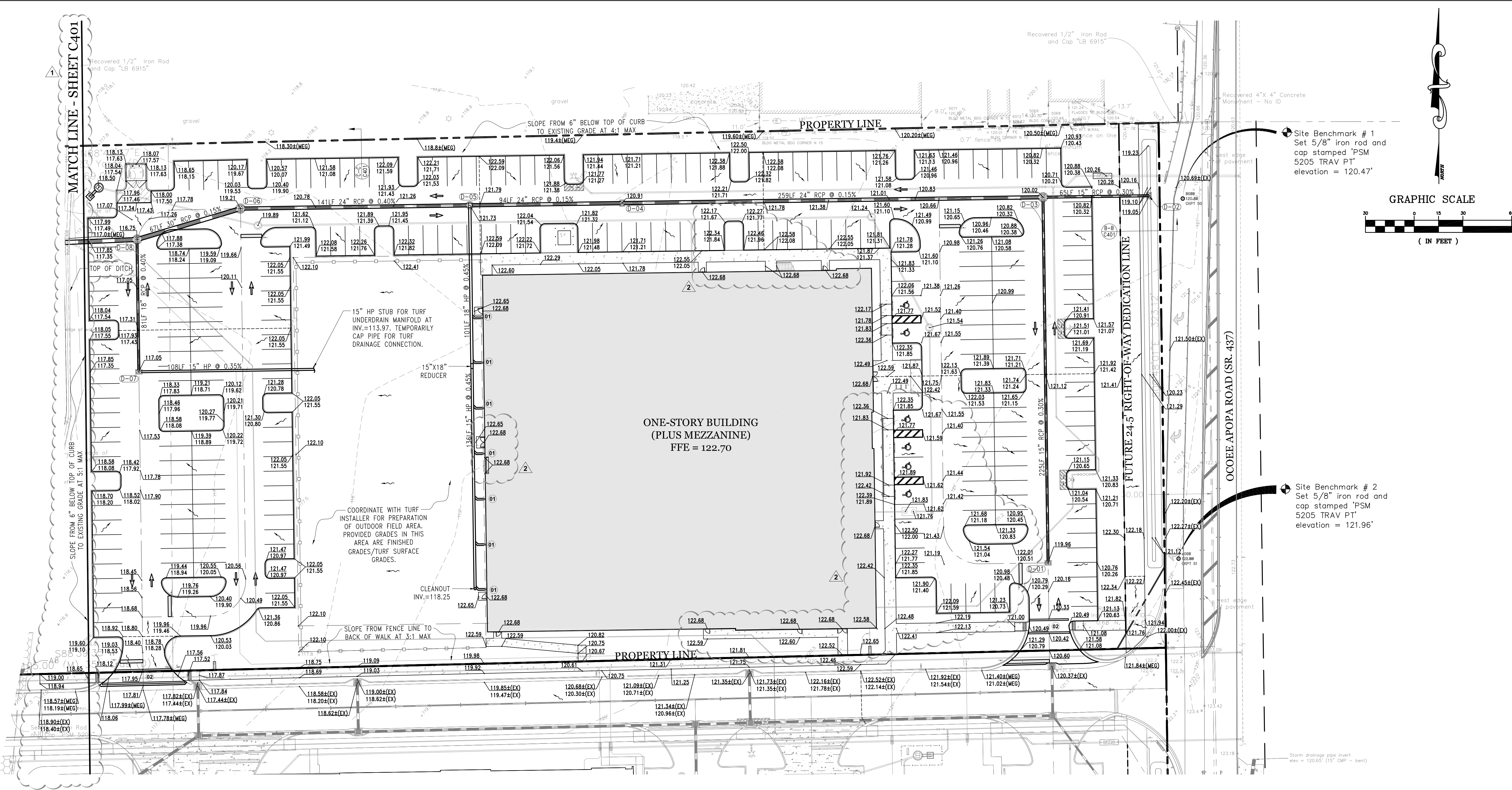
Selby G. Weeks 56991

606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA
GEOMETRY, STRIPING & SIGNAGE PLAN

revision	description	date
△	SJRWMD COMMENTS	04.26.24
△	AGENCY COMMENTS	06.18.24

drawn by: JD
checked by: SW
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: C300-GEOM-23ROMA001.DWG

C301



GRADING AND DRAINAGE NOTES:

- CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHIC DATA, LOCATION OF EXISTING UTILITIES AND ALL OTHER SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- ALL GRADING AND SITE PREPARATION SHALL CONFORM TO SPECIFICATIONS CONTAINED IN THE PROJECT GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS, AND SPECIFICATION SECTIONS 31 TO 00 AND 31 20 00.
- ALL GRADES SHOWN, WITH THE EXCEPTION OF THOSE INDICATED ON THE SURVEY BASE DRAWING, ARE FINISHED GRADES UNLESS INDICATED OTHERWISE.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE GRADED TO ORIGINAL GROUND LINES AND FINISHED WITH SOD PER PROJECT SPECIFICATIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL MAINTAIN ALL AREAS UNTIL FINAL ACCEPTANCE.
- STORMWATER COLLECTION SYSTEM TO BE PRIVATELY OWNED AND MAINTAINED.
- INLET AND MANHOLE ELEVATIONS ARE TOP OF RIM.
- ALL INLET AND MANHOLE TOPS SHALL BE TRAFFIC BEARING UNLESS OTHERWISE NOTED.
- SIDEWALKS AND CROSSWALKS:
 - CROSS-SLOPES SHALL NOT EXCEED 2.0%
 - LONGITUDINAL SLOPES SHALL NOT EXCEED 5.0% EXCEPT CURB RAMPS.
 - CURB RAMP LONGITUDINAL SLOPES SHALL NOT EXCEED 12:1.
- ACCESSIBLE PARKING SPACES, ACCESS AISLES AND PASSENGER LOADING ZONES:
 - SLOPES SHALL NOT EXCEED 2.0% IN ANY DIRECTION.

STORM KEYNOTES:

- CONNECT TO 12"x12" SQUARE DOWNSPOUT WITH 15" HP AT INV.=118.50 AND EXTEND TO STORM MANIFOLD @ 0.50% MIN. SLOPE.
- CROSSWALK CROSS-SLOPE SHALL NOT EXCEED 2%

PROJECT BENCHMARK:

SOURCE: BOUNDARY & TOPOGRAPHIC SURVEY OF 789 PINE STREET, OCOEE, FLORIDA, AND 606 OCOEE APOPKA ROAD, OCOEE, FLORIDA; SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA.

THE ELEVATIONS SHOWN HEREON ARE BASED ON ORANGE COUNTY VERTICAL CONTROL NETWORK BENCHMARK NUMBER C1051016, PUBLISHED ELEVATION IS 122.74 FEET AND RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). THE EQUIPMENT USED TO MAKE ALL SITE OBSERVATIONS ARE AS FOLLOWS: CARLSON BRX6 GNSS BASE + ROVER, AND GEOMAX ZOOM 80 ROBOTIC TOTAL STATION.

FLOOD INSURANCE RATE MAP:

SUBJECT PROPERTY LIES WITHIN ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AND ZONE AE, AN AREA WHERE BASE FLOOD ELEVATIONS ARE DETERMINED TO BE BETWEEN 111'-113' ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP NUMBER 12095C0210H, DATED SEPTEMBER 24, 2021.

STORM STRUCTURE TABLE:

D-01	TYPE "C" INLET TOP EL.= 119.96 N. INV.= 116.37	D-04	TYPE "C" INLET W/ "J" BOTTOM TOP EL.= 120.91 E. INV.= 114.27 W. INV.= 114.27	D-07	TYPE "C" INLET TOP EL.= 117.05 E. INV.= 113.59 N. INV.= 113.34
D-02	TYPE "C" INLET TOP EL.= 119.05 W. INV.= 115.61	D-05	TYPE "P" MANHOLE TOP EL.= 121.73 E. INV.= 114.13 S. INV.= 117.05 W. INV.= 114.13	D-08	TYPE "C" INLET W/ "J" BOTTOM TOP EL.= 116.75 NE. INV.= 109.54 S. INV.= 113.01 W. INV.= 100.35
D-03	TYPE "C" INLET W/ "J" BOTTOM TOP EL.= 120.02 E. INV.= 115.41 S. INV.= 115.69 W. INV.= 114.66	D-06	TYPE "C" INLET W/ "J" BOTTOM TOP EL.= 119.21 E. INV.= 113.56 SW. INV.= 109.64		

GRADING & DRAINAGE LEGEND:

	CONCRETE WALKS (REFER TO SHEET C600 FOR DETAIL)
	PROPOSED SPOT GRADE
	MATCH EXISTING GRADE
	EXISTING SPOT GRADE
	PROPOSED DRAINAGE FLOW
	GRADE BREAK LINE

revision	description	date
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△	BJRWMD COMMENTS	04.26.24
△	AGENCY COMMENTS	06.18.24
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drawn by:	JD
checked by:	SW
date:	01.19.24
plot scale:	AS SHOWN
project number:	23ROMA001
file name:	C400-GRAD-23ROMA001.DWG

Selby G. Weeks 56991

606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

GRADING & DRAINAGE PLAN

Klima Weeks
CIVIL ENGINEERING
385 Douglas Avenue, Ste 2100
Altamonte Springs, FL 32714
Telephone 407.478.8750
Facsimile 407.478.8749

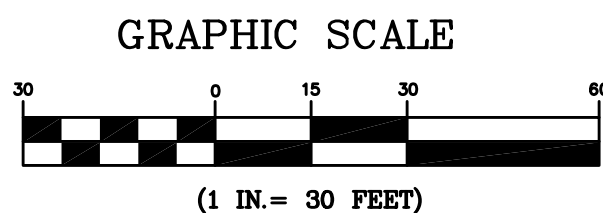
606 SPORTS TRAINING

GRADING & DRAINAGE PLAN

revision	description	date
	SJRWMD COMMENTS	04.26
	AGENCY COMMENTS	06.18
		
		
		
		

drawn by: JD
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date: 01.19.24
plot scale: AS SHOWN
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file name: C400-GRAD-23ROMA001.DWG

C401



STORM STRUCTURE TABLE:

D-09 TYPE "E" INLET W/ STEEL GRATE
AND EROSION CONTROL (BUBBLE UP)
TOP EL.= 112.50
E. INV.= (99.97) Δ
BOTTOM (SUMP)= 99.78

D-10 TYPE "C" INLET CONTROL STRUCTURE
(REFER TO DETAIL, SHEET C700)
TOP EL= 116.80
WEIR INV.= 114.35
W. INV.= 109.82
E. INV.= 106.17

D-11 24" MITERED END SECTION
W/ ENERGY DISSIPATOR
INV.= 106.00

GRADING & DRAINAGE LEGEND:

CONCRETE WALKS
(REFER TO SHEET C600 FOR DETAIL)

100.50
100.00

100.50 ± (MEG)

MATCH EXISTING GRADE

PROPOSED DRAINAGE FLOW

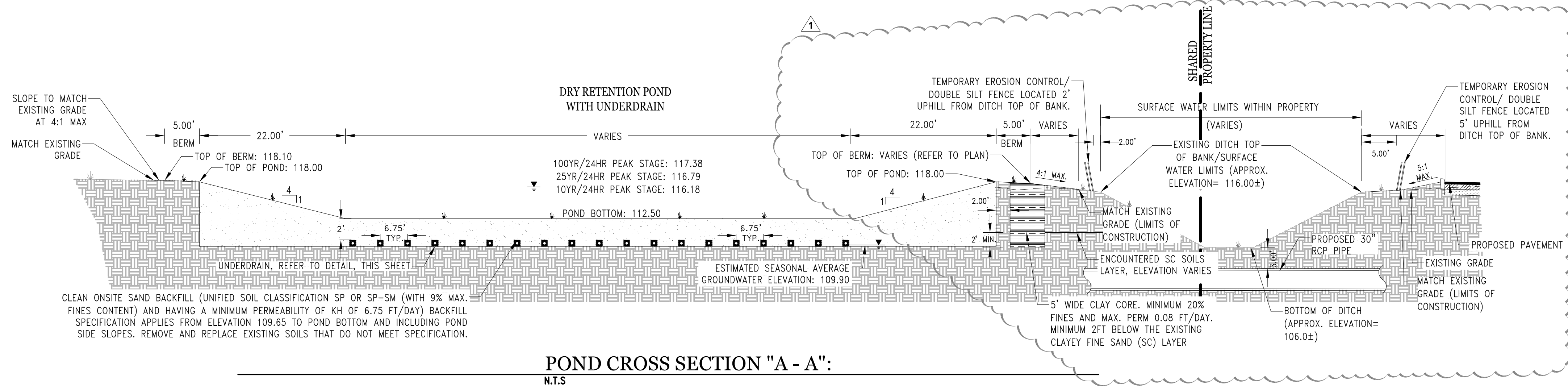
GRADE BREAK LINE

FLEXAMAT TIED CONCRETE MAT SYSTEM
ON MIRAFI 160N NONWOVEN GEOTEXTILE
PER FDOT INDEX No. 1999 (2007) TYPE
O-E (OR EQUIVALENT)

PERMANENT TURF REINFORCEMENT MAT
(NORTH AMERICAN GREEN VMAK SC250
OF ACCEPTED EQUIVALENT). INSTALL PER
MANUFACTURER SPECIFICATIONS AND
TOE-IN ON ALL EDGES (1' MIN.)

R-O-W CROSS SECTION "B-B":
N.T.S

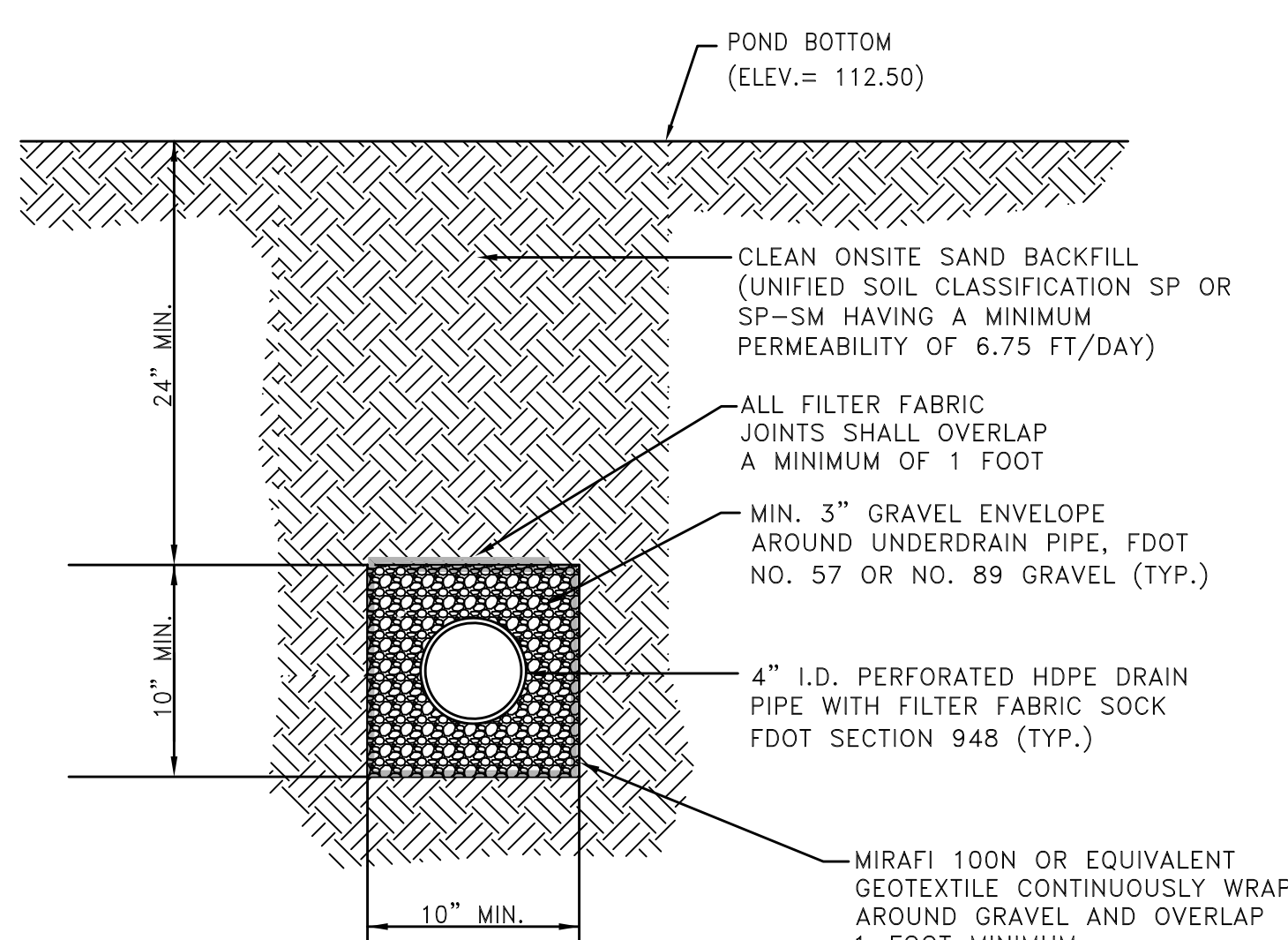
NORTH P/L CROSS SECTION "C-C":
N.T.S



POND CROSS SECTION "A - A":
N.T.S

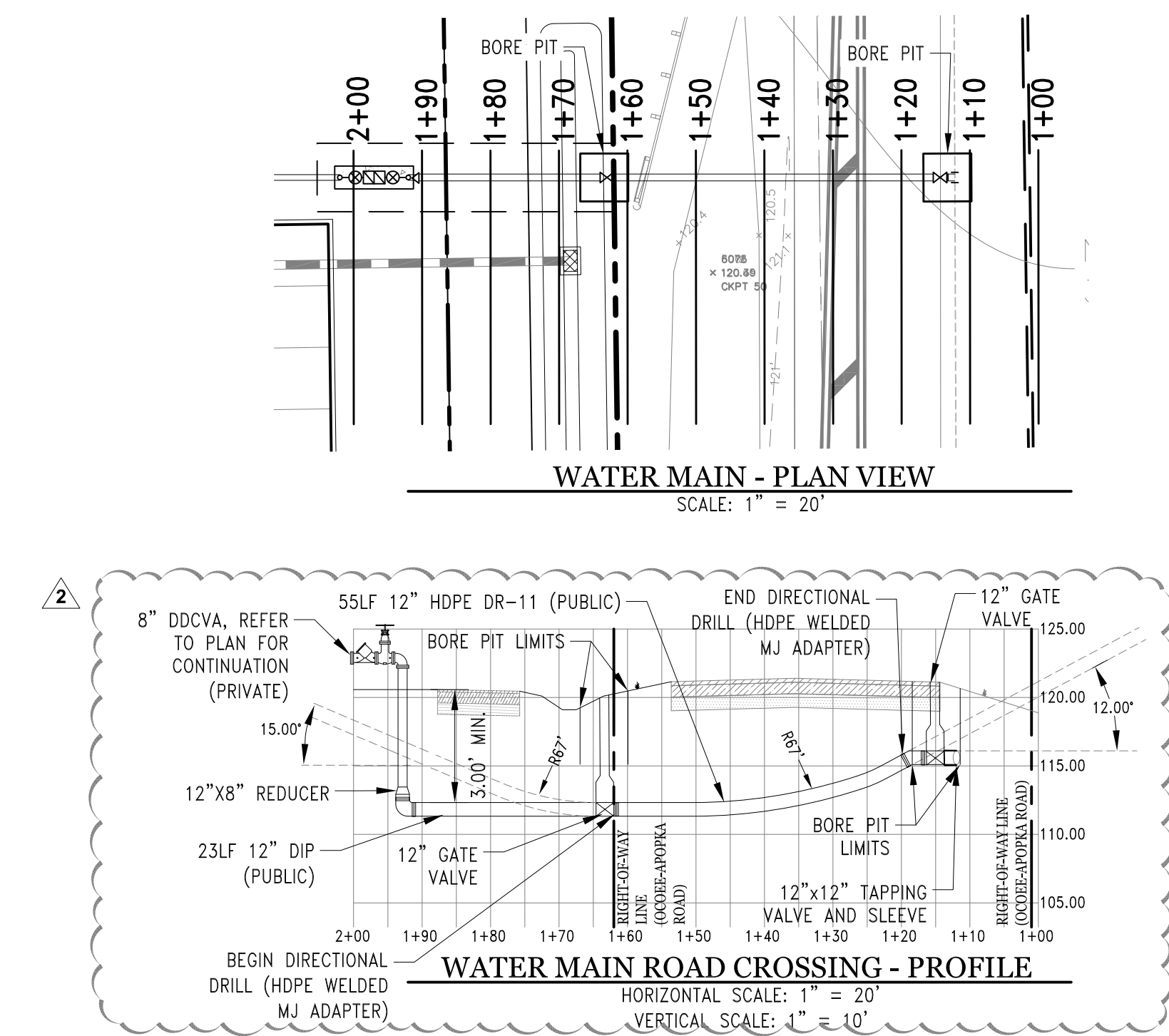
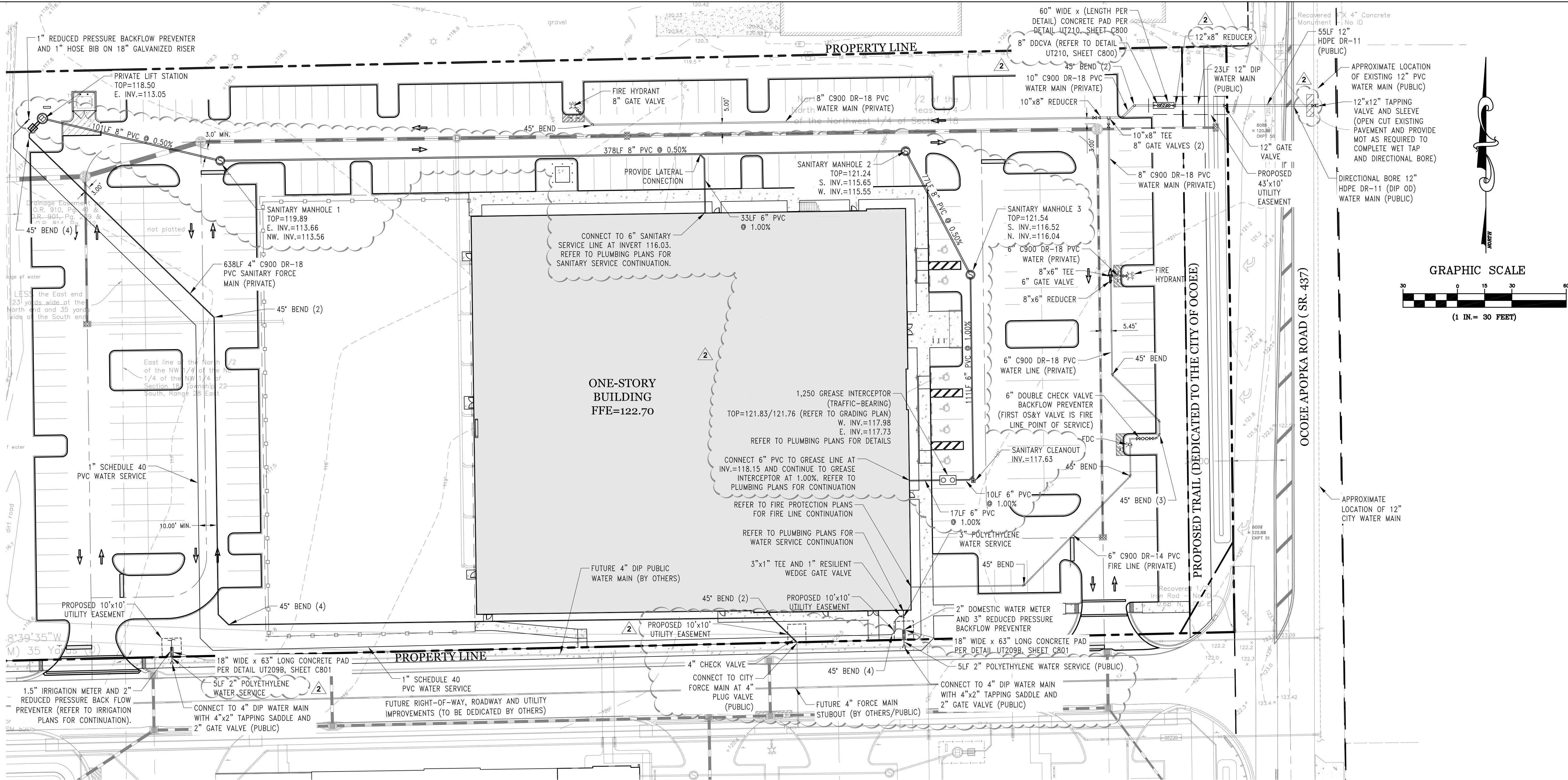
NOTES:

1. PER THE GEOTECHNICAL REPORT, THE CLAYEY FINE SAND (SC) LAYER WAS ENCOUNTERED IN BORINGS AT AN APPROXIMATE DEPTH OF ELEVATION 110.00. HOWEVER, IF THE SC LAYER IS ENCOUNTERED DEEPER THAN ELEVATION 110.00, THE CORE SHOULD BE EXTENDED AT LEAST 2 FT BELOW THE ENCOUNTERED SC LAYER, AS NOTED ABOVE.
2. EXCAVATE THE SOIL BENEATH THE POND BOTTOM TO ELEVATION 109.65 AND REPLACE WITH SP OR SP-SM SOIL WITH A MINIMUM AVERAGE PERMEABILITY OF 6.75 FT/DAY.
3. POND BANKS SHALL BE SODDED; SEED POND BOTTOM.
4. UNDERDRAIN LENGTH
 REQUIRED: 2,241 LF
 PROVIDED: 2,241 LF



UNDERDRAIN DETAIL:

NOT TO SCALE



NFPA FIRE FLOW CALCULATIONS:

BASIS: NFPA 1, 2018, CHAPTER 18
CONSTRUCTION TYPE: TYPE IIB (FL. BLDG. CODE)
FIRE AREA: 76,916 SF
MIN. REQUIRED FIRE FLOW: 5,750 GPM
SPRINKLER CREDIT: YES
THEREFORE MIN. REQUIRED FIRE FLOW = 1,438 GPM
TOTAL HYDRANTS REQUIRED: 1
PROPOSED HYDRANTS: 2
EXISTING HYDRANTS: 0

UTILITY LEGEND:

OPEN CUT LIMITS. REPLACE PAVEMENT WITH HEAVY DUTY PAVEMENT (REFER TO DETAIL ON SHEET C600) AND MILL AND RESURFACE 2' ON ALL SIDES OF THE OPEN CUT LIMITS.

DIRECTIONAL BORE NOTES:

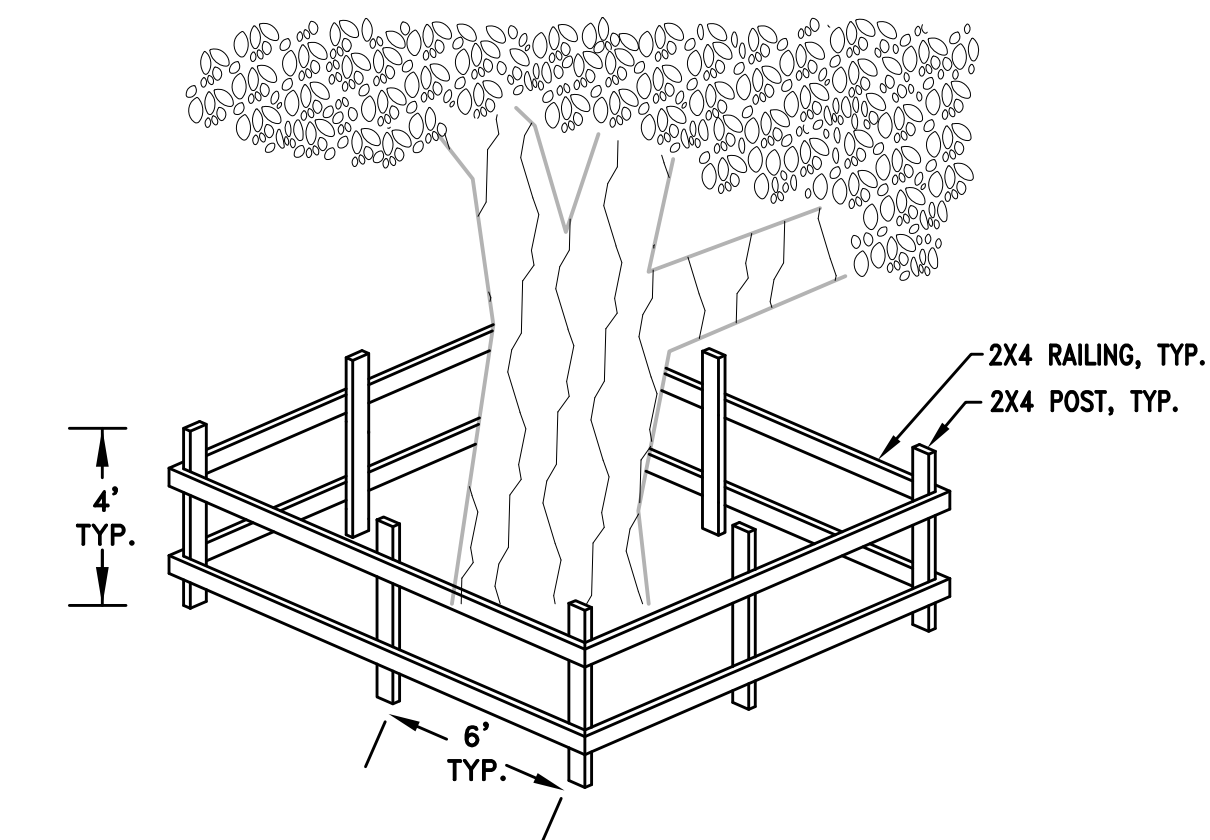
- THE ANGLE OF ENTRY SHALL NOT EXCEED 15 DEGREES, AND SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDATIONS ON DEFLECTION, ANGLE, OR RADIUS OF CURVATURE.
- THE EXIT ANGLE SHALL BE BETWEEN 6 TO 12 DEGREES TO FACILITATE PULLBACK, AND SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDATIONS ON DEFLECTION, ANGLE, OR RADIUS OF CURVATURE. COMPOUND CURVATURES MAY BE USED, BUT SHALL NOT EXCEED 75 PERCENT OF THE MAXIMUM DEFLECTIONS, AS SET FORTH BY THE PIPE MANUFACTURER OR AWWA STANDARDS, WHICHEVER IS MORE STRINGENT.
- AT LEAST 18 INCHES OF VERTICAL SEPARATION IS REQUIRED BETWEEN THE PIPE TO BE INSTALLED VIA DIRECTIONAL DRILL AND EXISTING UTILITIES.

UTILITY NOTES:

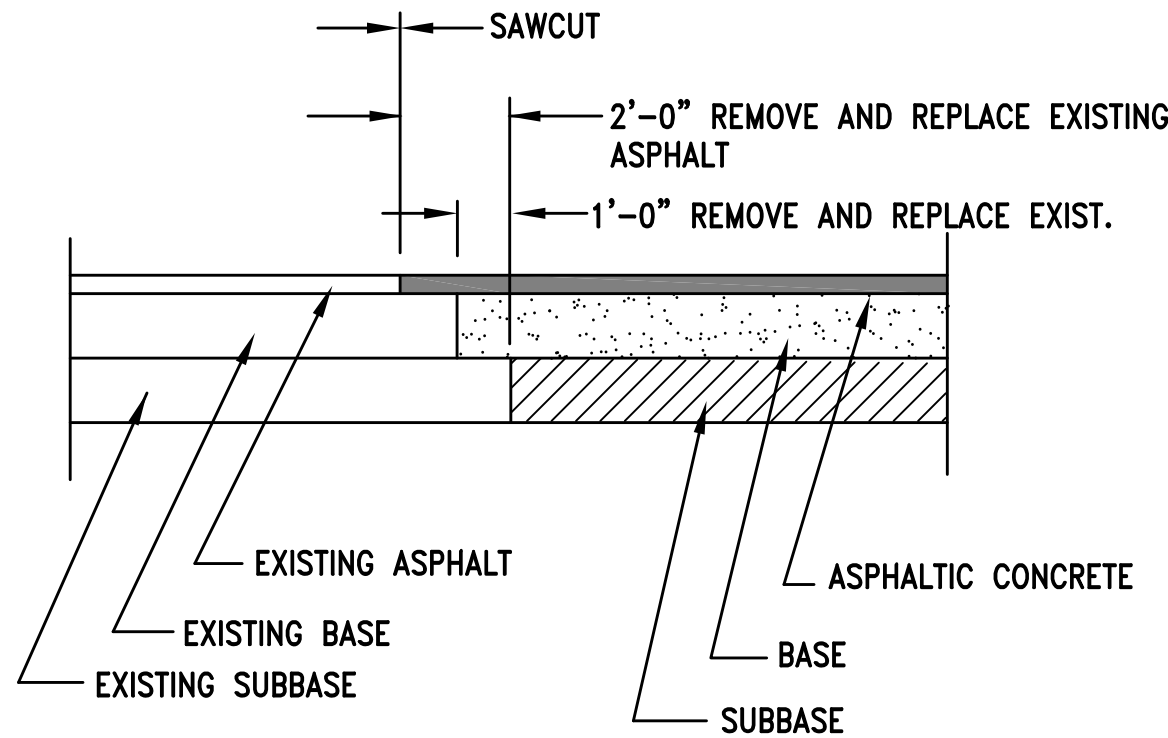
- ALL WATER & WASTEWATER MAIN MATERIALS AND APPURTENANCES SHALL CONFORM TO AND SHALL BE INSTALLED, TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF OCOEE UTILITIES AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
A. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OF PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER, REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
B. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN (10) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
C. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER.
D. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN (10) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM.
VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.
A. WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST TWELVE (12) INCHES ABOVE THE OUTSIDE OF THE OTHER PIPELINE.
B. WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST TWELVE (12) INCHES ABOVE THE OUTSIDE OF THE OTHER PIPELINE.
C. AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C.
ALL ON-SITE UTILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED.
CONTRACTOR SHALL NOTIFY THE CITY OF OCOEE UTILITIES DEPARTMENT 48 BUSINESS HOURS PRIOR TO ANY UTILITIES CONSTRUCTION.
ALL UNDERGROUND FIRE MAINS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24, 2007 EDITION, "STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES [F.A.C. 69A-60.005 (2)].
TAPS FOR FIRE, WATER, AND IRRIGATION LINES MUST BE AT LEAST SIX (6) FEET APART.
ALL IMPROVEMENTS TO BE DEDICATED AND/OR MAINTAINED BY THE CITY SHALL BE IN CONFORMANCE WITH THE CURRENT CITY OF OCOEE ENGINEERING MANUAL AND DETAILS. FINAL PLAN APPROVAL DOES NOT PROVIDE EXEMPTION TO THESE REQUIREMENTS.
ANY DEVIATION FROM THE CITY OF OCOEE ENGINEERING STANDARDS AND DETAILS MUST BE APPROVED IN WRITING PRIOR TO CONSTRUCTION.
THIS PROJECT, INCLUDING BOTH HORIZONTAL AND VERTICAL CONSTRUCTION, SHALL INCORPORATE WATERSENSE PLUMBING FIXTURES AND ENERGY STAR APPLIANCES.
THE MOST STRINGENT STANDARDS BETWEEN THE CITY OF OCOEE AND FDEP STANDARDS SHALL BE FOLLOWED FOR ALL PUBLIC UTILITIES.
IN THE EVENT OF DAMAGE TO THE EXISTING ROADWAY, PAVEMENT EDGE, OR CURB DURING DEMOLITION AND/OR GENERAL CONSTRUCTION, THE ENTIRE LANE MUST UNDERGO MILLING AND REPAVING, AND THE RIGHT-OF-WAY WILL BE RESTORED TO ITS ORIGINAL OR IMPROVED CONDITION. THE EXTENT OF ASPHALT REPAIR FOR THE OPEN CUT WILL BE DETERMINED IN THE FIELD BY THE INSPECTOR. NO PATCHES WILL BE ALLOWED.

revision	description	date
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△	AGENCY COMMENTS	06.18.24
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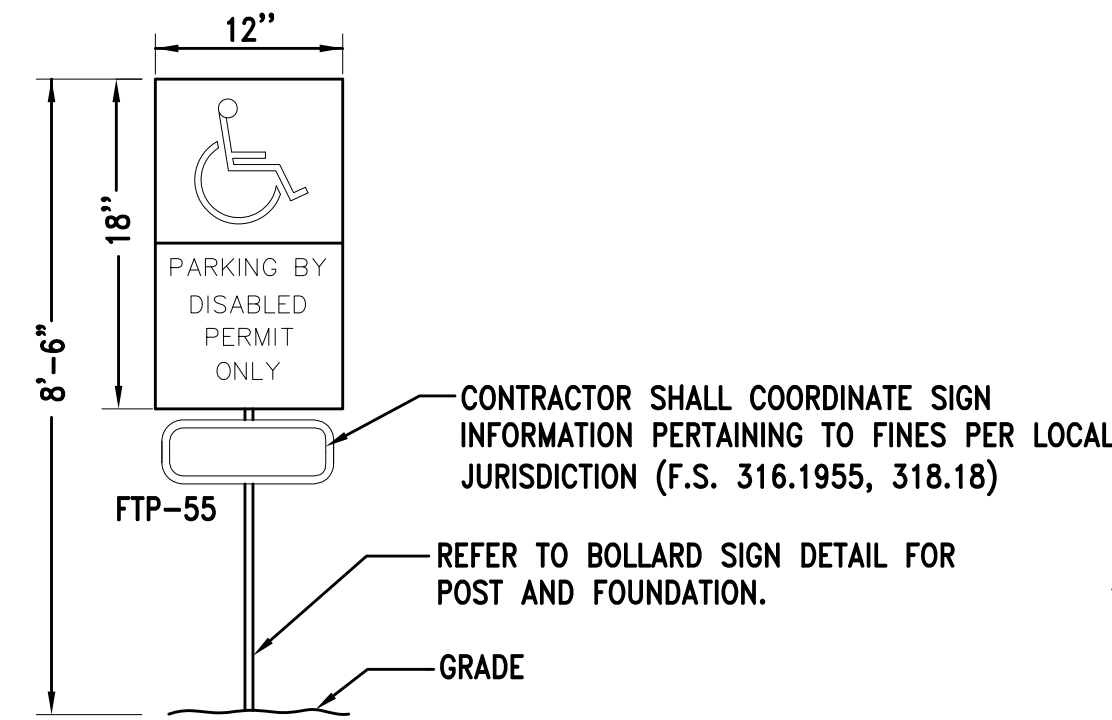
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checked by:	SW
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project number:	23ROMA001
file name:	C500-UTL-23ROMA001.DWG



TREE PROTECTION BARRIER DETAIL
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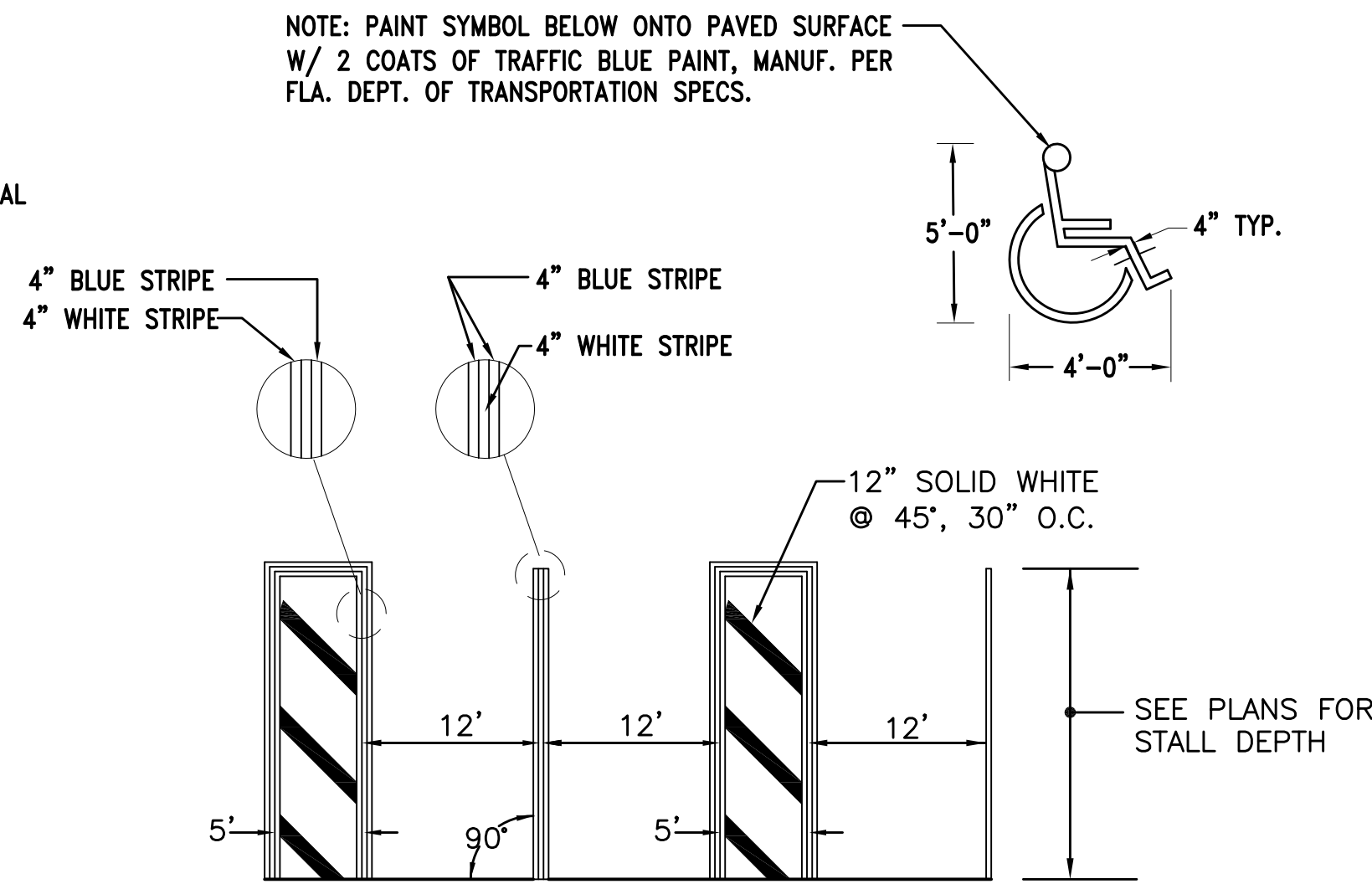


SAWCUT DETAIL
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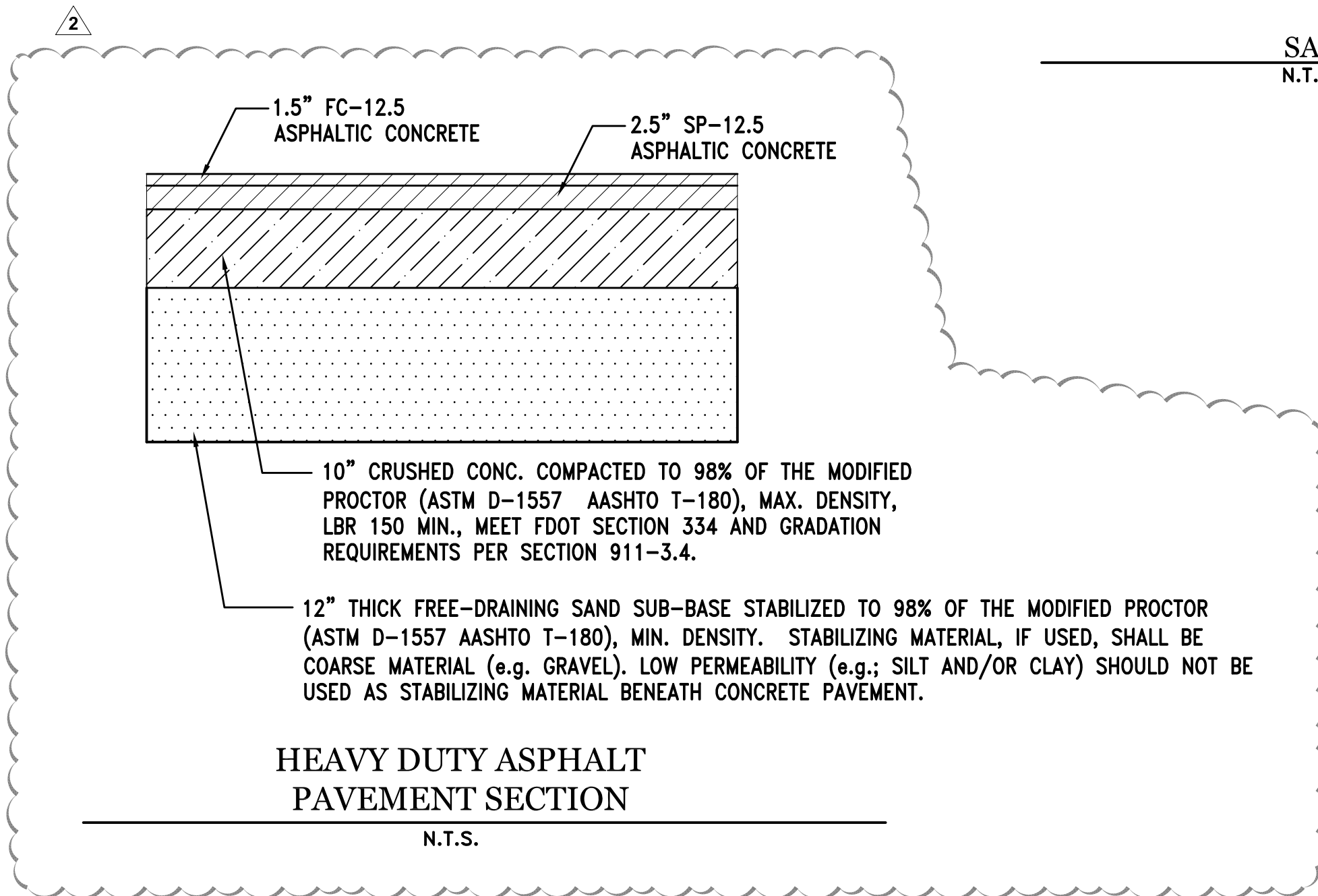


HANDICAP PARKING SIGN — DETAIL
N.T.S.

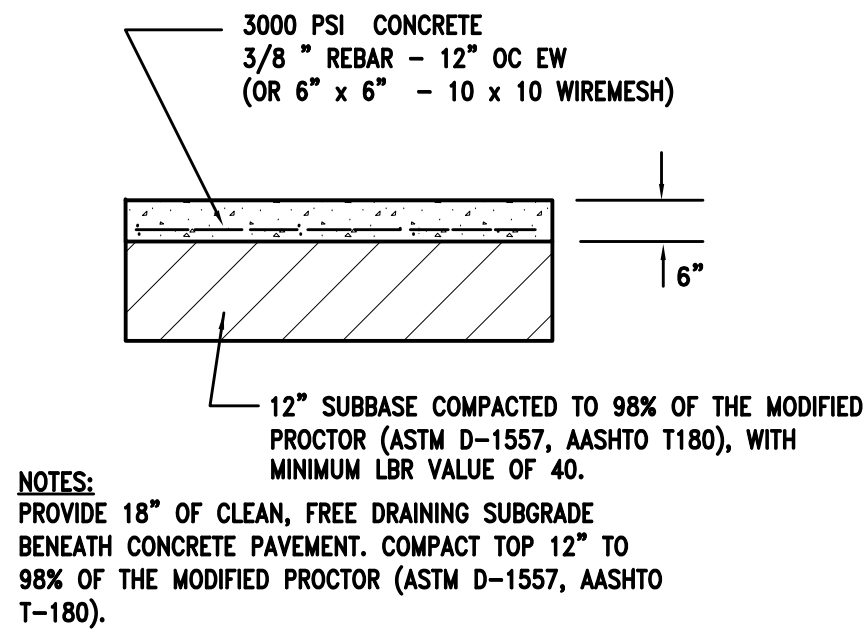
- NOTES
1. TOP PORTION OF FTP 25 & 26 SHALL HAVE A REFLECTIVE SYMBOL AND BORDER.
 2. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
 3. FTP 25 & 26 MAY BE FABRICATED ON ONE PANEL OR TWO.
 4. FTP 25 MAY BE SUBSTITUTED FOR THE FTP 26 IN AREAS WHERE SPACE IS LIMITED.
 5. SIGNS ARE TO BE MOUNTED AT STANDARD HEIGHT. (7'-6" FROM PAVEMENT TO BOTTOM OF SIGN).



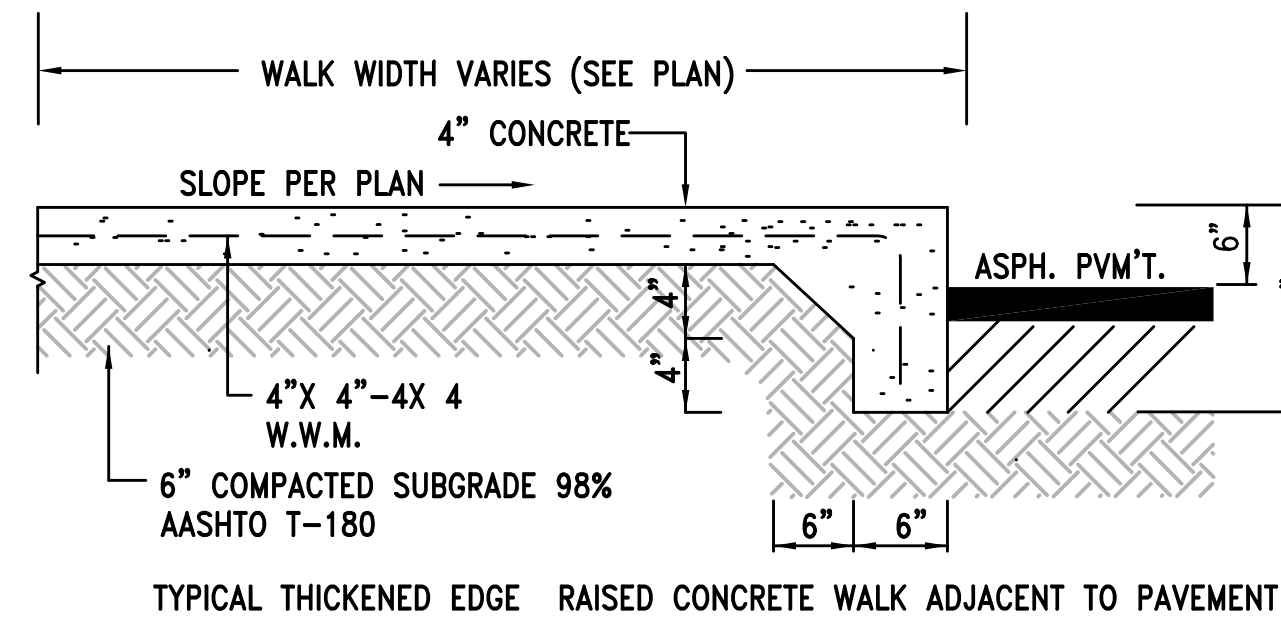
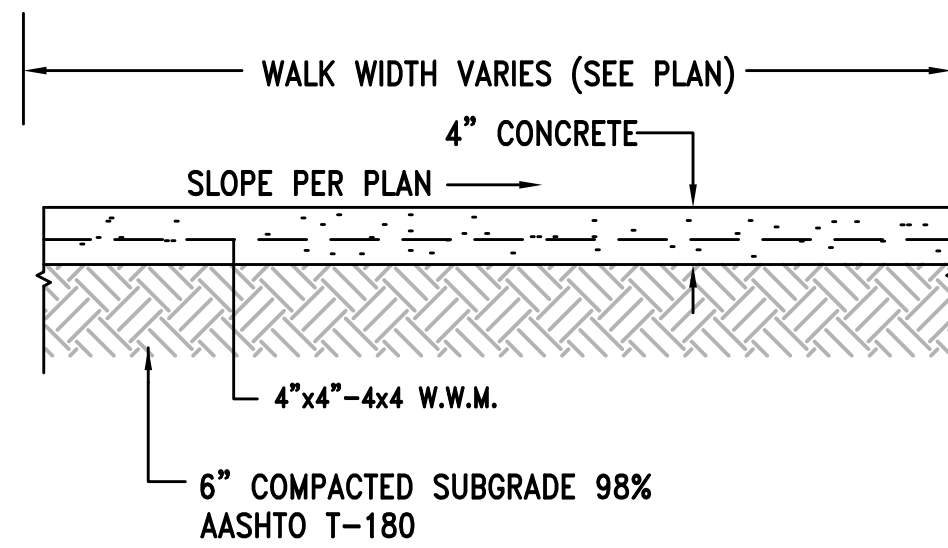
HANDICAP DETAILS
N.T.S.



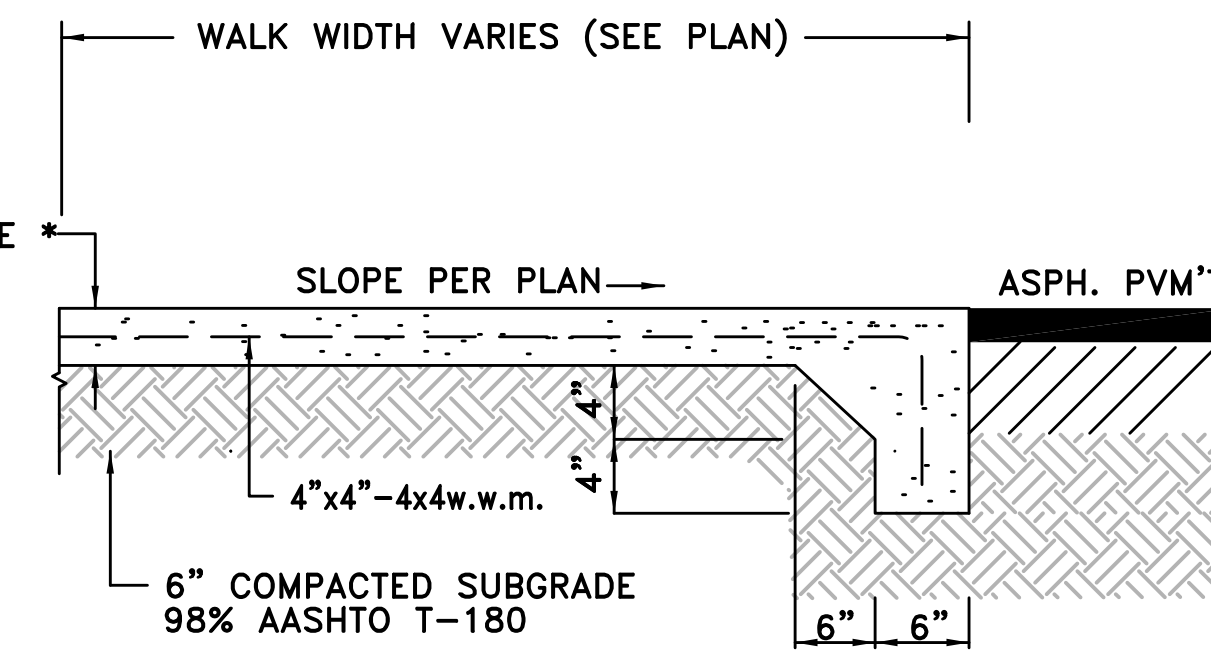
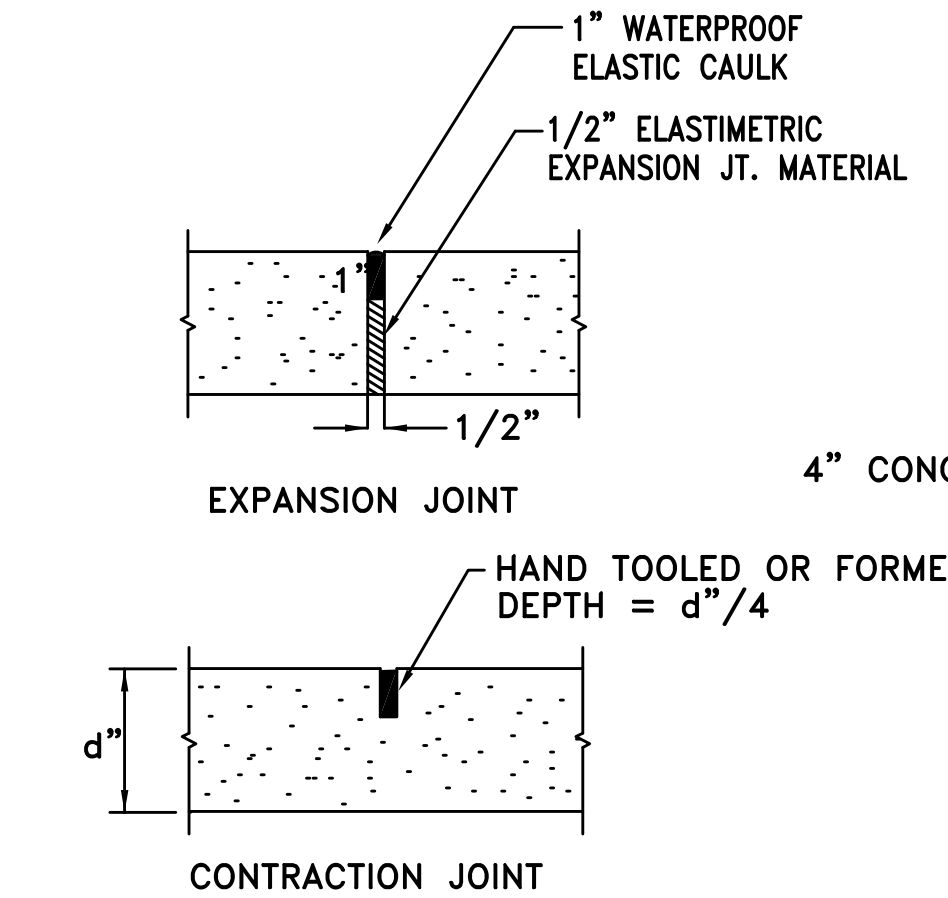
HEAVY DUTY ASPHALT
PAVEMENT SECTION
N.T.S.



DUMPSTER PAD SECTION
N.T.S.



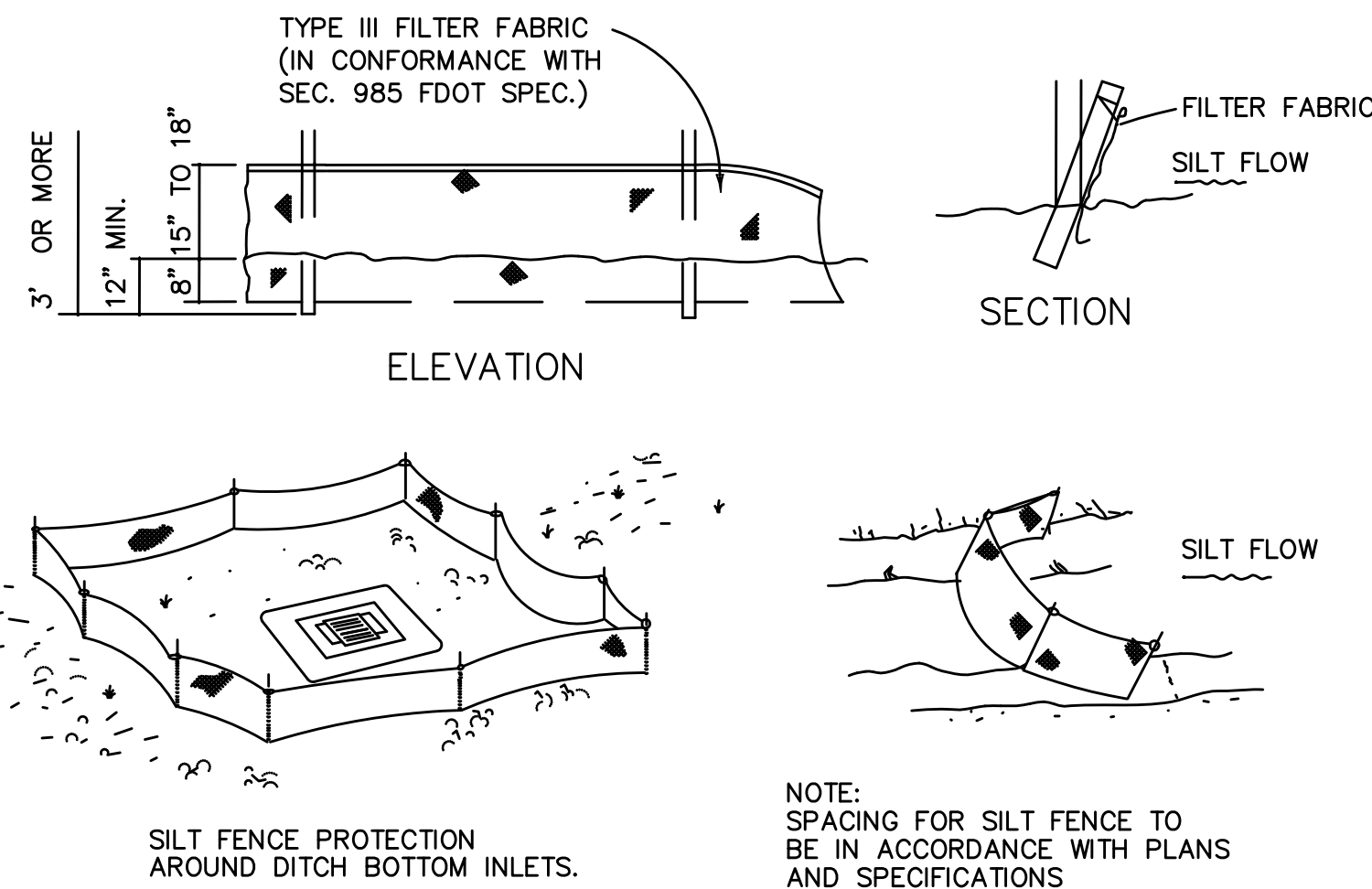
TYPICAL THICKENED EDGE RAISED CONCRETE WALK ADJACENT TO PAVEMENT



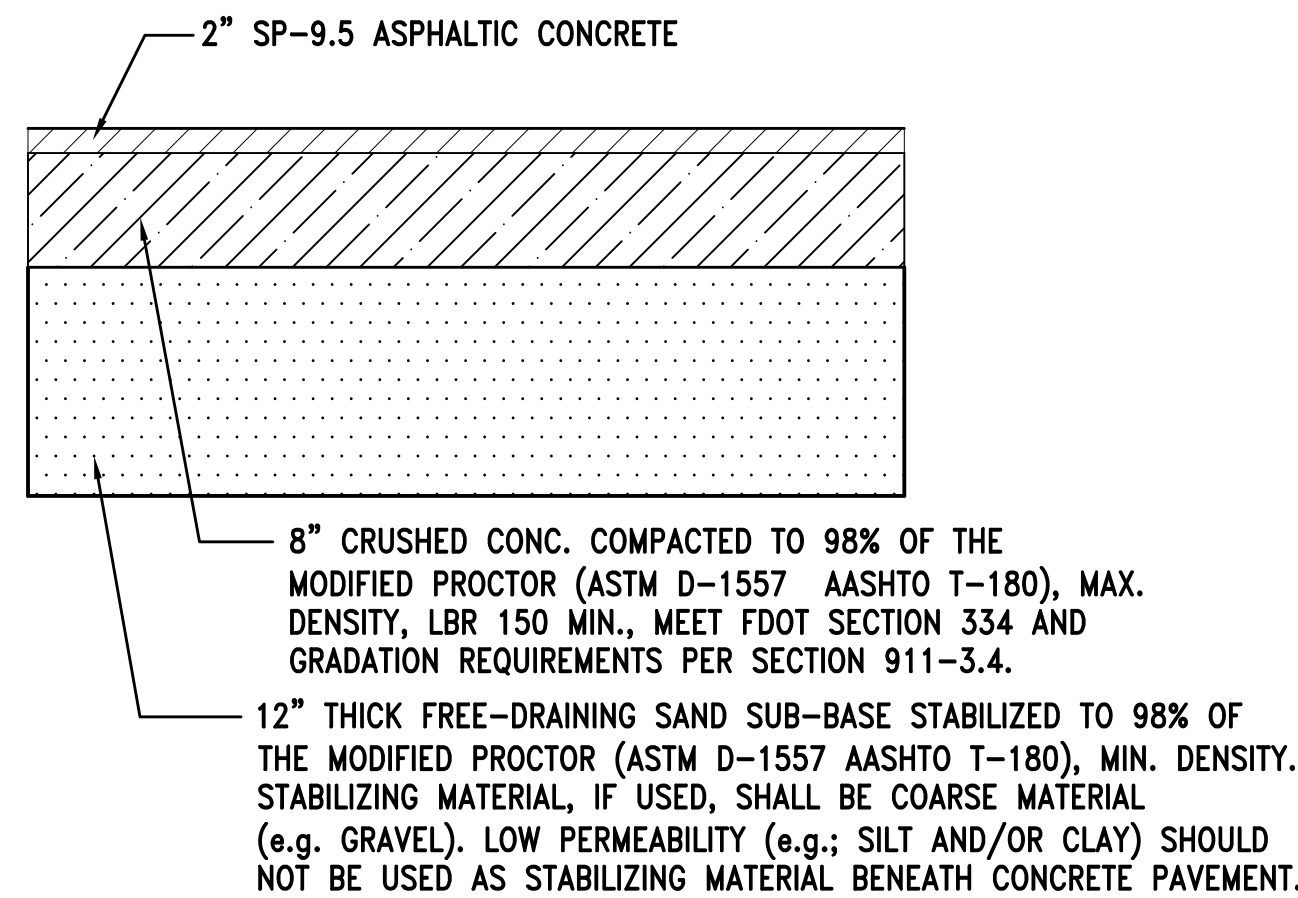
TYPICAL THICKENED EDGE FLUSH CONCRETE WALK ADJACENT TO PAVEMENT

- NOTES
1. SIDEWALK W/LIGHT BROOM FINISH & TROWELED EDGE.
 2. FOR APPLICATIONS WHERE SIDEWALKS ARE ADJACENT TO GRASSED AREAS, THE GRASS AREA SHALL NOT EXCEED A 3% SLOPE FOR A MINIMUM OF 5 FEET.
 3. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI CONCRETE AT 28 DAYS
 4. ALL CONCRETE SIDEWALKS SHALL HAVE A FULL 1/2" EXPANSION JOINT AT A MAXIMUM DISTANCE OF 40 LINEAR FEET AND A SAW CUT OR FORMED DUMMY CONTRACTION JOINT AT EVENLY SPACED INTERVALS NOT TO EXCEED WIDTH OF THE WALK OR 8 LINEAR FEET WHICH EVER IS THE SMALLEST.
 5. AN 1/4" CONSTRUCTION JOINT SHALL BE CONSTRUCTED AT ALL P.C. AND P.T. OF CURVES AND WHERE EXISTING AND NEW SIDEWALKS MEET.

CONCRETE WALK DETAILS
N.T.S.



SILT FENCE APPLICATIONS
N.T.S.



NOTE:
TYPE SP ASPHALTIC CONCRETE SHALL USE ASPHALT BINDER GRADE PG67-22 AND NO MORE THAN 15 PERCENT RECYCLED ASPHALT PAVEMENT (RAP) AGGREGATE.

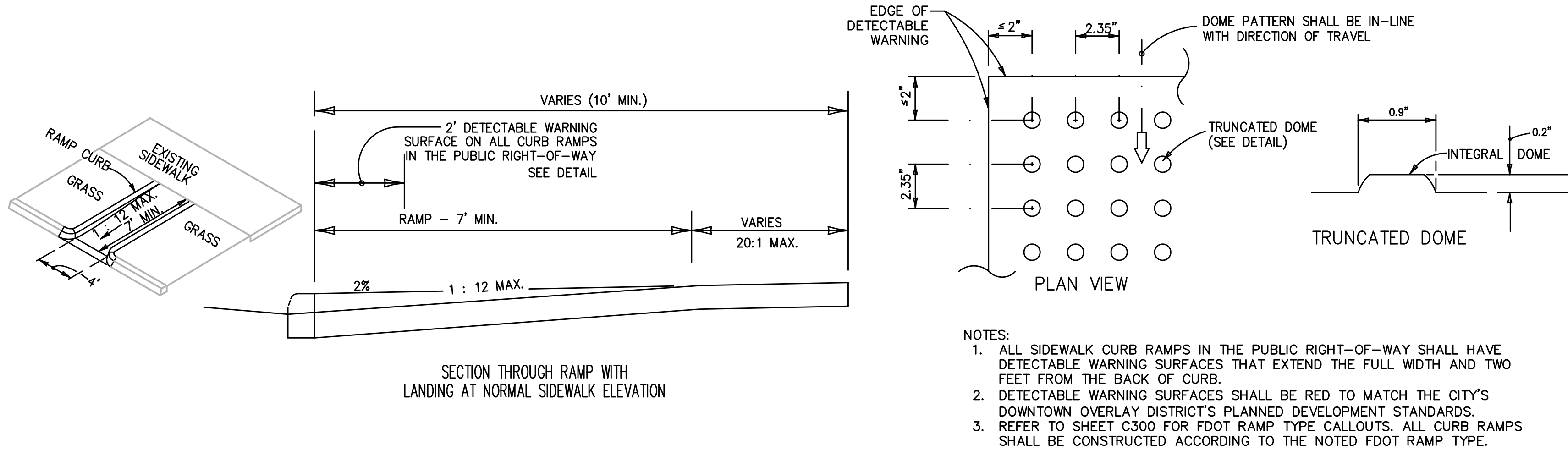
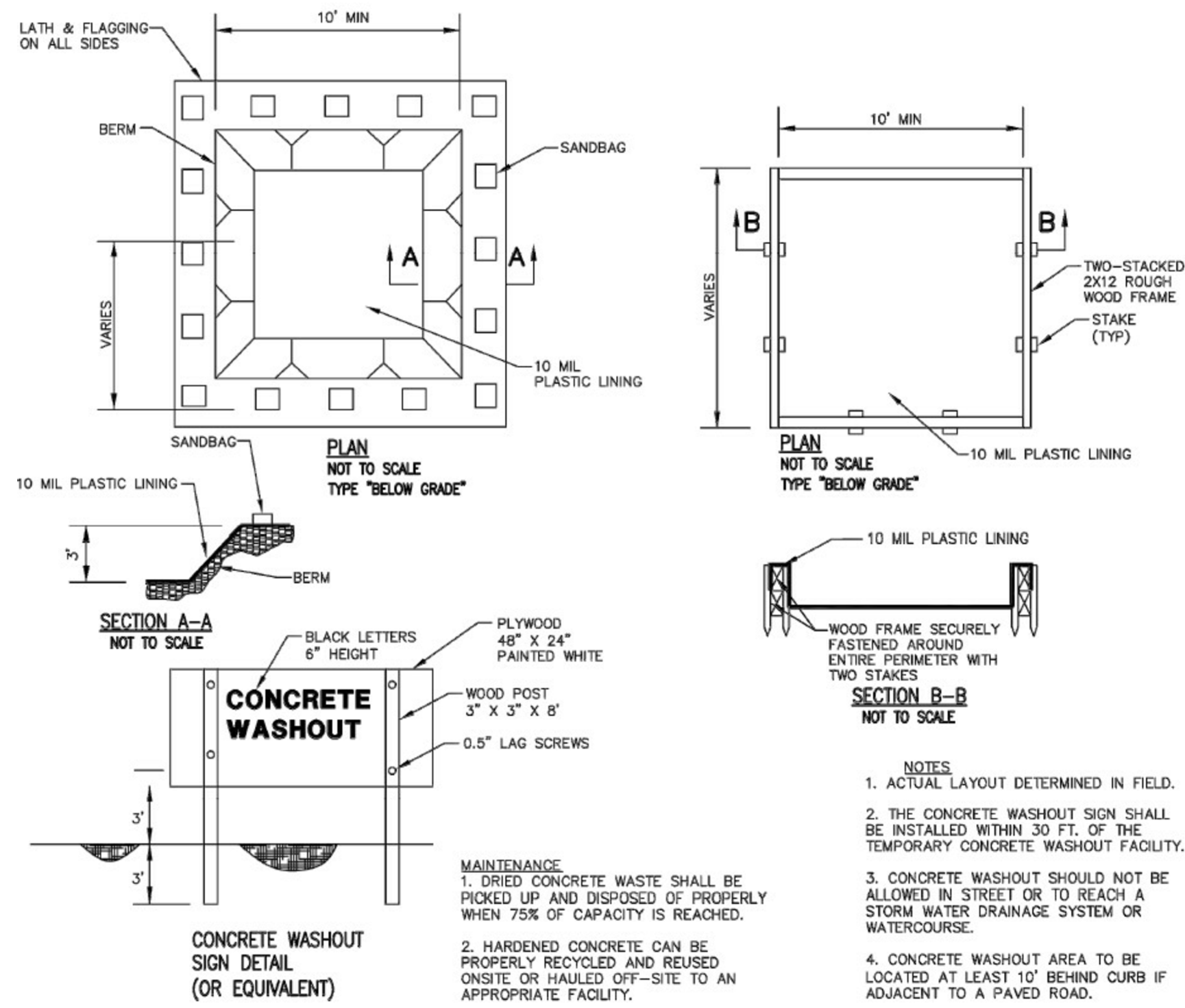
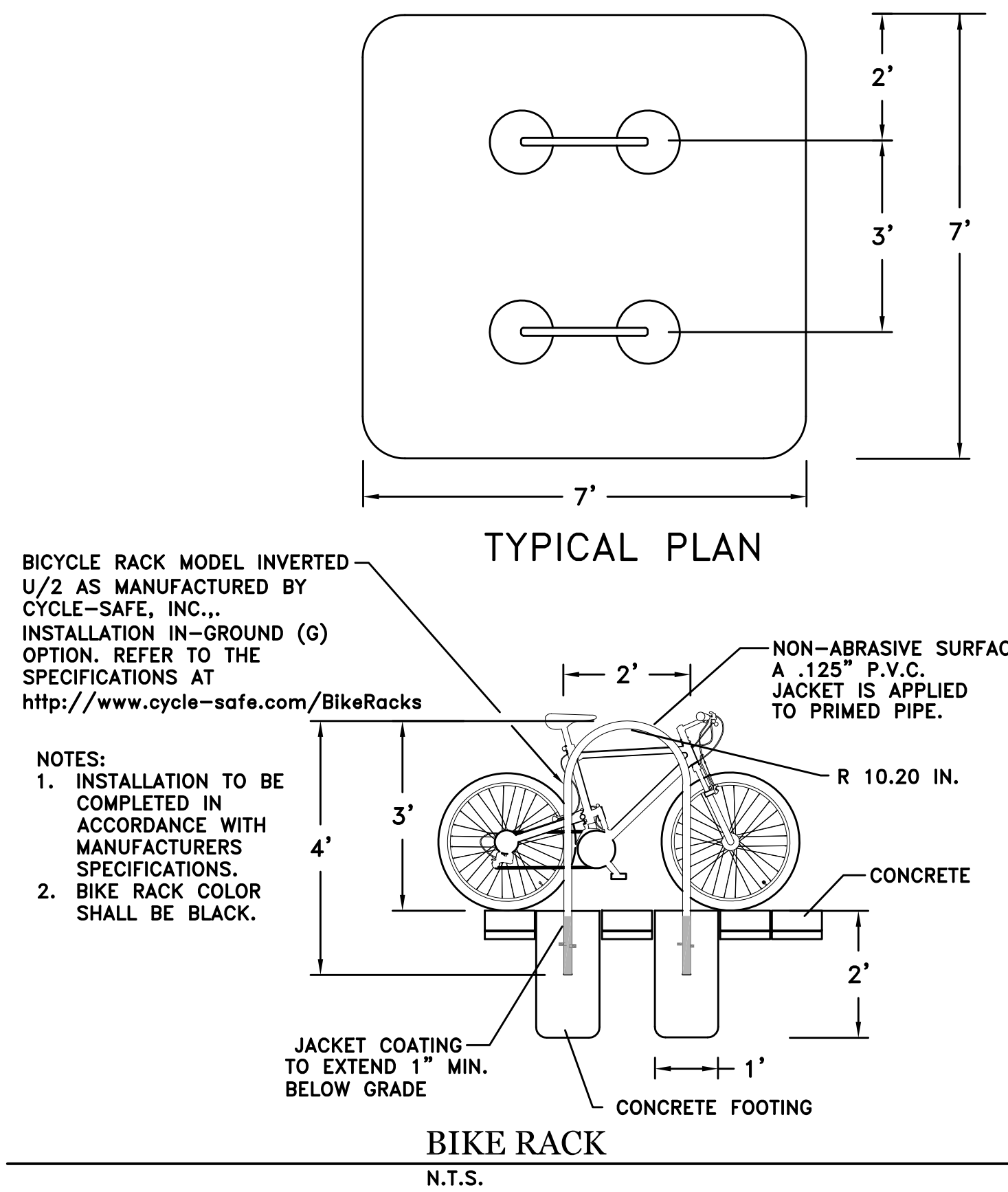
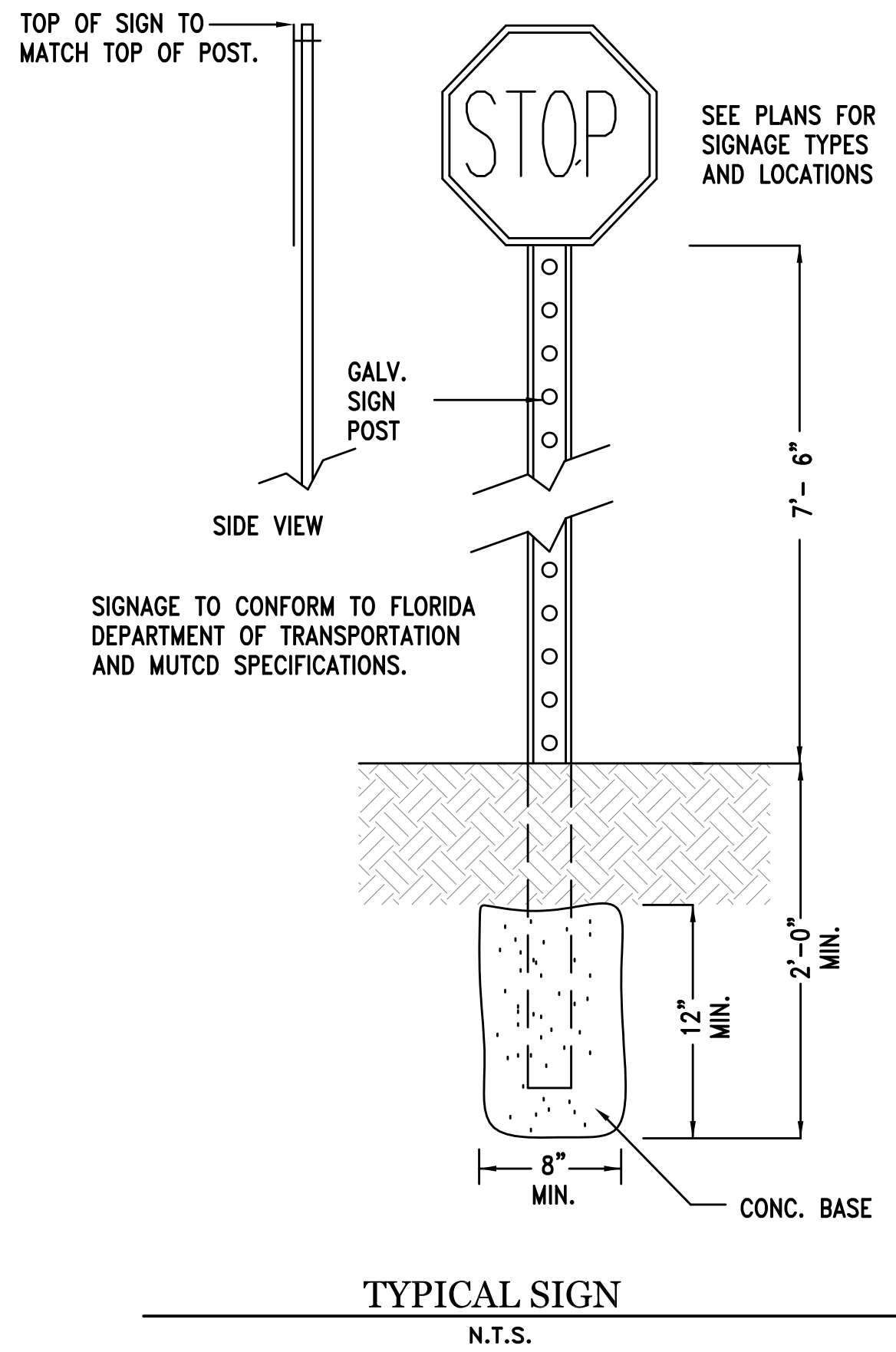
ASPHALT PAVEMENT SECTION
N.T.S.

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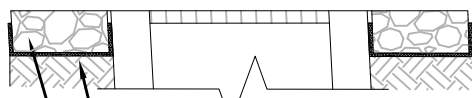
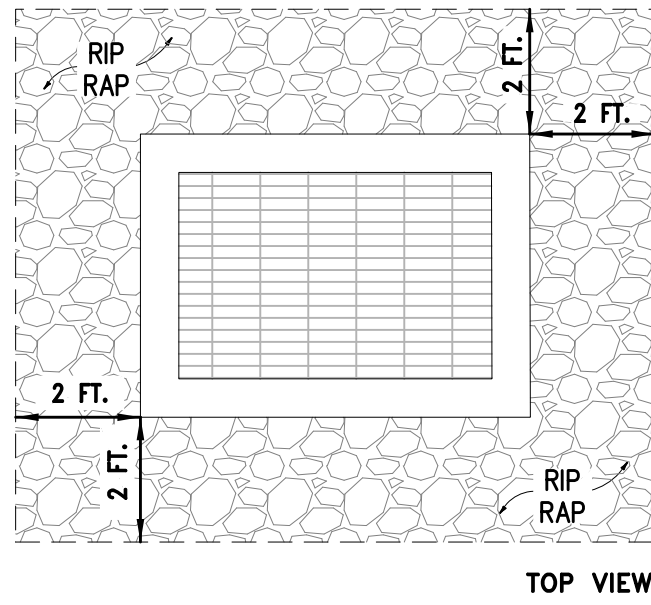
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project number: 23ROMA001
file name: C600-DTLS-23ROMA001.DWG

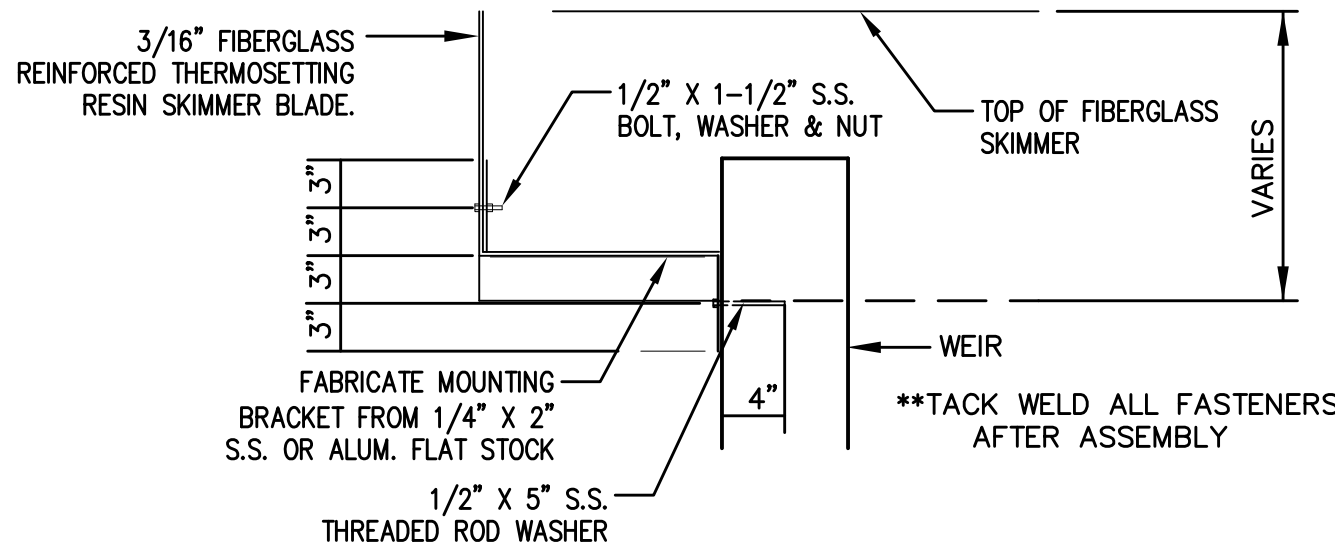
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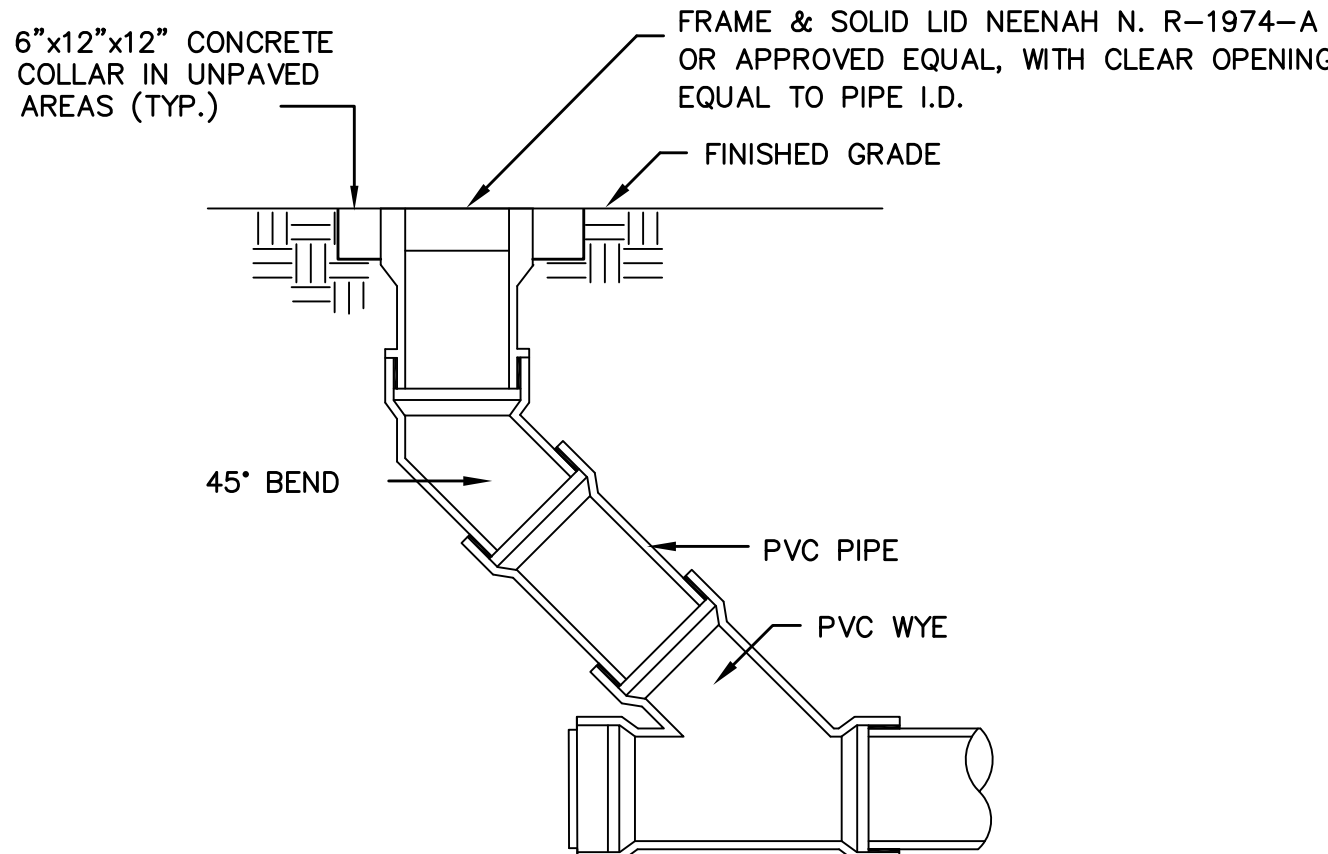
THE FILTER FABRIC SHALL BE TYPE D-2 AS SPECIFIED IN FDOT STANDARD SPECS FOR ROADWAY AND BRIDGE CONSTRUCTION, SECTION 985

RIP-RAP IS TO UTILIZE EITHER BROKEN CONCRETE OR BROKEN STONE WITH A SPECIFIC GRAVITY OF AT LEAST 1.9, A BLANKET THICKNESS OF 1.5 FT AND THE FOLLOWING GRADATION:
Wmin=4 lbs.; W50=10 lbs.; Wmax=15 lbs.

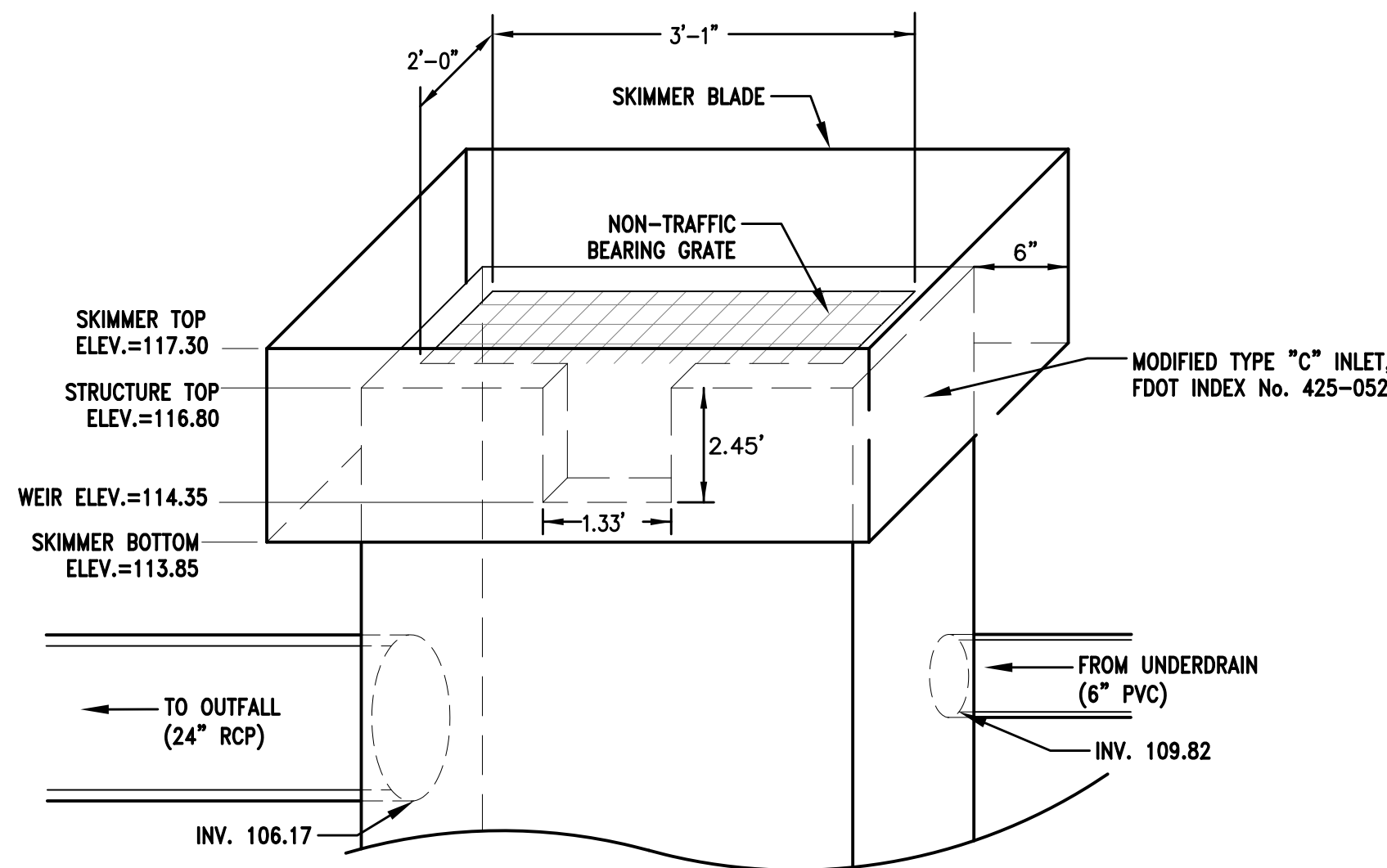
INLET D-09 ENERGY DISSIPATOR
N.T.S.



SKIMMER MOUNTING BRACKET DETAIL
N.T.S.

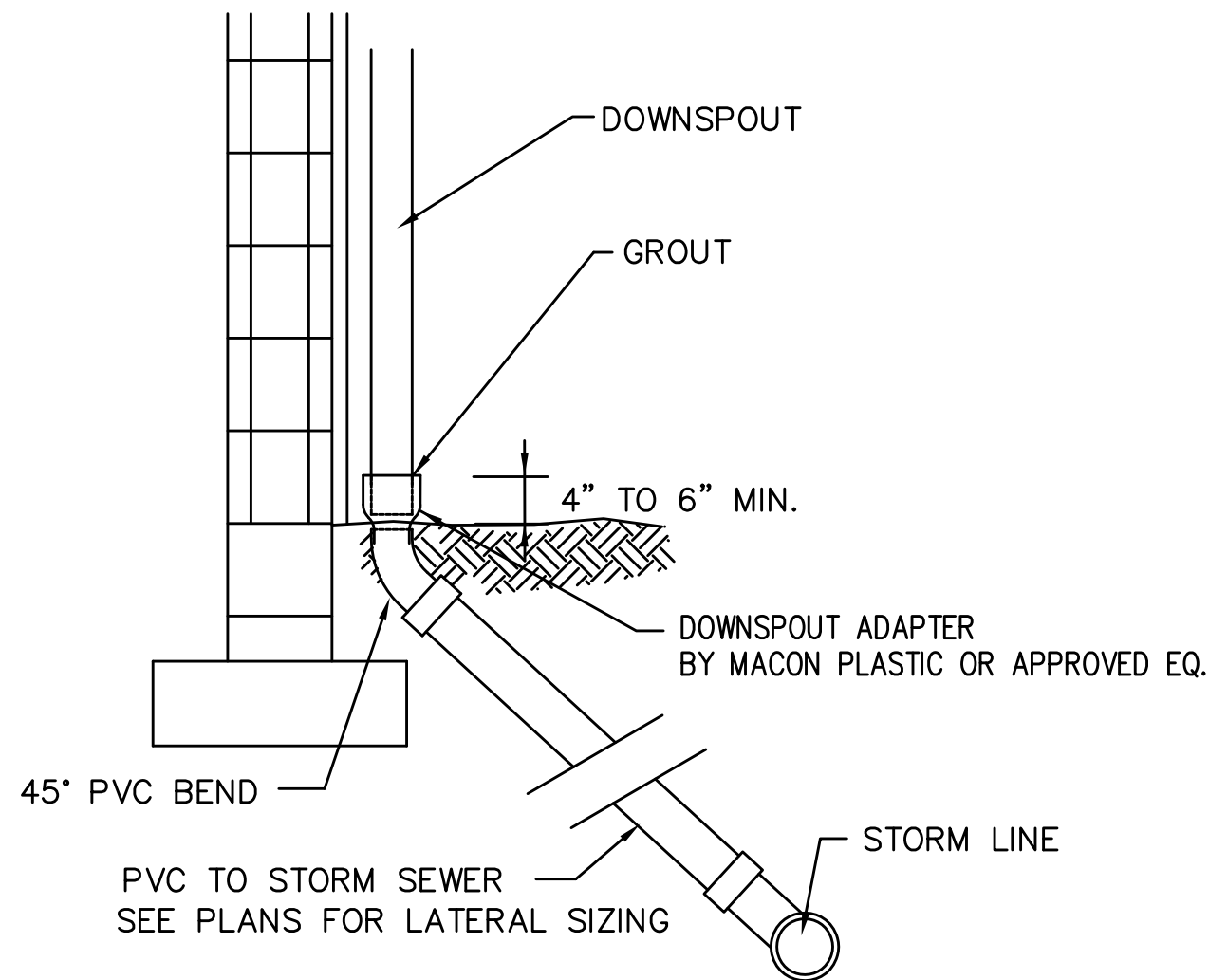


CLEANOUT DETAIL
N.T.S.



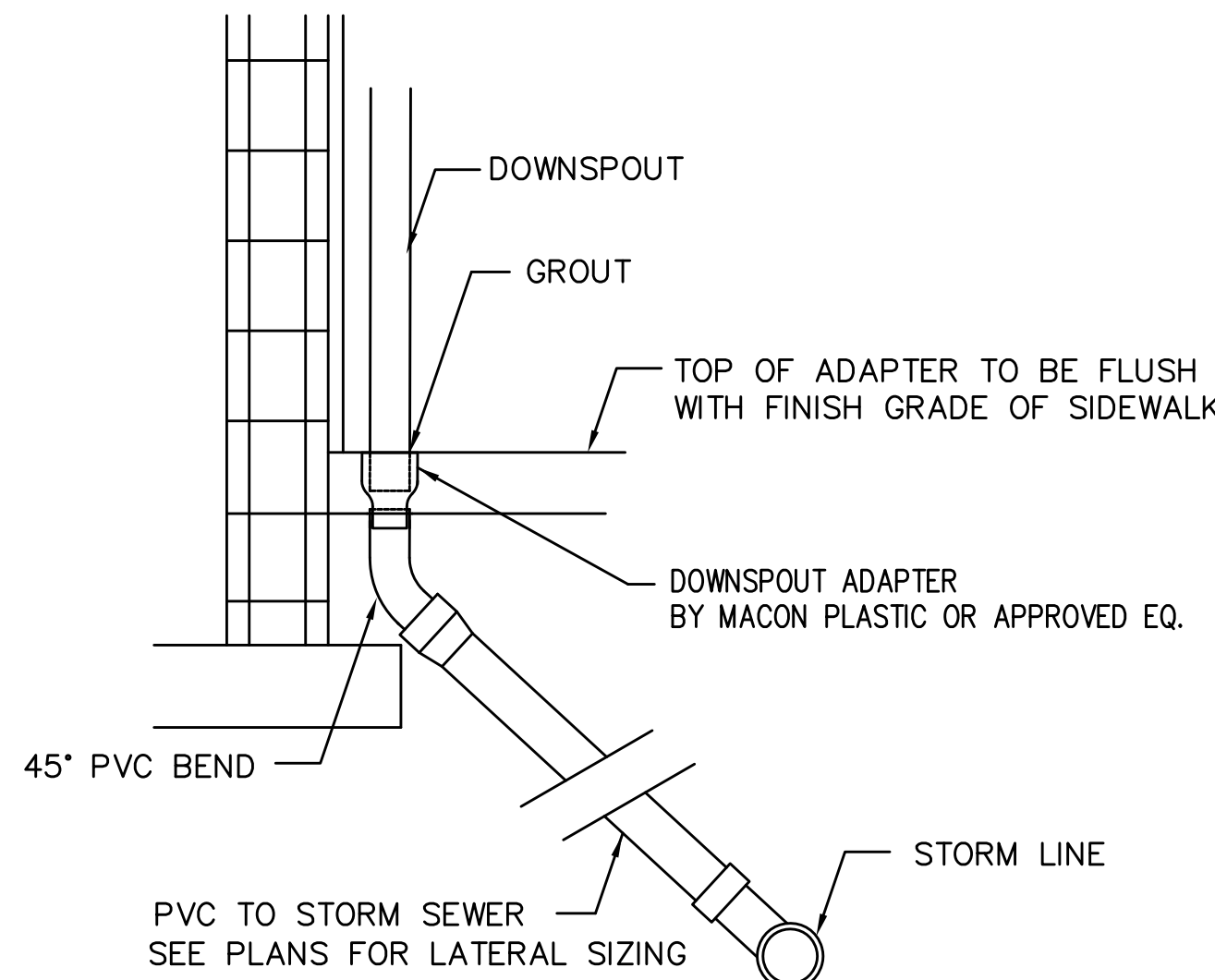
NOTE: REFER TO PLAN SHEET FOR ACTUAL ORIENTATION OF OUTFALL PIPE.

CONTROL STRUCTURE D-10
N.T.S.



NOTES:
1. VERIFY THAT THERE ARE NO CONFLICTS WITH BUILDING/WALK FOUNDATION. PROVIDE FITTINGS AS REQUIRED TO MITIGATE CONFLICT.
2. ENSURE THAT CENTERLINE OF HUB MATCHES CENTERLINE OF DOWNSPOUT AT JUNCTION.
3. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.

DOWNSPOUT CONNECTION DETAIL (IN GRASS)
N.T.S.



NOTES:
1. VERIFY THAT THERE ARE NO CONFLICTS WITH BUILDING/WALK FOUNDATION. PROVIDE FITTINGS AS REQUIRED TO MITIGATE CONFLICT.
2. ENSURE THAT CENTERLINE OF HUB MATCHES CENTERLINE OF DOWNSPOUT AT JUNCTION.
3. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.

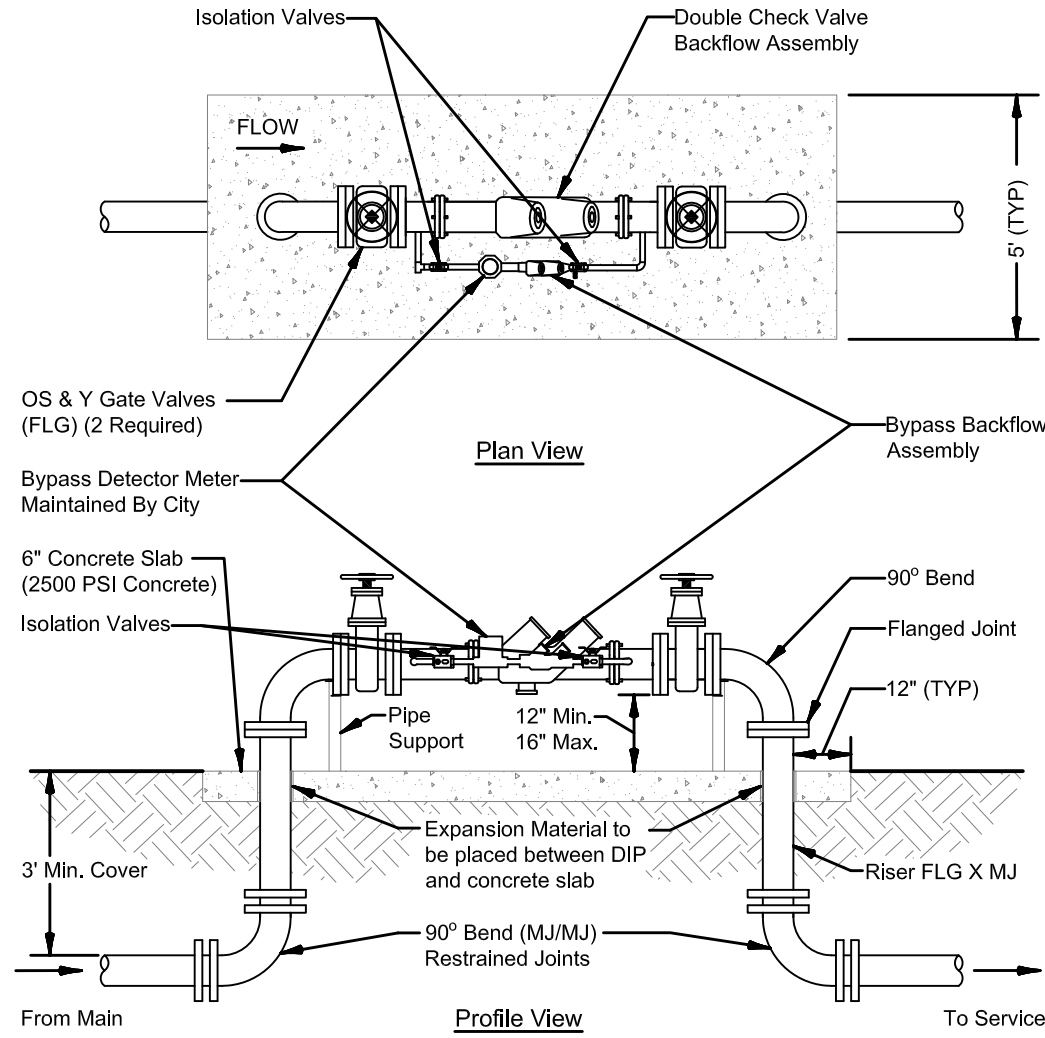
DOWNSPOUT CONNECTION DETAIL (IN CONCRETE)
N.T.S.

revision	description	date
△	SJRWMD COMMENTS	04.26.24
△	AGENCY COMMENTS	06.18.24
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drawn by: JD
checked by: SW
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: C600-DTLS-23ROMA001.DWG

File Location : P:\Land Projects 2023\3ROMA001 - 606 Sports Training.dwg

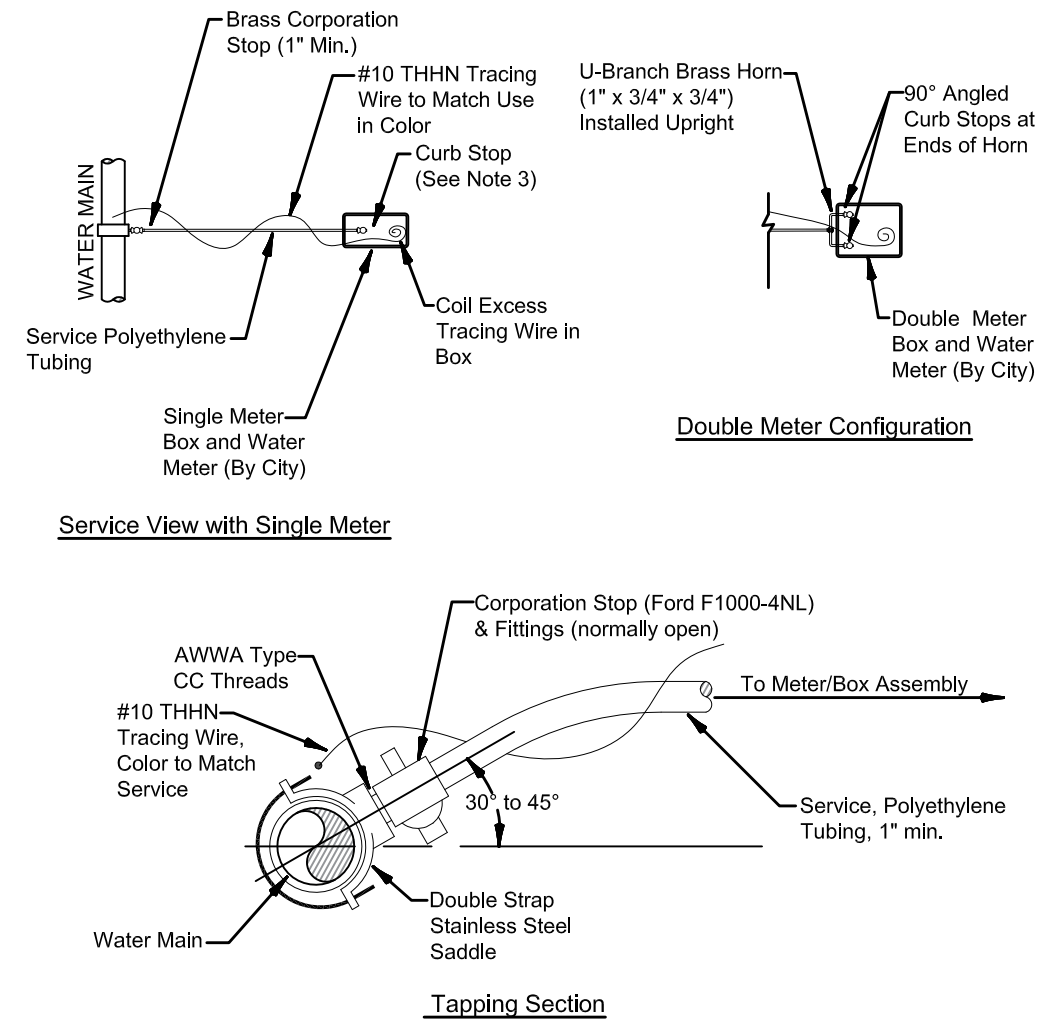
Filename : C600-DTL5-23ROMA001.dwg Plot Date : Jun. 18, 2024 3:22pm



NOTES:

1. Backflow assembly shall be owned and maintained by the property owner.
2. The City shall own and maintain the meter.
3. Utility easement size minimum shall be 10 feet by 15 feet.
4. The contractor shall contact the inspector for exact assembly length and height above the slab required for the double detector check valve assembly to be installed by contractor. All pipe, fittings, and appurtenances shall be installed by the contractor.
5. All above ground pipe shall be flanged ductile iron.
6. Double detector check valve assembly shall be in conformance with the City's Cross Connections Manual.
7. Bypass meter piping shall be brass

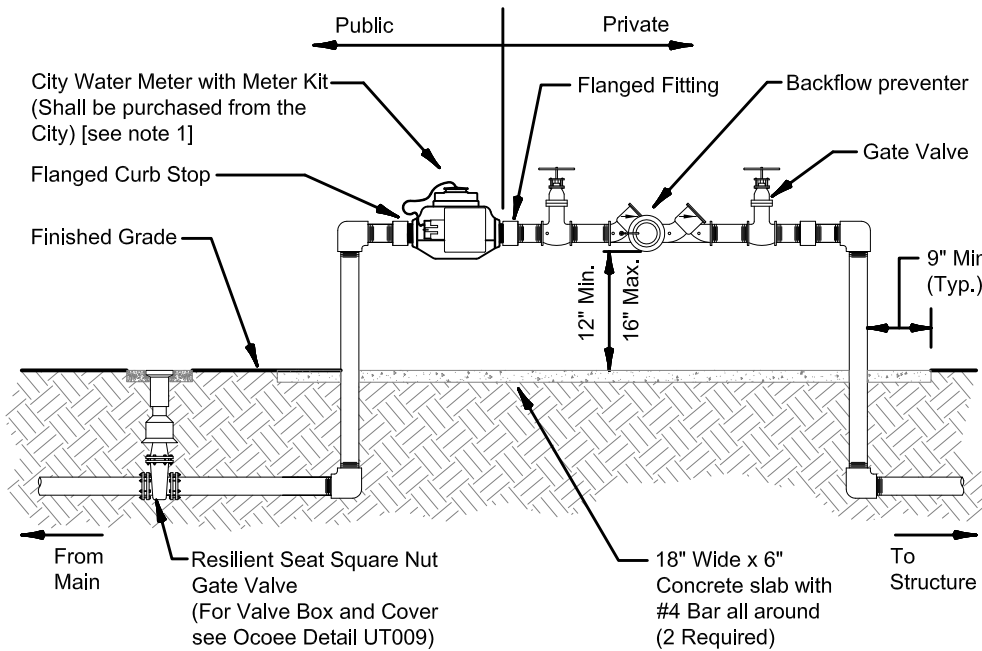
DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	UT210 Double Detector Check Valve Assembly		
DATE: July 2020		SCALE: N/A	



NOTES:

1. All fittings shall be brass with compression-pack joint type connections.
2. No service line shall extend or terminate under a driveway.
3. Meter end of service shall terminate with curb stop (90°) for single service and dual horn and curb stops (90°) for dual services.
4. Meter end of service shall terminate 3' past meter location where service shall, unless directed otherwise, extend 3' above finished grade tied to a 2" x 4" x 4" stake. If directed, service connection shall be buried and located with an 2" x 4" x 4" painted marker. Stake or marker shall indicate lot(s) to be served.
5. Concrete curb shall be marked (stamped or saw-cut) with "W" locating service.
6. Service connection to the main shall use approved saddle, and tapping of main shall be by a method where a solid coupon is removed.
7. Services installed under finished or existing pavement shall be directionally drilled.
8. Upon approval, direct tap (no saddle) may be used on Ductile Iron Pipe.
9. Service color shall be blue for potable water and purple (magenta) for reclaimed water.

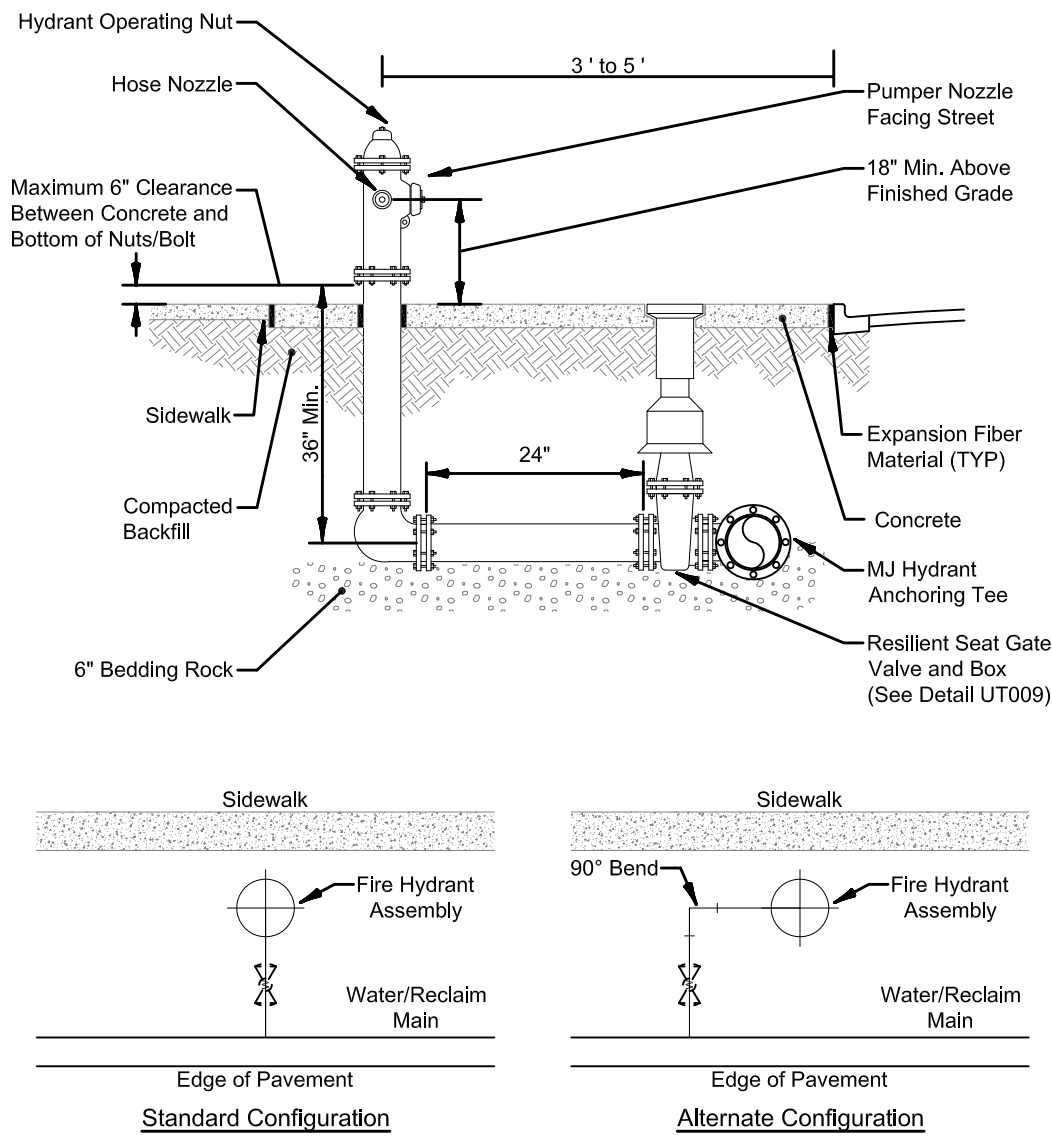
DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	UT206 Water and Reclaim Service Connection		
DATE: Sep. 2019		SCALE: N/A	



NOTES:

1. Contractor shall be responsible for installing City water meter matching pipe size with meter kit and shall supply and install all materials and backflow prevention device.
2. Backflow device shall be per the City's Cross Connection Control Manual.
3. All pipes, fittings, and end valves as indicated as private shall be the responsibility of the owner. All pipes and fittings indicated as public with material not indicated shall be brass or schedule 80 PVC.

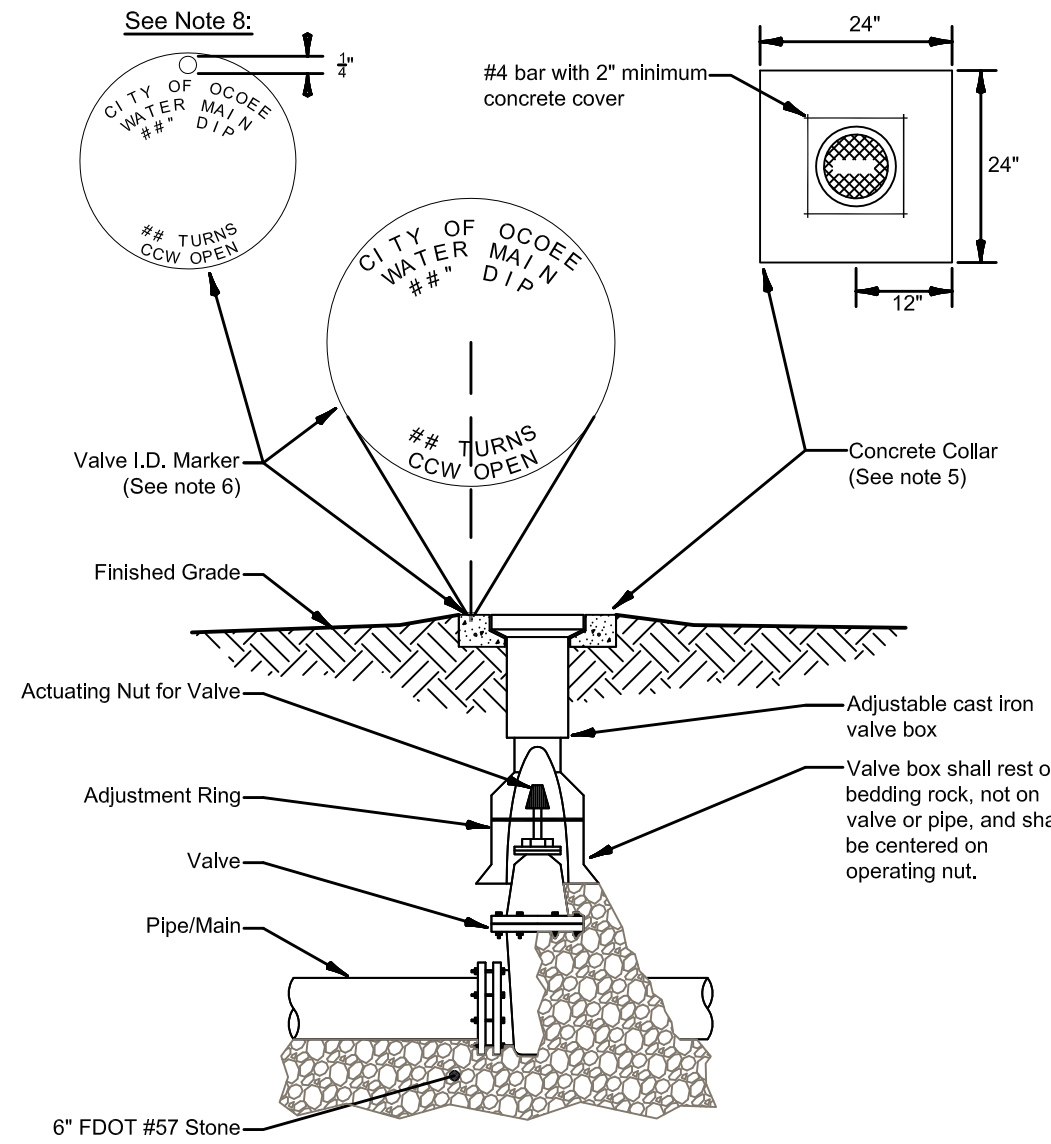
DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	UT209b 1 1/2" and Larger Commercial/Multi-Family Meter Configuration		
DATE: June 2021		SCALE: N/A	



Note:

1. Hydrants shall be painted with double coat enamel paint per the following:
 - Public Potable Water - Safety Yellow Pantone 13-0630TN
 - Reclaimed Water - Purple Pantone 522 C
 - Private Fire - Cherry Red HDC-MD-16
2. Concrete shear pad shall abut between sidewalk and curb. Where sidewalk is not present, concrete shear pad shall be approx. 7.5' x 3.5' min.
3. Concrete shall be 6" thick with fibermesh and shall be fc' of 3,000 psi minimum at 28 days.
4. Any deviation from this detail shall be made known to the City for approval.

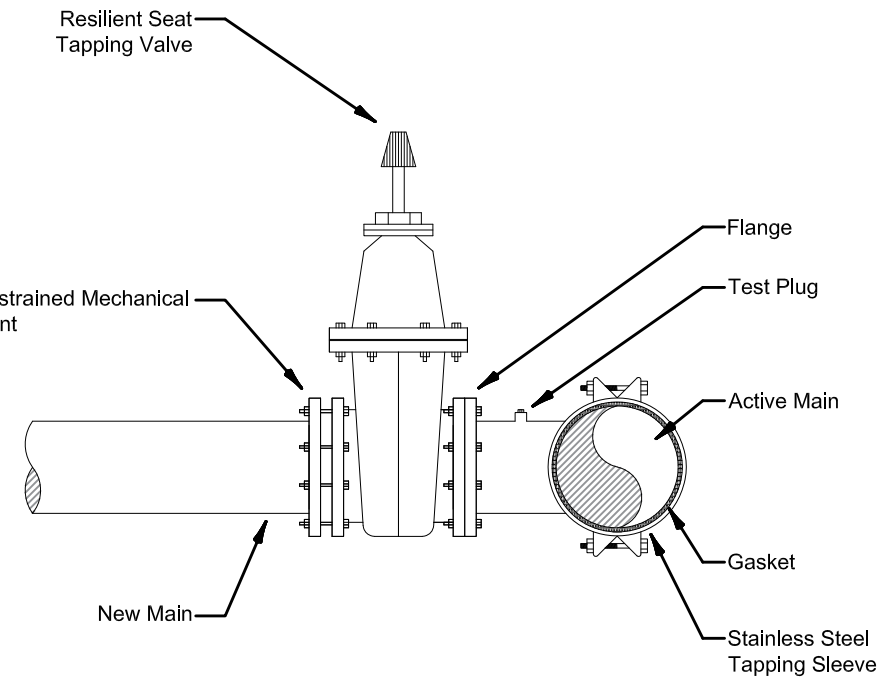
DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	UT201 Fire Hydrant Assembly		
DATE: June 2021		SCALE: n/a	



NOTES:

1. PVC extensions shall not be used on valve box.
2. The actuating nut for valves shall be no deeper than 24" from ultimate finished grade.
3. Valve assembly shall include center spacing guide from the City's Approved Materials List.
4. Where valve nut is more than 36" below grade, valve assembly shall include an extension from the City's Approved Materials List.
5. Valve collar shall be 24" x 24" x 6" square pad and concrete for collar shall be fc' of 3,000 psi minimum @ 28 days for non-pavement areas.
6. Valve Marker shall be from the City's Approved Materials List and shall include "City of Ocoee", main type, size, material, turns to open or close valve, and direction of rotation.
7. Valve Box shall not be located in pavement, sidewalk, or driveway unless approved by the City. If approved, Contractor/Developer shall reach out to the Utilities Department on the location of the Valve Tags.
8. For Valve Box approved in pavement, a disk valve marker shall hang in the valve box anchored to the locating wire.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	UT009 Valve Box and Cover		
DATE: June 2021		SCALE: N/A	



NOTES:

1. All Sleeves and Valves shall be water tested before tap.
2. No Wet Tap on Asbestos Cement water mains.
3. For Valve Box and Cover, see Ocoee UT009 Valve Box and Cover Detail.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	UT205 Stainless Steel Tapping Saddle and Gate Valve Assembly Water and Reclaim		
DATE: Feb. 2020		SCALE: N/A	

File Location : P:\Land Projects 2023\23ROMA001 - 606 Sports Training.dwg

Filename : 0600-DTLS-23ROMA001.dwg Plot Date : Jun. 18, 2024 3:23pm

D.I.P. Restraint Table						
Minimum Length (FT) to be Restrained on Each Side of Fitting(s)						
Fittings	Pipe Size					
	4"	6"	8"	10"	12"	16"
90° Bend	15	21	27	32	37	47
45° Bend	7	5	11	13	16	20
22 1/2° Bend	5	5	6	7	8	10
11 1/4° Bend	5	5	5	5	5	6
Plug or Branch of Tee	30	47	64	81	98	133

NOTES:

- The restraint values as indicated by the "Restraint Table" are minimum values.Design engineer shall be responsible for confirming field conditions, and make adjustments accordingly.
- All fittings shall have restrained joints unless otherwise indicated.
- No restraints required if continuous pipe length is greater than value provided in "Restraint Table" above.
- Where two or more fittings are laid in-line, use greatest restraint length for coverage.
- For in-line valves and through run of tees; outside limits of restrained joints from other fittings need not be restrained unless otherwise indicated.
- Lengths shown in the table have been calculated in accordance with the procedures outlined in "Thrust Restraint Design for Ductile Iron Pipe" as published by DIPRA, with the following assumptions:

Working Pressure: 150 PSI
Soil Designation: SM (Silty Sand, Sand-Silt Mix.)
Laying Conditions: 5

- For pipe encased in polyethylene, use values given in parentheses or increase the given value by 150%.
- For pipe sizes not included in the Restraint Table or pipe material not adhering to given conditions, design engineer shall determine and specify pipe lengths which shall be approved by the City.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	Ductile Iron Pipe Restraint Table		
UT005			
DATE:	April 2019	SCALE:	N/A

Pipes/Mains Separation Requirement Table (See Note 11 for Structural)								
	Potable		Reclaimed		Sanitary Sewer		Storm Sewer	
	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.
Potable			3'	12"	10'	18"	3'	18"
Reclaimed	3'	12"			3'	12"	3'	12"
Sanitary Sewer	10'	18"	3'	12"			3'	12"
Storm Sewer	3'	18"	3'	12"	3'	12"		
Joint Spacing Requirement Table (See Note 2)								
	Potable	Reclaimed	Sanitary Sewer	Storm Sewer				
Potable		3'	6'	3'				

NOTES:

- The table above represents the minimum separation requirements as described in the City's Engineering Standards Manual. The most stringent requirements between the City's Standards and the guidelines set forth in the Florida Administrative Code 62-555.314 (F.A.C.), shall apply between newly proposed utility lines and existing or proposed utility lines.
- Joint spacing shall be based on one full length water main pipe centered above or below other pipes. The joint shall be no less than the required distance from the center of the crossing of the two pipes. (The water pipe shall be above the other pipe unless otherwise approved by the City.)
- Where the City's minimum vertical and horizontal separation from potable water cannot be achieved from the outside of the potable water pipe and the outside of the other pipe/main, preferred separation in accordance with F.D.E.P. rules of the Florida Administrative Code 62-555.314 (F.A.C.) and 62-604.400 (F.A.C.) may be allowed upon approval by the City's Utilities Department.
 - If it is not technically feasible or economically sensible to comply with the requirements set forth in 62-555.314 (F.A.C.), technical or economic justification for each exception must be submitted to F.D.E.P. with alternative construction features. Proof of F.D.E.P.'s approval for exceptions shall be submitted to the City.
- For the purpose of this table, reclaimed water shall mean unrestricted public access reuse water as defined by F.A.C. 62-610. Other types of reclaimed water, not treated to public contact levels, shall be considered raw sewage, and the separation list for sanitary sewer shall apply.
- Alternative water, such as storm water used for irrigation, shall be considered reclaimed water for separation requirements.
- Pipe separation distance provided above shall mean the horizontal and/or vertical distance measured for the outside dimension of each pipe/main.
- All Sanitary and Storm Structures shall follow separation requirements above.
- Potable water pipes shall be laid above all pipes conveying raw sewage whenever they cross.
- All utilities shall be installed with 36" of cover over the top of pipe. Cover shall be measured with current or future grading to ensure the 36" coverage.
- No potable water pipe may pass through a sanitary sewer structure. Penetration through storm sewer must be approved by the City and is subject to special conditions and materials.
- Structural shall refer to foundations, walls, etc. Additional separation shall be required by the City for construction of, including, but not limited to: live loads, multi-story commercial buildings, superstructures, embankments, retaining walls, bridges, railroads, high voltage transmission mains, gas mains, etc.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	Pipe Separation Requirement Table		
UT013			
DATE:	November 2022	SCALE:	N/A

PVC/HDPE Restraint Table							
Minimum Length (FT) to be Restrained on each side of Fitting(s)							
Fittings	Pipe Size						
	4"	6"	8"	10"	12"	16"	20"
90° Bend	18	24	32	38	44	55	74
45° Bend	10	10	13	16	18	23	31
22 1/2° Bend	10	10	10	10	10	11	15
11 1/4° Bend	10	10	10	10	10	10	10
Plug or Branch of Tee	30	47	64	81	98	133	167

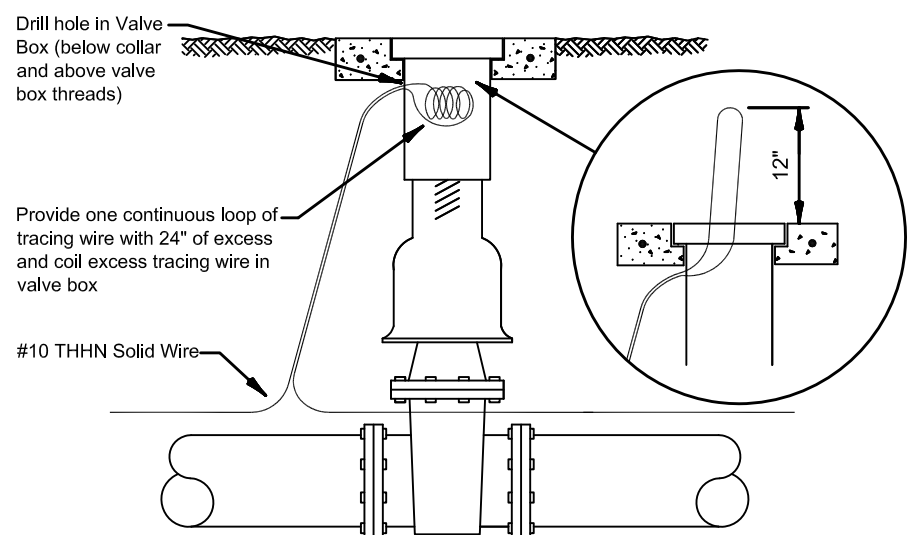
NOTES:

- The restraint values as indicated by the "Restraint Table" are minimum values. Design engineer shall be responsible for confirming field conditions, and make adjustments accordingly.
- All fittings shall have restrained joints unless otherwise indicated.
- No restraints required if continuous pipe length to fitting is greater than value provided in "Restraint Table" above.
- Where two or more fittings are laid in-line, use greatest restraint length for coverage.
- For in-line valves and through run of tees; outside limits of restrained joints from other fittings need not be restrained unless otherwise indicated.
- Lengths shown in the table have been calculated in accordance with the procedures outlined in "Thrust Restraint Design for Ductile Iron Pipe" as published by DIPRA, with the following assumptions:

Working Pressure: 150 PSI
Soil Designation: SM (Silty Sand, Sand-Silt Mix.)
Laying Conditions: 5

- For pipe sizes not included in the Restraint Table or pipe material not adhering to given conditions, design engineer shall determine and specify pipe lengths which shall be approved by the City.

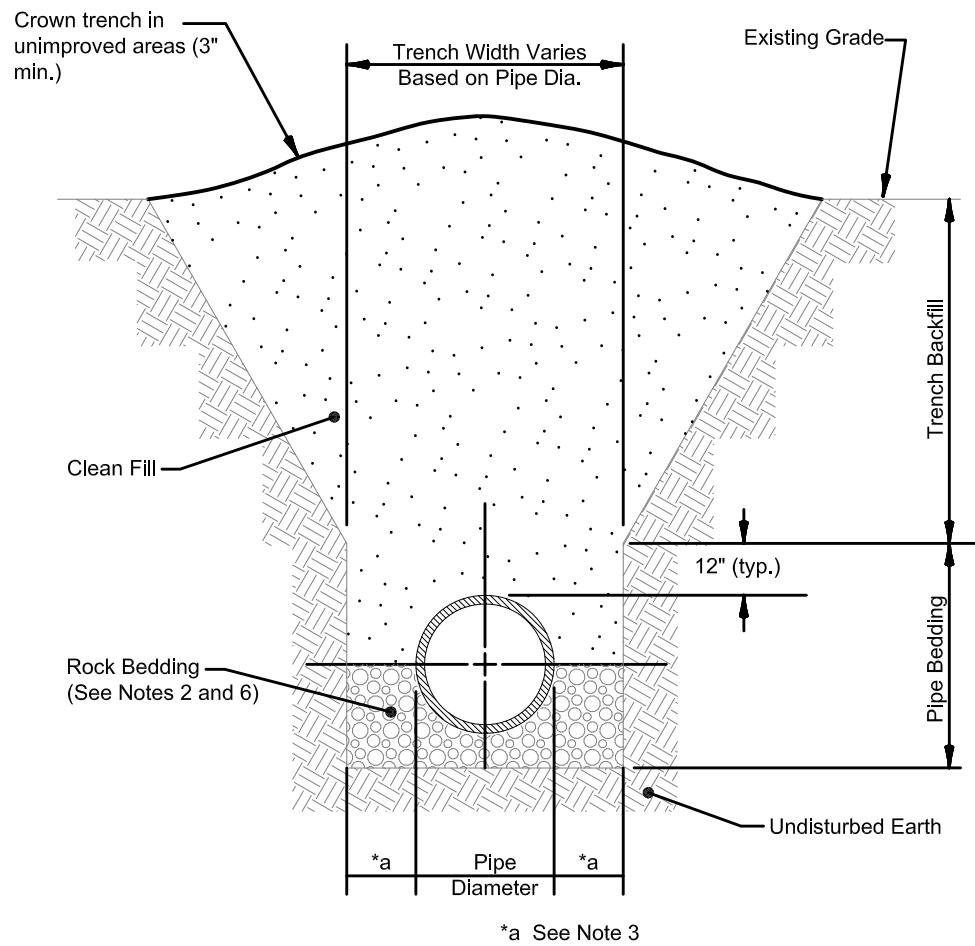
DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	PVC/HDPE Pipe Restraint Table		
UT004			
DATE:	April 2019	SCALE:	N/A



NOTES:

- All pipe shall be installed with # 10 THHN solid copper tracing wire. Tracing wire must be installed directly above the pipe in a continuous circuit.
- Tracing wire shall cover all main, pipe, branches (including fire hydrants) and service connections.
- Tracing wire shall extend a minimum of 12" above grade at required intervals and/or valve lids.
- Tracing wire shall be coiled and placed in a valve box and shall be easily accessible.
- At dead ends of mains, pipe, and/or service, the tracing wire shall be placed in a properly identified cast iron valve box (Valve Box and Cover Detail UT009).

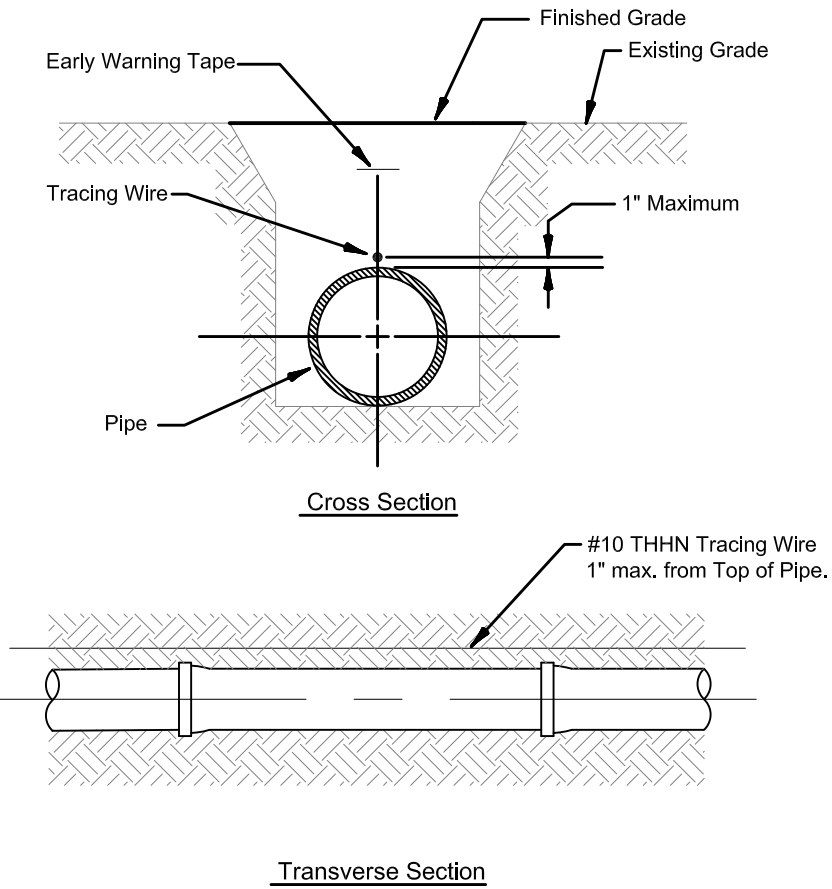
DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	Tracing Wire Location		
UT012			
DATE:	April 2019	SCALE:	N/A



NOTES:

- Pipe bedding material and trench backfill shall be select common (clean) fill compacted to 95% (98% in roadway) of the maximum density as per AASHTO T-180.
- Contractor shall install crushed rock (or equivalent bedding material) where pipe bedding does not provide solid support (yielding or plastic). Depth of material shall be a minimum of 6", or as needed, to provide non-yielding support for the pipe. All unsuitable material shall be removed from pipe bedding unless special provisions are approved by the City.
- Excavated trench width at pipe haunch shall be sufficient in size for haunch compaction, but shall be no greater than 15" on each side of pipe for pipes less than 24" in diameter. (24" for pipes 24" in diameter or greater.)
- Water shall not be permitted in trench line during construction.
- Pipe line shall be installed with bell fitting facing upgrade.
- Gravity sewer shall have a 6" minimum rock bed.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	Pipe Bedding and Trench		
UT001			
DATE:	September 2019	SCALE:	N/A



NOTES:

- All pipe shall include the installation of #10 THHN copper tracing wire capable of detection by cable locating equipment.
- Tracing wire shall be buried directly above the transverse centerline of the pipe.
- End(s) of the locating wire shall be such that wire can be accessed by locating equipment assessing the wire in a valve vault or blow-off box. Wire is required to extend 12" minimum above finished grade.
- Unless approved by the City, early warning tape indicating the type of pipe shall be required.
- All directional drill pipe shall have locating wire attached to the top of pipe and shall remain on the top of the pipe during installation.
- All service lines shall have locating wire placed on the pipe as described in City of Ocoee detail UT206 "Utility Service Connection"
- All wire splices shall be completed with twist-on type wire nuts with gel or grease filled moisture seal.
- All tracing wire installation shall be tested and verified for continuity by the contractor prior to final acceptance

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS		
	Pipe Locating Wire		
UT010			
DATE:	April 2019	SCALE:	N/A

Selby G. Weeks 56991

606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

UTILITY DETAILS

revision description date

△ SJRWMD COMMENTS 04.26.24

△ AGENCY COMMENTS 06.18.24

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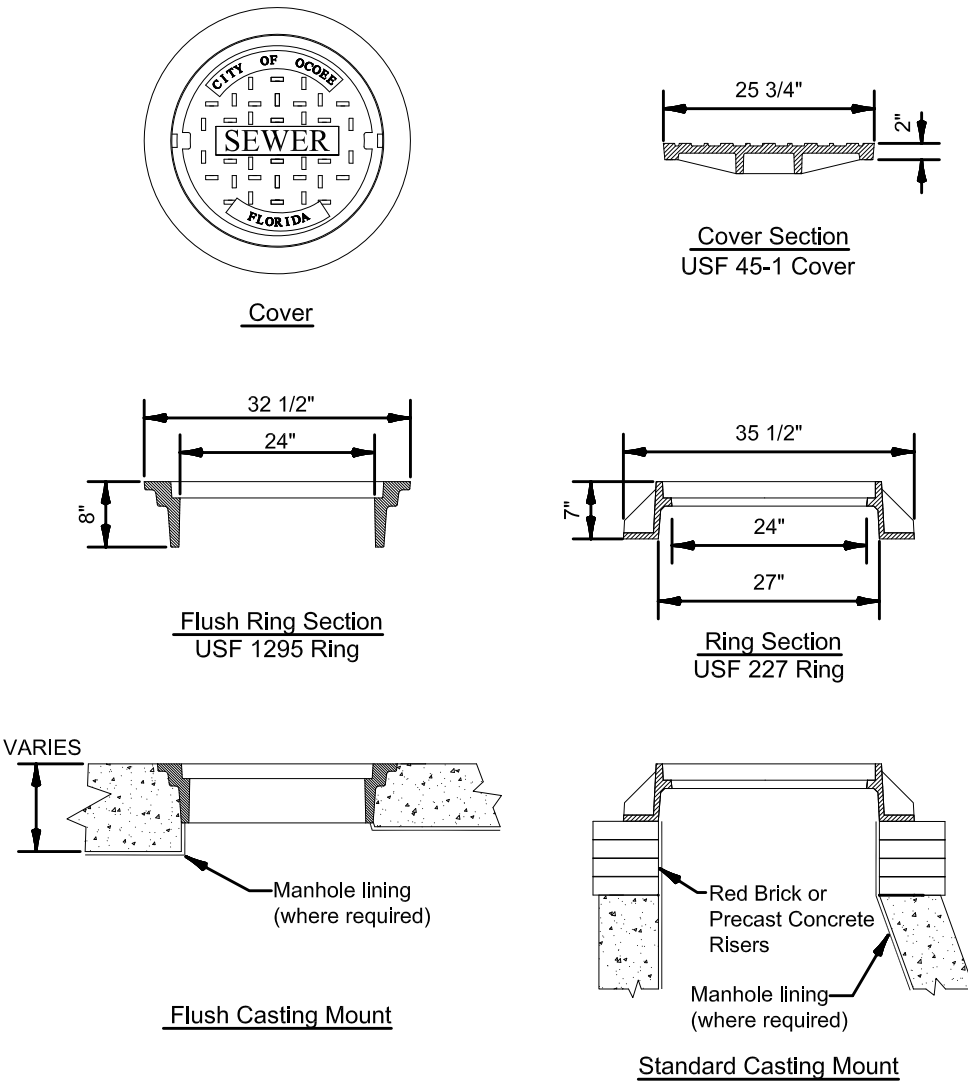
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checked by: SW
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: 0600-DTLS-23ROMA001.DWG

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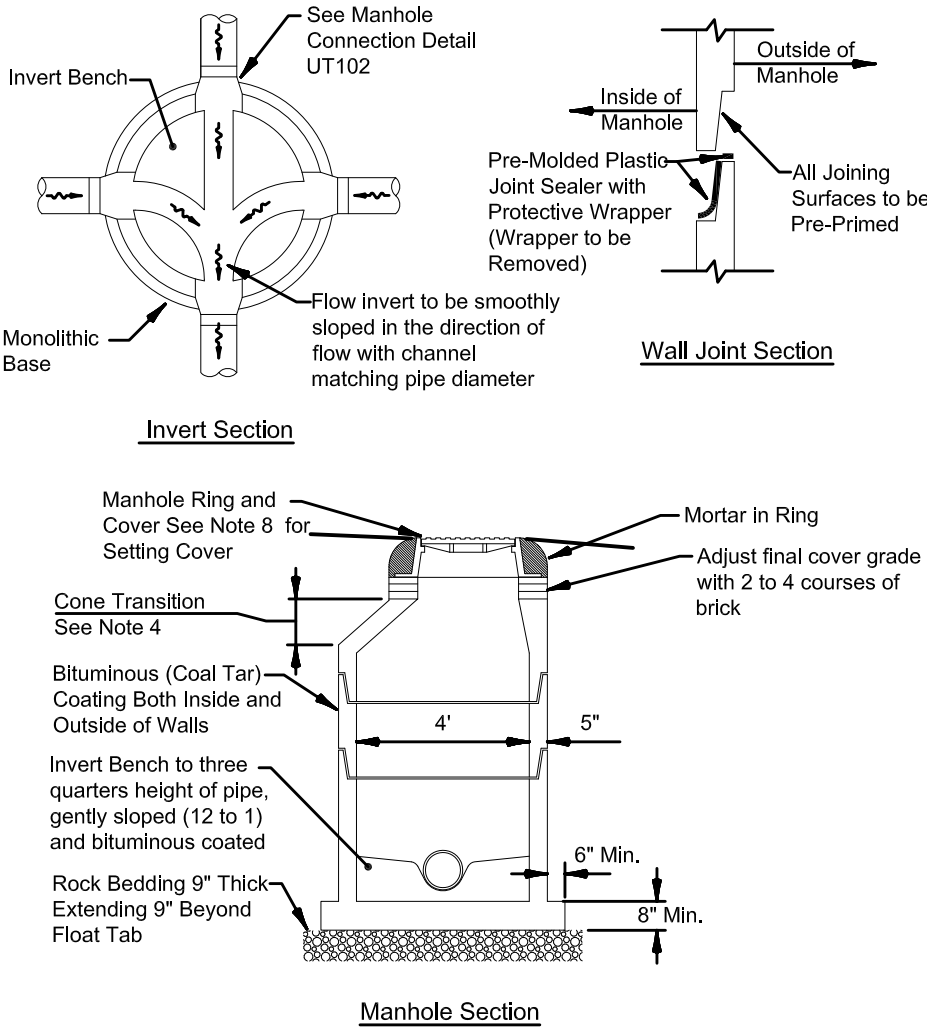
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Filename : C600-DTLS-23ROMA001.dwg Plot Date : Jun. 18, 2024 3:23pm



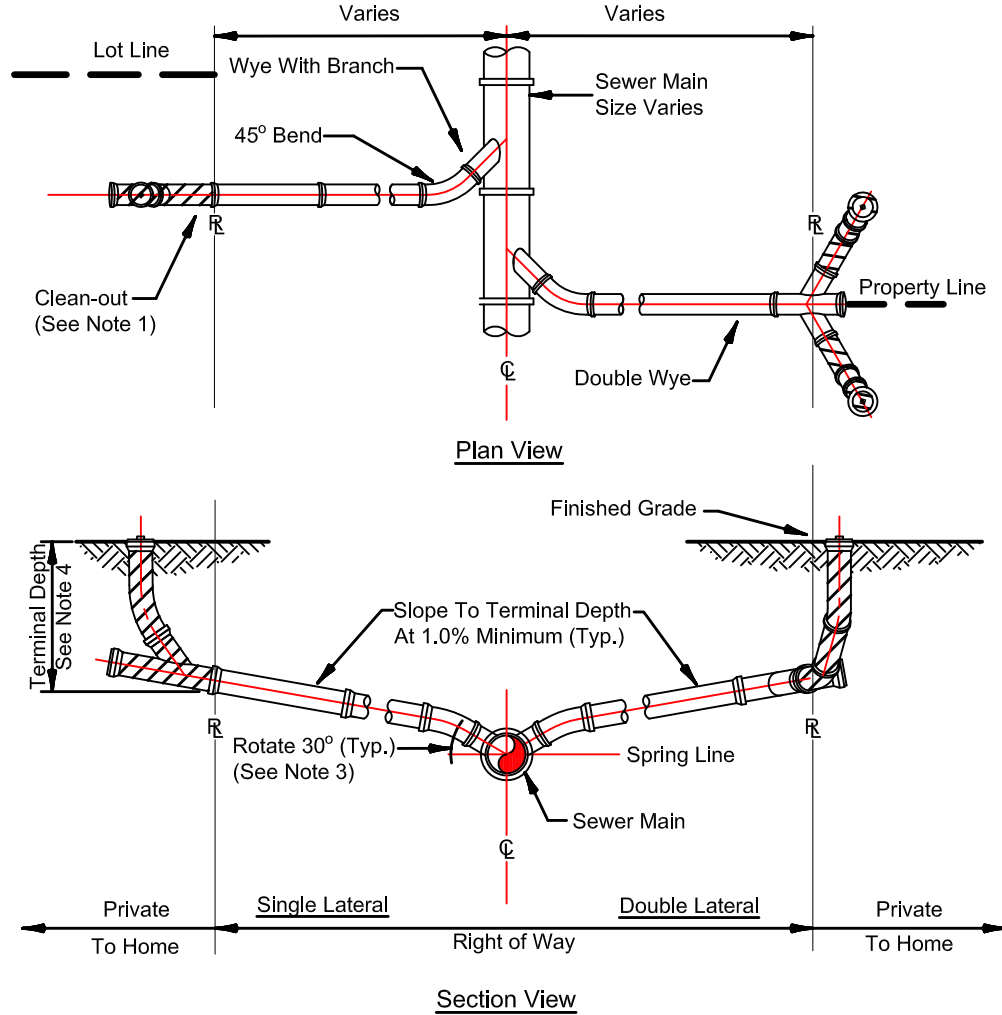
- NOTES:**
1. Use Ring & Covers Detail as depicted on this sheet for standard manhole applications. Refer to UT104 Large & Receiving Ring and Double Cover Detail for large (6' or greater) and receiving manholes.
 2. For structures with top elevation at surface, use "Flush Structure Casting", USF 1295 Ring.
 3. Brick shall be solid red (clay) brick meeting AASHTO M114 -Grade MW.
 4. Red Brick or Precast Concrete Risers should not exceed four levels.
 5. Manhole lid shall be Lettered with "City of Ocoee" (top), Sewer (center) and Florida (bottom).
 6. Manhole lids shall have two (2) non-penetrating pick holes.
 7. Where manhole lining (coating) is required, coating shall extend to ring sealing and coating ring's mortar bed.
 8. For private water main manhole on east side of ditch, lid shall say "Water" and "City of Ocoee" shall be removed from casting.
 9. For public water main manhole east of ditch, lid shall say "Water."

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS	
	Standard Manhole Ring and Cover	
DATE:	April 2019	SCALE: N/A



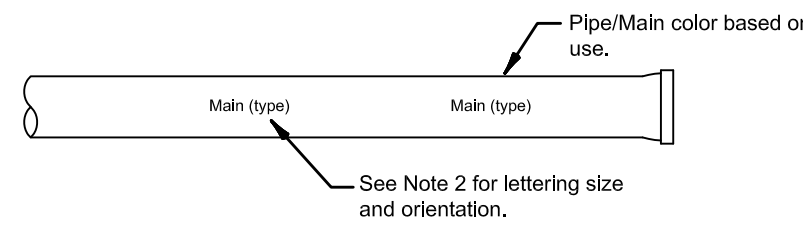
- NOTES:**
1. This detail is for pre-cast standard and receiving sanitary sewer manholes.
 2. Sewer main sizes connecting to the manhole shall range from 6" to 24" in diameter and not less than 2" from floor of bottom casting. All other sizes shall require separate design and approval.
 3. All manholes where any invert into the manhole exceeds 18" shall require a drop connection (See detail UT102).
 4. Manhole cone/ring and cover shall be eccentric configured. Cone transition shall range from 18" to 36". Concentric configuration shall require written approval by the City.
 5. Receiving forcemain connected and drop manhole shall be continuously lined with an approved liner on the City of Ocoee's Approved Materials List at a minimum of 90 mil thickness.
 6. Bottom casting shall be monolithic with first riser.
 7. Riser between top cone and bottom casting shall be no shorter in height than 60".
 8. Manhole cover to be set 1/4" above and matching slope pavement and should be set at plan grade ungraded areas.
 9. All seams from structure joints, pipe connections and ring shall be WraptSealed.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS	
	Manhole	
DATE:	July 2019	SCALE: N/A

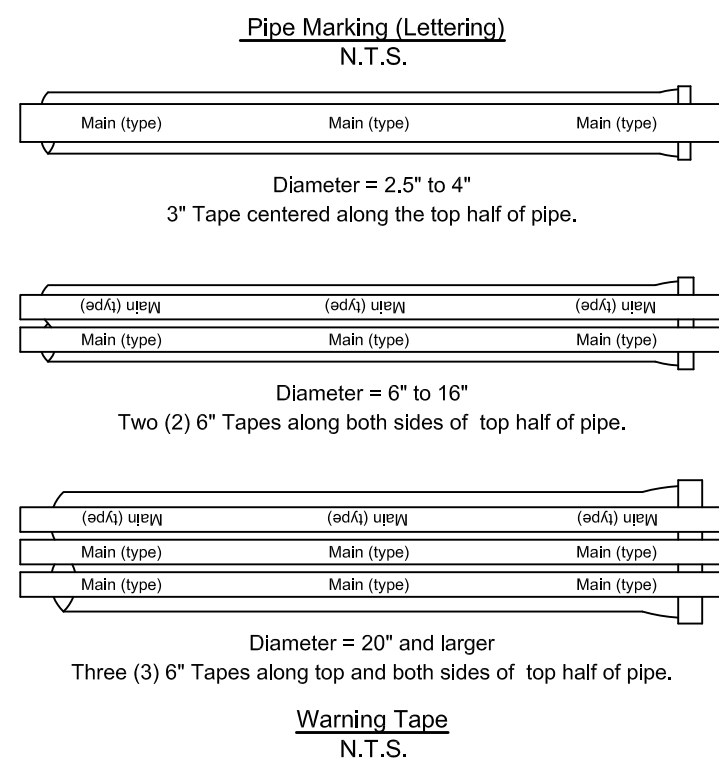


- NOTES:**
1. Clean-out (shown hatched) shall be installed by the builder in accordance with standard plumbing code.
 2. Locate clean-outs as close to the property line as possible.
 3. Invert of service lateral shall not enter sewer main below spring line.
 4. The minimum terminal depth as required for house service is 3'.
 5. Service Laterals shall be a minimum of 6" for non-residential scenarios. In residential areas, service laterals shall be a minimum of 4" to the right-of-way and then 6" to the sewer main.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS	
	Service Lateral	
DATE:	April 2019	SCALE: N/A

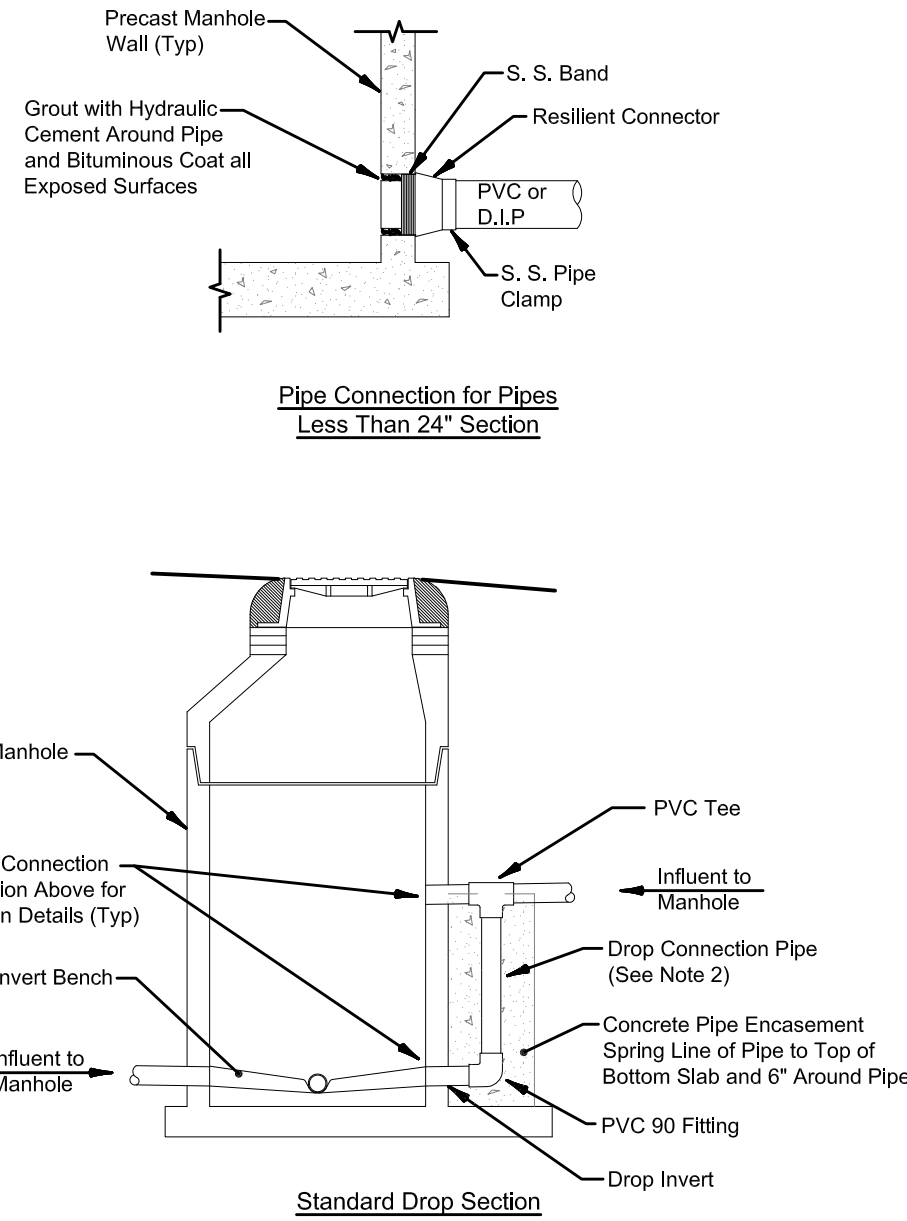


- PIPE LETTERING NOTES:**
1. Lettering shall be per the American Water Works Association.
 2. Lettering shall be a minimum of 3/4" in height and shall be facing up when the pipe is installed.
 3. Lettering must be permanently imbedded into the pipe/main, not painted or stenciled.
 4. Lettering shall be of contrasting color to pipe/main color.



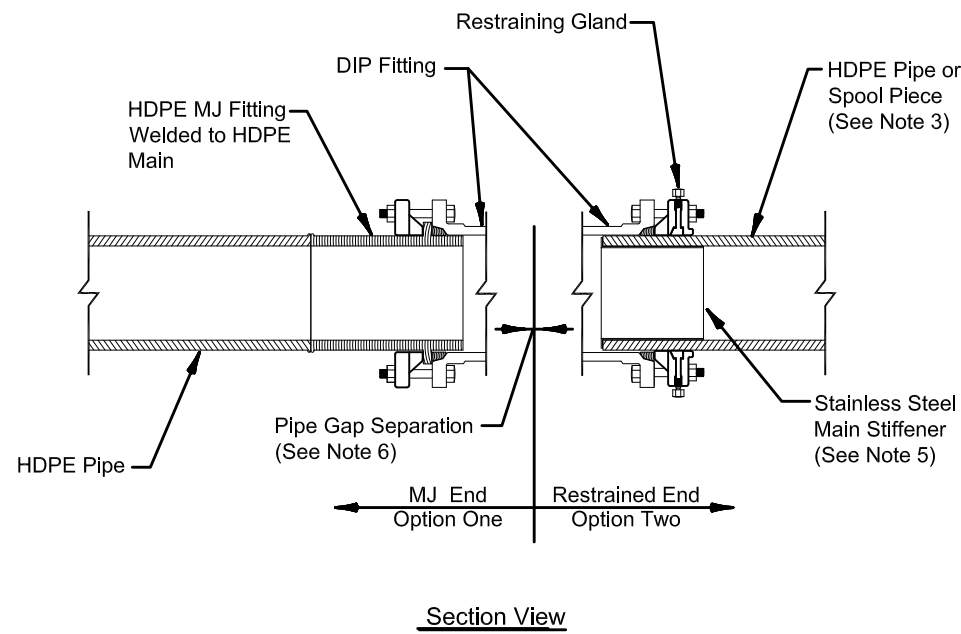
- WARNING TAPE NOTES:**
1. Tape color shall be in accordance with (same) as main/pipe color.
 2. Tape lettering shall be at least 1" in height with no greater than 12" in spacing.
 3. Warning tape shall extend total length of pipe.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS	
	Pipe Identification & Warning Tape	
DATE:	April 2019	SCALE: N/A



- NOTES:**
1. For manhole covers, see UT103 Standard Manhole Ring and Cover Detail and UT104 Large & Receiving Manhole Ring and Double Cover Detail.
 2. Drop pipe and fittings shall be of equal size and material to the influent sewer line.
 3. The drop connection provided above is limited to pipe size less than 24" in diameter. Alternative design must be approved by City for pipe sizes equal or greater than 24" in diameter.
 4. An outside drop connection is required for all influent lines 18" or more above the manhole inverts.
 5. Bottom elevation of drop shall be 0.1' above effluent invert.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS	
	Sanitary Sewer Connection	
DATE:	July 2019	SCALE: N/A



- NOTES:**
1. The detail shall be used when connecting directional drilled sections of mains together using valves, sleeves, fittings or appurtenances.
 2. This detail is limited to the use of 4" to 12" mains.
 3. In cases where directional drill main must be offset by direct bury of a portion of the main, contractor may elect to use a Restrained End for both connections.
 4. A stainless steel stiffener is required on Restrained End of connection when HDPE is used.
 5. Spool piece for fittings or around main offsets may use alternative approved main material. Payment (if applicable) for the alternative material main shall be paid under the replaced main pay item.
 6. Gap between mains when connecting with a sleeve shall be no greater than 2.5".
 7. The information and requirements in this detail are for directional drill connections only. For other connections refer to other City details.

DETAIL NO.	CITY OF OCOEE CONSTRUCTION DETAILS	
	Direction Drill HDPE Connection	
DATE:	April 2019	SCALE: N/A

Selby G. Weeks 56991

606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

UTILITY DETAILS

revision	description	date
△	SJRWMD COMMENTS	04.26.24
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file name: C600-DTLS-23ROMA001.DWG

C802

w/ BATTERY BACK-UP FOR AUDIO AND VISUAL ALARMS
RILEY & COMPANY - GUARD PRO III MONITORING SYSTEM

NO SUBSTITUTIONS – NO ALTERNATES

2- ea. Elapse Time Meters (Non-Resetable)
1- ea. GFI Duplex Convenience Outlet

**MIN. 1/2" DIA. x 3" SS
BOLTS WELDED TO A
(2" x 18" x 1/4")
SS ANCHOR PLATE
EMBEDDED IN FIBERGLASS**

11/01/2023 10:33:31 AM

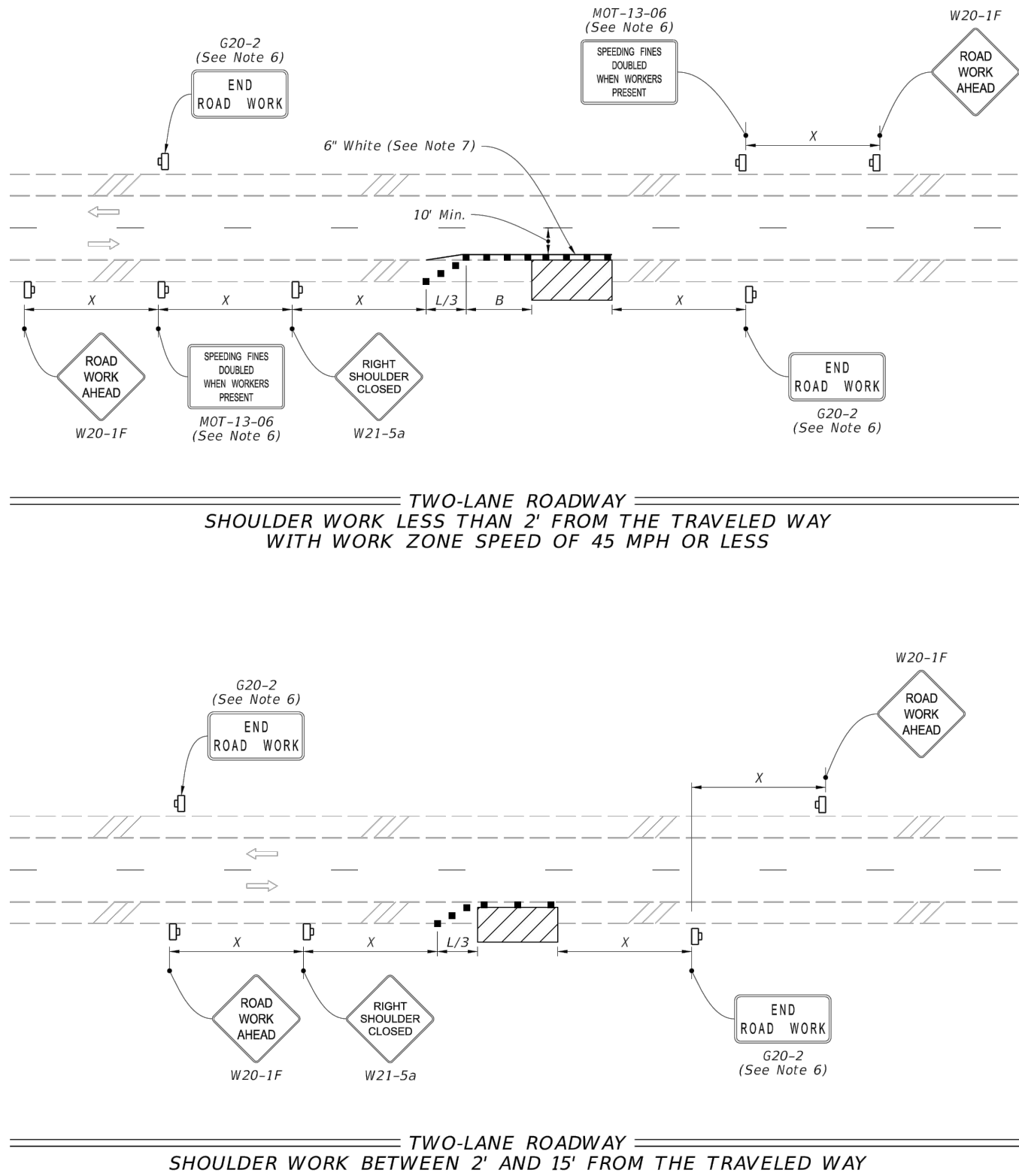
LAST REVISION	DESCRIPTION	FY 2023-24 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	INDEX	SHEET
11/01/21				102-602	1 of 2

NOTE:

- This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work on the shoulder.
- L = Taper Length
 X = Work Zone Sign Spacing
 B = Buffer Length
See Index 102-600 for "L", "X", "B", and channelizing device spacing values.
- Where work activities are between Z and $15'$ from the edge of traveled way, the Engineer may omit signs and channelizing devices for work operations 60 minutes or less.
- When four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), use a flagger or lane closure to accommodate work vehicle ingress and egress.
- For work less than Z from the traveled way and work zone speed is greater than 45 MPH, use a lane closure.
- The "Speeding Fines Doubled When Workers Present" signs (MOT-13-06) and "End Road Work" signs (G20-2) along with the associated work zone sign spacing distances may be omitted when the work operation is in place for 24 hours or less.
- Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.
- Omit "Shoulder Closed" signs (W21-5a) along with associated work zone sign spacing distances for work on the median.
- When there is no paved shoulder, the "Worker" sign (W21-1) may be used instead of the "Shoulder Closed" sign (W21-5a).

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic



11/01/2023 1:24:36 PM

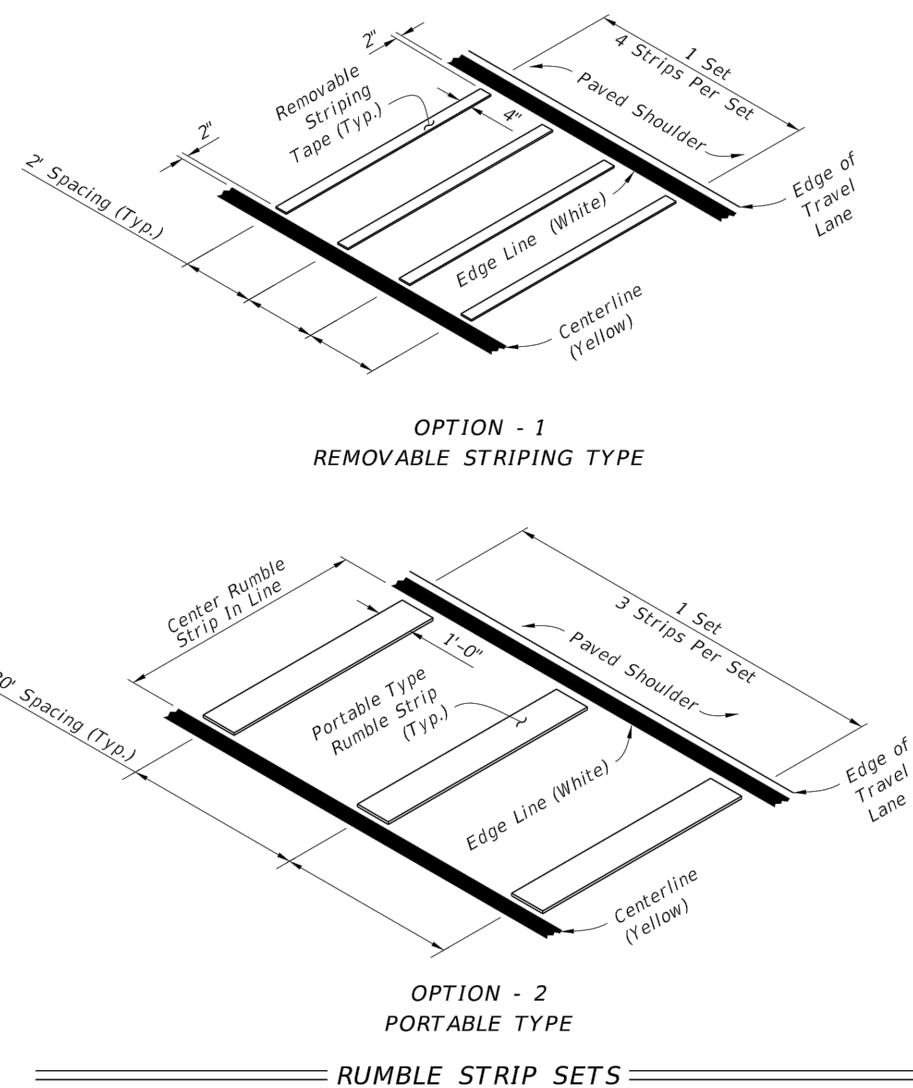
LAST REVISION	DESCRIPTION	FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY	INDEX	SHEET
11/01/21				102-603	1 of 2

NOTES:

- This Index applies to Two-Lane, Two-Way Roadways with work within the traveled way.
- L = Taper Length
 B = Buffer Length
 X = Work Zone Sign Spacing
See Index 102-600 for "L", "B", "X" and channelizing device spacing values.
- Optionally, use "Flagger Ahead" sign with symbol (W20-7) instead of "Flagger Ahead" sign with text (W20-7A).
- Use temporary raised rumble strips when the existing posted speed is 55 mph or greater and the work duration is greater than 60 minutes. If temporary raised rumble strips are not used, omit "Rumble Strips Ahead" signs (MOT-18-10) and associated work zone sign spacing.
- Additional one-way control may be provided by the following means:
a. Flag-carrying vehicle
b. Official vehicle
c. Pilot vehicles
d. Traffic signals
- The "Speeding Fines Doubled When Workers Present" signs (MOT-13-06) and "End Road Work" signs (G20-2), along with associated work zone sign spacing, may be omitted when the work operation will be in place for 24 hours or less.
- Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specification Sections 102, 990 and the APL vendor drawings.
- Railroad Crossings:
a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.
b. If the queuing of vehicles across an active railroad grade crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Flagger
- Lane Identification and Direction of Traffic



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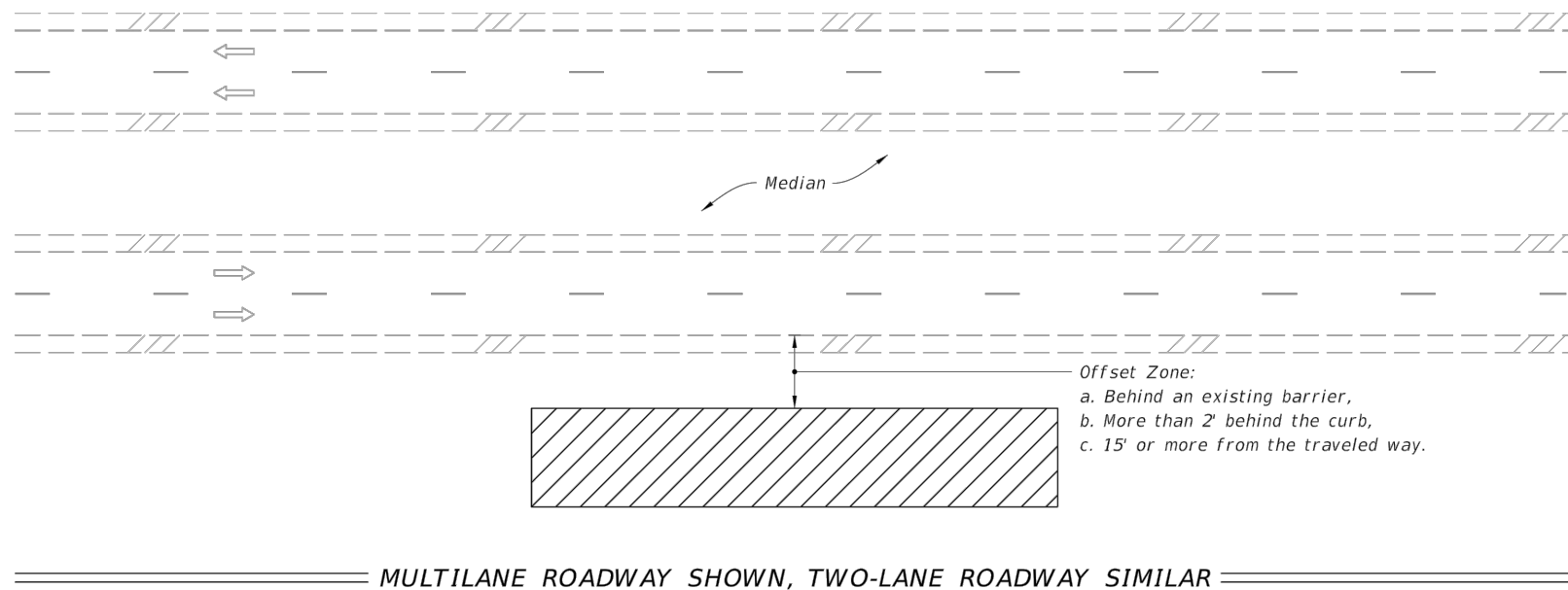
LAST REVISION	DESCRIPTION	FY 2023-24 STANDARD PLANS	TWO-LANE AND MULTILANE ROADWAY, WORK BEYOND THE SHOULDER	INDEX	SHEET
11/01/20				102-601	1 of 1

NOTES:

- This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work beyond the shoulder.
- Use Index 102-602 when the work operation (excluding establishing and terminating the work area) requires that two or more work vehicles cross the Offset Zone in any one hour period.
- Use Index 102-660 when Work Area encroaches a Sidewalk.

SYMBOLS:

- Work Area
- Lane Identification and Direction of Traffic



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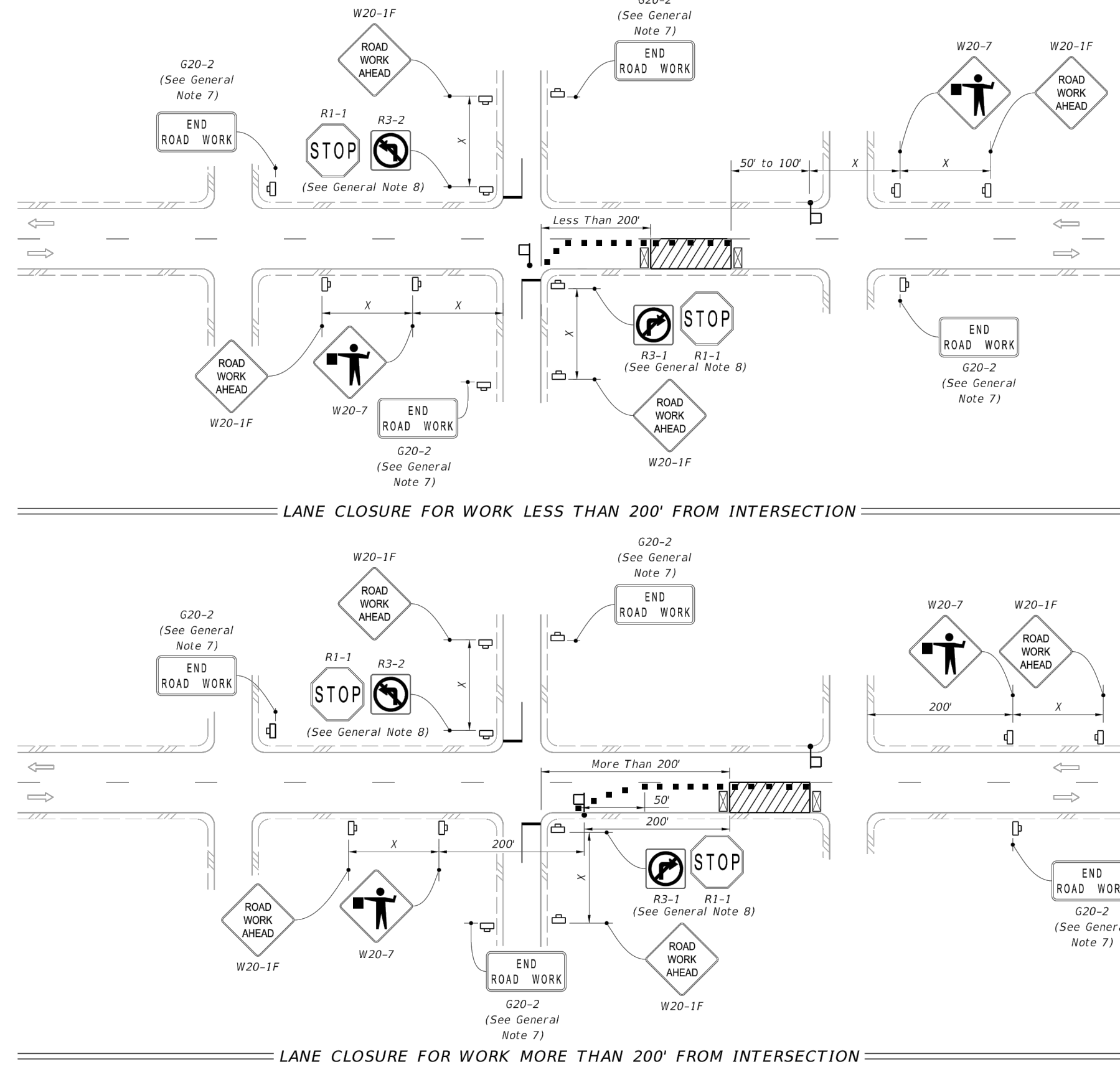
LAST REVISION	DESCRIPTION	FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY, INTERSECTION WORK	INDEX	SHEET
11/01/22				102-604	1 of 2

GENERAL NOTES:

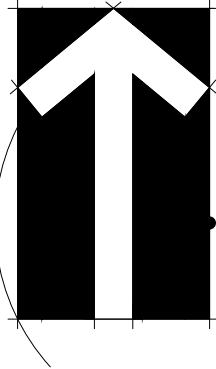
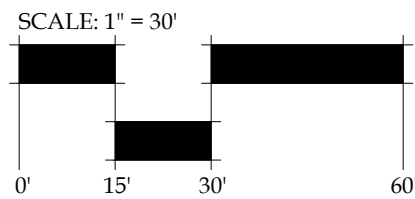
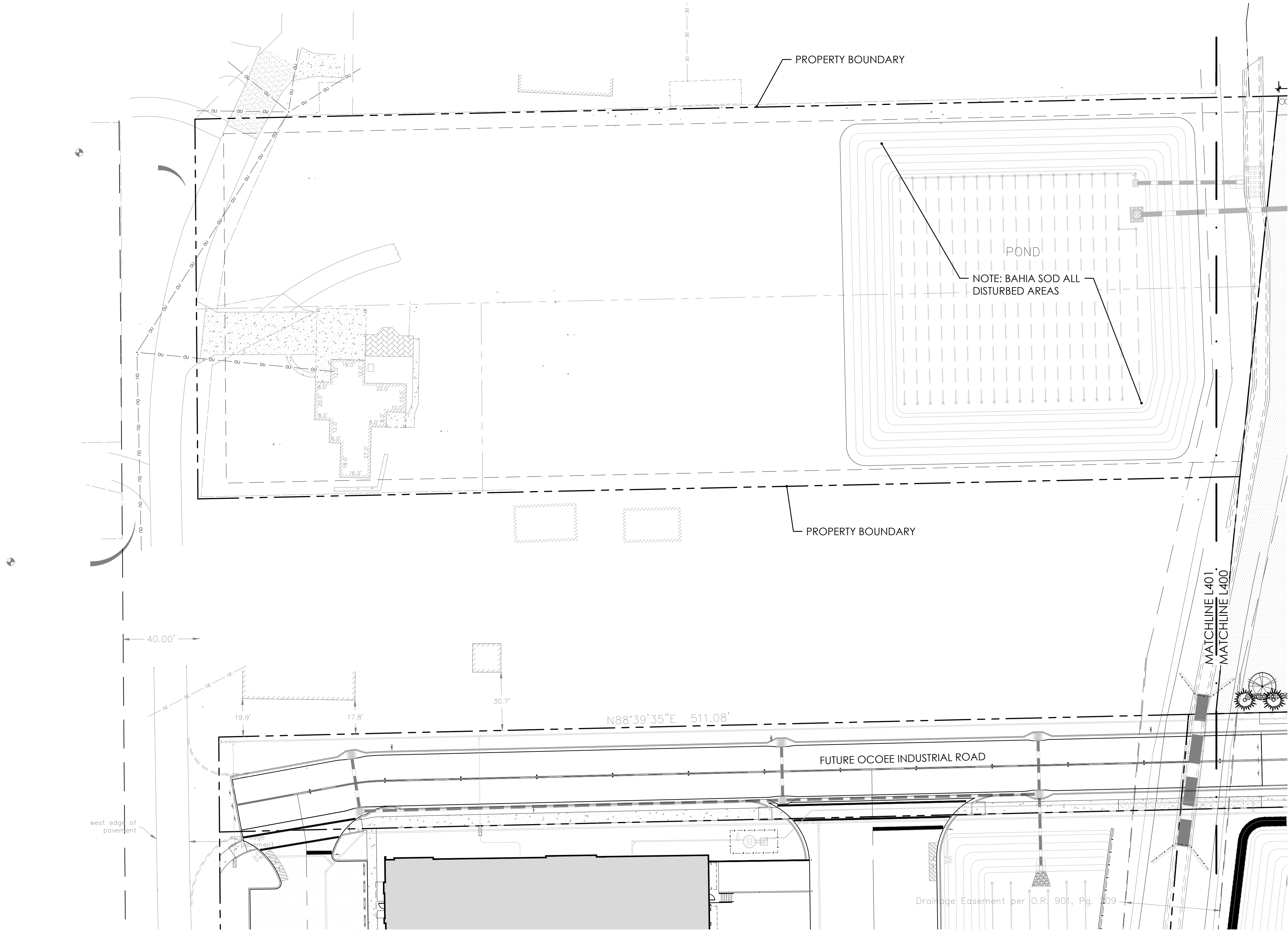
- This Index applies to two-lane, two-way roadways with work within or near the intersection.
- X = Work Zone Sign Spacing
See Index 102-600 for "X" and channelizing device spacing values.
- Optionally, use "Flagger Ahead" sign with text (W20-7A) instead of "Flagger Ahead" sign with symbol (W20-7).
- If vehicles in a parking zone block the line of sight to TCZ signs, locate and post mount signs in accordance with Index 700-101.
- If the work area extends across a crosswalk, close the crosswalk in accordance with Index 102-660.
- For unsignalized intersections, use Temporary Raised Rumble Strips in accordance with Index 102-603. Placement of Rumble Strips and additional signs should begin at FLAGGER sign location.
- The "End Road Work" signs (G20-2) along with the associated work zone sign distances may be omitted when the work zone will be in place for 24 hours or less.
- As an option to the "STOP" sign (R1-1) and Restricted Left/Right Turning Movement sign (R3-1 or R3-2), the "SIDE ROAD INTERSECTING THE WORK ZONE" flagging operation from Index 102-600 may be used.

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Type III Barricade
- Stop Bar
- Flagger
- Lane Identification and Direction of Traffic

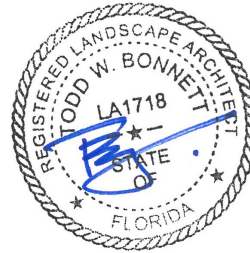


File Location : c:\Users\lkw\OneDrive\Documents\606 Sports Training\606 Sports Training.dwg



BONNETT design group, llc
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community planning
FL LC 26000341

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Maitland, FL 32751
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BDG PROJ #2022.159.1



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Todd W. Bonnett, RLA FL #LA1718

606 SPORTS TRAINING

606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

LANDSCAPE PLAN

revision	description	date
△		
△		
△		
△		
△		
△		

drawn by: LAE
checked by: TWB
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: 2022.159.1_KW_606
SPORTS_LBASE.DWG

L401

GENERAL REQUIREMENTS

The Landscape Contractor shall be responsible for all materials and all work as called for on the landscape plans. The list of plant quantities accompanying the plans shall be used as guide only. If a discrepancy occurs between the plans and the plant list, the plans shall control.

The Landscape Contractor shall warranty all trees for a period of one (1) year and shrubs and ground covers for a period of six (6) months from the time of final acceptance by Owner and Landscape Architect.

The Landscape Contractor shall be wholly responsible for the stability and plumb condition of all trees and shall be legally liable for any damage caused by the instability of any plant material. Staking of trees and palms, if required, shall be done utilizing a method agreed upon by the Landscape Architect.

The Landscape Contractor shall research plans and contact appropriate agencies to determine the location of any utilities and obstructions prior to commencing work. Any utilities or unanticipated obstructions shall be reported to Landscape Architect or Owner immediately.

Positive drainage shall be maintained away from all structures on the site.

IRRIGATION SYSTEMS

All plant material and sodded areas shall have an automatic underground irrigation system providing 100% coverage.

PLANT SPECIFICATIONS

All nursery stock plant material shall be Florida #1 or better in accordance with Grades and Standards for Nursery Plants Parts I & II, latest edition as published by the Florida Department of Agriculture and Consumer Services- Division of Plant Industry.

All plant material shall be planted, fertilized and mulched as per the plant details and planting specifications noted on the plans.

All container grown material shall be healthy, vigorous, well rooted plants, and established in the container in which they are delivered to the site. The plants shall have tops which are good quality and in a healthy growing condition. Established container grown plant material shall be grown in that container sufficiently long enough for the new fibrous roots to have developed enabling the root mass to retain it's shape when removed the container. Plants which have become root bound in the container are unacceptable.

All plant material that is not container grown shall be freshly dug, sound, healthy, vigorous, well branched, and free of disease and insect eggs and larvae, and shall have adequate root systems. Where any requirements are omitted from the plant list, the plants furnished shall be normal for the variety. Plants may be pruned prior to delivery only upon the approval of the Landscape Architect.

FERTILIZER

Two fertilizers shall be used on all types of plantings, except palms. Granular fertilizer shall be uniform in composition, dry and free flowing. This fertilizer shall be delivered to the site in the original unopened bags bearing the manufacturer's statement of analysis. Granular fertilizer shall be a controlled release variety meeting the following requirements: sixteen percent (16%) nitrogen, four percent (4%) phosphorus, eight percent (8%) potassium, plus iron. tablet fertilizer ("Agriform" or approved equal) in 21 gram size shall meet the following requirements: twenty percent (20%) nitrogen, ten percent (10%) phosphorus, five percent (5%) potassium.

Application Rates:

Plant size	16-4-8	"Agriform" tablet [21 grams]
1 gallon	1/4 lb.	1 tablet
3 gallon	1/3 lb.	2 tablets
7-15 gallon	1/2 lb.	4 tablets
1" - 6" caliper	2 lbs. per 1" caliper	2 tablets per 1" caliper
6" + caliper	3 lbs. per 1" caliper	2 tablets per 1" caliper

Sodded areas shall receive an application of the granular fertilizer (16-4-8) at a rate of 1/2 lb. of Nitrogen per 1,000 square feet of sod area.

"Palm Special" fertilizer shall be applied to all palms at installation at a rate of 1 1/2 lbs. per 100 square feet of canopy area. Palm fertilizer shall be a controlled release variety containing chelated micro nutrients and a ratio of N-P-K-Mg of 2:1:3:1.

SOIL

Planting soil for use in preparing the backfill material for planting pits shall be added a rate of fifty percent (50%) planting soil to fifty percent (50%) existing soil. This soil mix shall be used in all plant pits except Sabal Palms which shall be backfilled with clean sand. Planting soil shall be a fertile, friable natural topsoil of loamy character. It shall contain forty (40) to fifty (50) percent decomposed organic matter and be free of heavy clay, stones larger than 1" in diameter, noxious weeds and plants, sod, partially disintegrated debris, insects or any other undesirable material, plants or seeds that would be toxic or harmful to plant growth.

MULCH

All plant beds and tree watering basins shall be top dressed with three inches (3") of pine bark mini-nuggets mulch.

SOD

Refer to Landscape Plan for limits of sod.

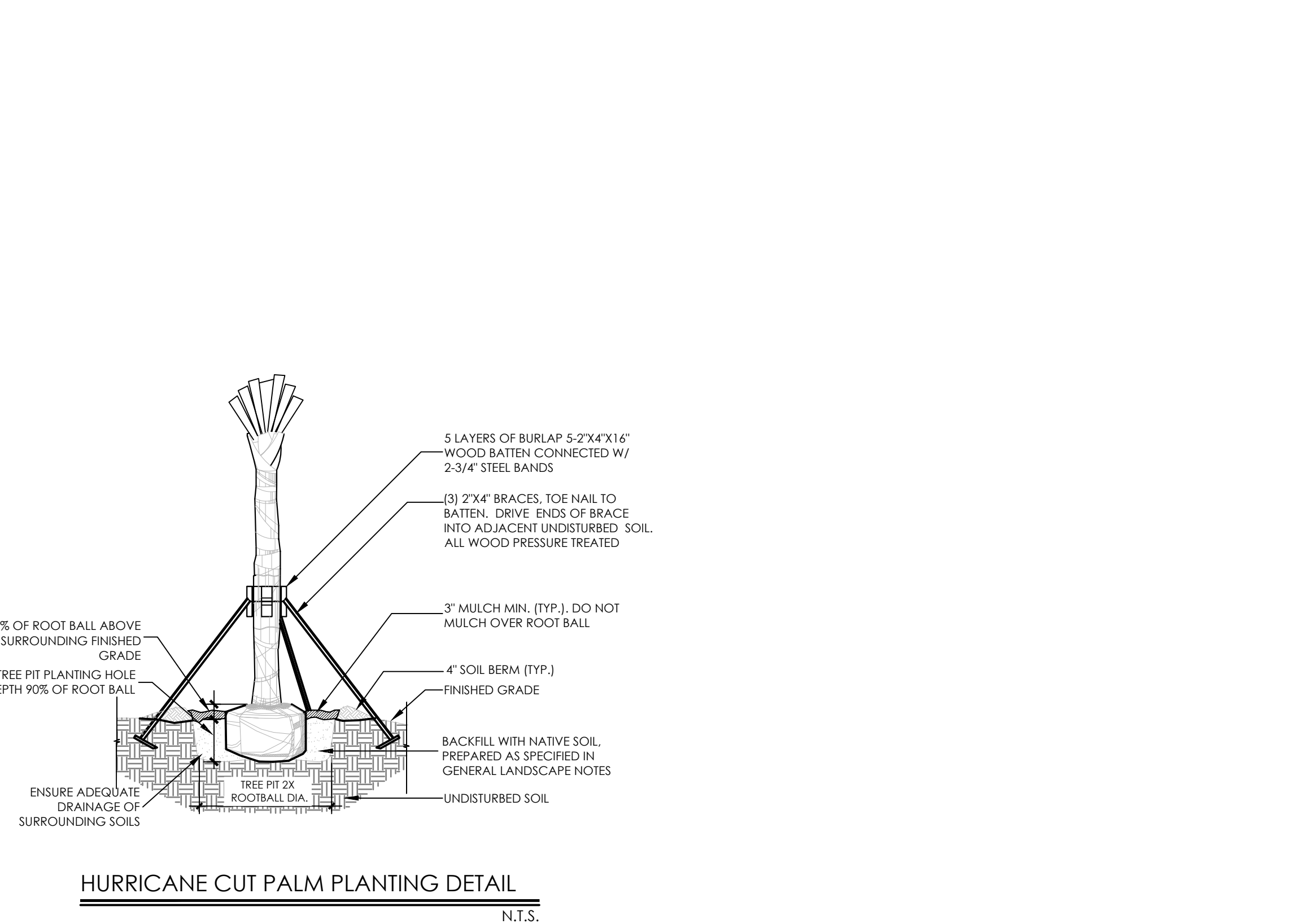
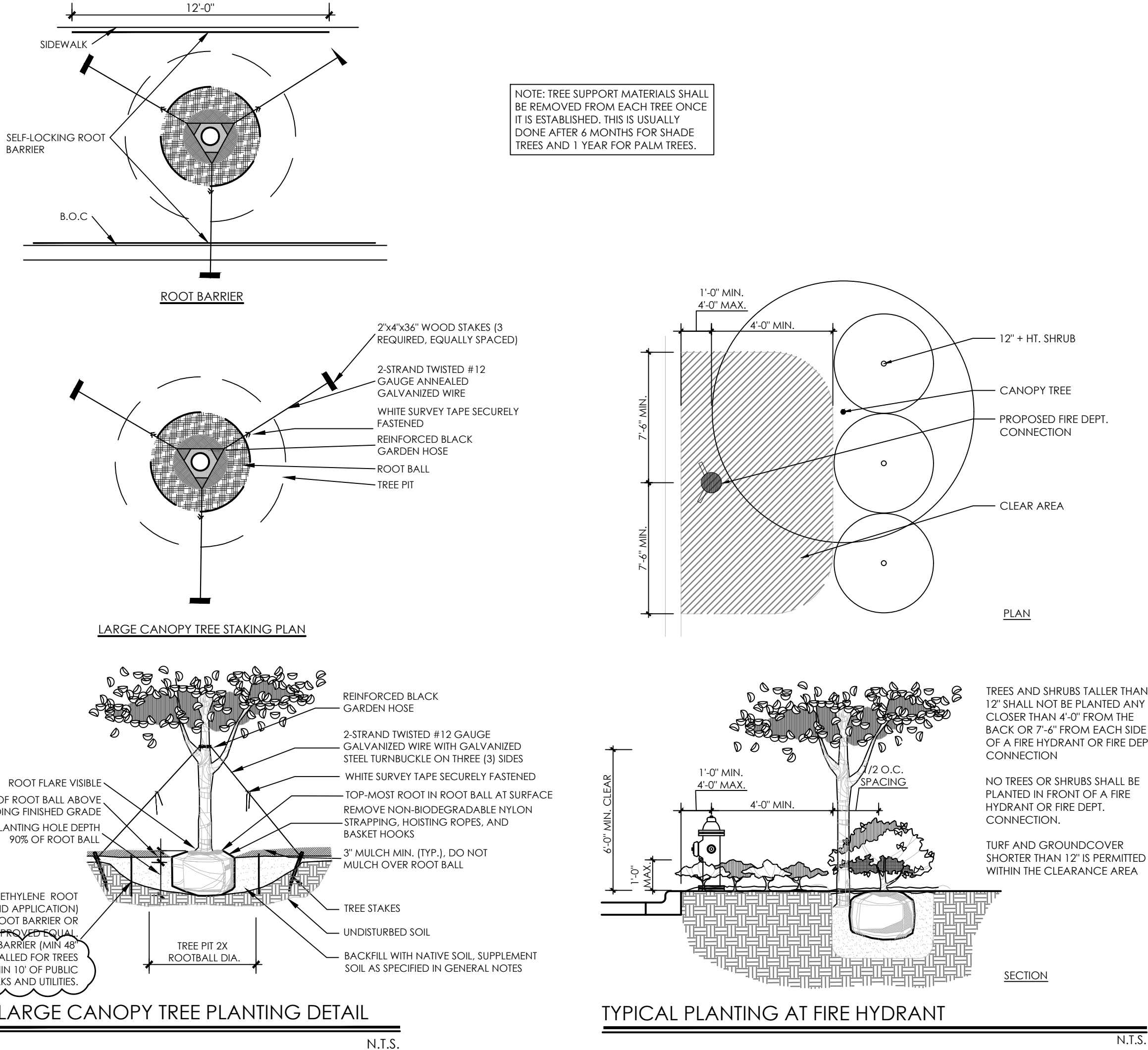
All areas disturbed by construction (including material staging, equipment storage, temporary facilities, site access, construction staff parking, etc.) beyond the minimum limits of sod as shown on the Landscape Plan shall be sodded as needed.

All lawn areas to receive sod shall be disked four (4) to six (6) inches and graded to establish a level finished grade ensuring positive drainage from all structures. All debris shall be removed from the site.

Sod shall be free of weeds and pests. It shall be laid evenly with tight fitting joints and rolled. The sod shall contain moist soil which does not fall apart or tear when lifted.

See plant list for specific sod species and locations.

See 'Fertilizer' for requirements of all sodded areas.

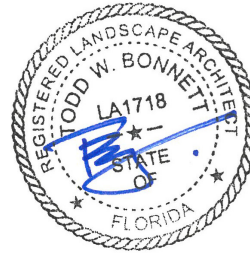


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606 SPORTS TRAINING

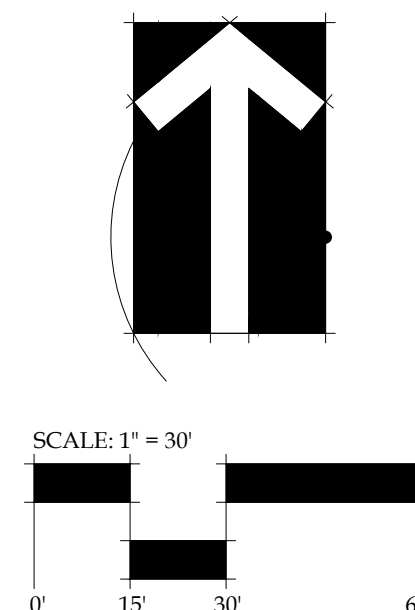
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

LANDSCAPE DETAILS & NOTES

revision	description	date
△	Agency Comments	06.18.24
△		
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△		
△		
△		

drawn by: LAE
checked by: TWB
date: 01.19.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: 2022.159.1_KW_606 SPORTS_LBASE.DWG

L410



SITE CONDITIONS FOR 1.5" RECLAIMED METER
TOTAL IRRIGATED AREA - 14,480 S.F.
TOTAL SOD IRRIGATED AREA - 9,725 S.F.
TOTAL SHRUB IRRIGATED AREA - 4,755 S.F.
MAXIMUM ZONE SIZE IS 44 GPM
TOTAL RUN TIME PER WEEK (1" - DST) - 7.48 Hrs
TOTAL GALLONS PER WEEK (1" - DST) - 13,724

1. CONTRACTOR SHALL LOCATE ALL PROPERTY AND RIGHT OF WAY LINES BEFORE CONSTRUCTION BEGINS.
2. THESE IRRIGATION PLANS ARE SCHEMATIC AND MAY BE EXAGGERATED. CONTRACTOR SHALL KEEP WITHIN ALL PROPERTY AND RIGHT OF WAY LINES DURING CONSTRUCTION.
3. CONTRACTOR SHALL ADJUST ALL SPRAY HEADS SO AS NOT TO SPRAY ONTO IMPERVIOUS SURFACES.
4. CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY DEPTHS AND COORDINATE IRRIGATION CONSTRUCTION WITH ALL EXISTING AND PROPOSED UTILITIES.
5. ALL UNDERGROUND SLEEVES SHALL BE SCHEDULE 40 PVC AND SHALL BE TWICE THE DIAMETER OF ANY LINE IT HOUSES.
6. CONTRACTOR TO PROTECT ALL EXISTING LANDSCAPING AND IRRIGATION
7. ALL WIRE WILL BE COLOR-CODED DIRECT BURIAL UL/LF WIRE: COMMON (WHITE) #12-1, CONTROL WIRE (RED) #14-1
8. IRRIGATION INSTALLATION CONTRACTOR SHALL INSTALL (2) SPARE CONTROL WIRES, COLOR-CODED YELLOW AND COMMON FROM CONTROLLER TO MIDPOINT OF MAINLINE, MOUNTED IN 10" ROUND VALVE BOX.

THE DESIGN PROFESSIONAL DOES NOT ACCEPT ANY/ALL RESPONSIBILITY AND/OR LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND DESIGN INTENT THEY CONVEY OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONALS GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
 EST LCS RCS CST SST	Rain Bird 1806-U-PRS 15 Strip Series Turf Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal, Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet. Pressure Regulating.	7	30
 89HE-VAN 1012HE-VAN 1212HE-VAN 1512HE-VAN	Rain Bird 1806-U-PRS HE-VAN Series Turf Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal, Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet. Pressure Regulating.	99	30
 1401 1402 1404 1408	Two Rain Bird 1800-1402 Flood 1401 Two fixed flow rate (0.50 GPM), full circle bubblers installed per each proposed tree, 1/2" FIPT. Increase Schedule Qty. x2	145	20
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
 XZC-150-LCS	Rain Bird XZC-150-LCS High Flow Control Zone Kit, for Large Commercial Drip Zones. 1-1/2" PEB Globe Valve with single 1-1/2" Pressure Regulating (40psi) Quick-Check Basket Filters. Flow range: 15-62gpm.	4	
 MDCFCAP	Rain Bird MDCFCAP Dripline Flush Valve cap in compression fitting coupler.	5	
	Area to Receive Dripline		
	Rain Bird XFD-09-12		
	XFD On-Surface Pressure Compensating Landscape Dripline, 0.9 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. UV Resistant. Specify XF insert fittings.	3,846	s.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PEB 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration.	7
	Rain Bird 33-DLRC 3/4" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, Double Track Key Lug, and 2-Piece Body.	1
	Nibco T-113-K Class 15 bronze gate shut off valve with cross handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"	2
	Watts 919QT 2 Backflow reduced pressure zone - Installation by a licensed Florida Plumbing Contractor in accordance with Manufacturer's recommendations and all federal, state and local codes.	1
	Rain Bird ESPLXME2 12 Station Traditionally-Wired, Commercial Controller. Indoor/Outdoor, Plastic Wall-Mount Enclosure.	1
	Rain Bird RSD-BEX Rain Sensor, with metal latching bracket, extension wire.	1
	Water Meter 1-1/2" Water meter requires 45 GPM @ 60 PSI. Irrigation contractor shall be responsible to verify the sources ability to service the systems requirements at site before starting construction.	1
	Irrigation Lateral Line: PVC Class 200 SDR 21 Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size. Fittings shall be SCH 40 and molded. Install 12" below final grade.	6,450 l.f.
	Irrigation Mainline: PVC Class 200 SDR 21 Pipe sizes 3" inch or smaller shall have bell and socket joints. Fittings shall be SCH 40 and molded. Install 18" below grade.	1,133 l.f.
	Pipe Sleeve: PVC Schedule 40 The depth of the sleeves shall be a minimum 30" cover from finished grade under roadway crossings and 24" under all sidewalks and hardscapes. Extend sleeves 18" beyond edges of paving or construction, mark both ends with a 3" "V" in pavement.	1,009 l.f.

1. DEVELOPER/CONTRACTOR SHALL COORDINATE WITH UTILITIES DEPARTMENT FOR WATER CONSERVATION INSPECTION OF PLUMBING AND IRRIGATION SYSTEM BY CALLING 407-905-3159
2. THIS PROJECT, INCLUDING BOTH HORIZONTAL AND VERTICAL CONSTRUCTION, SHALL INCORPORATE WATERSENSE™ PLUMBING FIXTURES AND ENERGY STAR® APPLIANCES AS REQUIRED BY CHAPTER 17 OF THE CITY OF OCOCHEE'S CODE OF ORDINANCES.

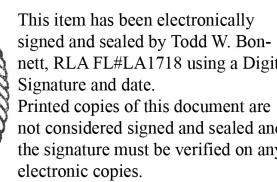
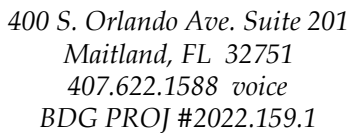
TOTAL LANDSCAPE AREA - 50,590 SF
NON-IRRIGATED TURF AREA - 21,630 SF - 42%
TOTAL IRRIGATED AREA - 14,480 sf - 28%
HIGH-VOLUME IRRIGATION USE - 9,725 SF - 19%
LOW -VOLUME IRRIGATION USE- 4,755 SF - 9%

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606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

IRRIGATION PLAN

revision	description	date
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1 Agency Comments 06.18.24

 Δ Δ Δ

drawn by: LAE

checked by: TWB

date: 05.10.24

plot scale: AS SHOWN

file name: 2022.159.1_KW_606
SPORTS_IRBASE.DWG

L500

File Location : Z:\Shared\Bonnelt Design Group\2022\2022.159.1_KW 606 Sports Training.dwg At: Star Auto Ocoee\Design\

VALVE SCHEDULE

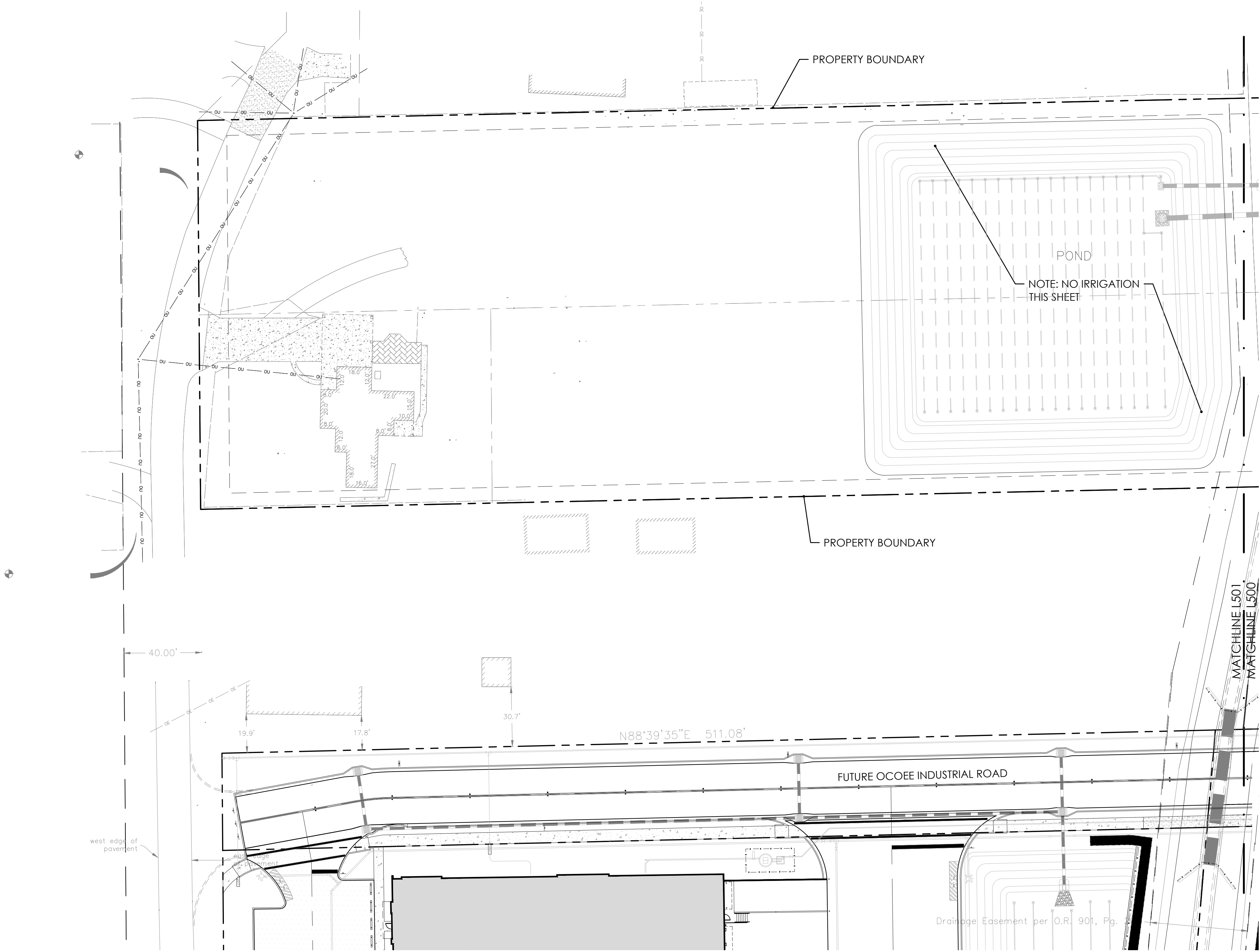
NUMBER	MODEL	SIZE	TYPE	GPM	HEADS	PIPE 3/4"	PIPE 1"	PIPE 1 1/4"	PIPE 1 1/2"	PIPE 2"	PIPE 2 1/2"	WIRE	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
1	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	14.1	939.7 I.f.	207.2	178.9	8.1				39.2	30	5.41		35.4	46.6	1.44 in/h
2	Rain Bird PEB	1-1/2"	Bubbler	46	46	481.2	28.9	81.8	99.6	168.9	154.9	39.2	20	5.62	3.56	29.2	48.0	3.4 in/h
3	Rain Bird PEB	1-1/2"	Bubbler	32	32	466.8	99.0	98.9				180.4	20	3.05		26.6	40.2	3.4 in/h
4	Rain Bird PEB	1-1/2"	Bubbler	31	31	270.2	144.7	116.7		15.5		516.6	20	3.52	3.59	27.1	39.8	3.41 in/h
5	Rain Bird PEB	1-1/2"	Turf Spray	43.99	41	189.6	101.2	185.5	51.1		5.9	526.6	30	2.97	3.54	36.5	51.8	0.85 in/h
6	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	14.39	959.3 I.f.	413.0	29.6	9.1				536.5	30	3.15		33.1	43.8	1.44 in/h
7	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	14.52	967.9 I.f.	259.9	123.6	4.1				879.6	30	5.68		35.7	47.1	1.44 in/h
8	Rain Bird PEB	1-1/2"	Turf Spray	40.62	42	779.0	134.1	13.4	6.2	6.3		872.8	30	5.2	3.51	38.7	56.9	0.96 in/h
9	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	14.69	978.9 I.f.	300.8	95.5	5.0				1,083	30	3.38		33.4	44.9	1.44 in/h
10	Rain Bird PEB	1-1/2"	Bubbler	36	36	411.8	93.0	233.4	15.1	12.3		1,091	20	4.19	3.54	27.7	46.1	3.4 in/h
11	Rain Bird PEB	1-1/2"	Turf Spray	40.12	23	119.6	73.7	96.4	37.2		18.5	1,101	30	2.2	3.5	35.7	56	0.81 in/h
Common Wire													1,133					

WATERING SCHEDULE - DAYLIGHT SAVING TIME

NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN/WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	592	197
2	Rain Bird PEB	Bubbler	3.4 in/h		6 min		6 min		6 min		1	18	828	276
3	Rain Bird PEB	Bubbler	3.4 in/h		6 min		6 min		6 min		1	18	576	192
4	Rain Bird PEB	Bubbler	3.41 in/h		6 min		6 min		6 min		1	18	558	186
5	Rain Bird PEB	Turf Spray	0.85 in/h			36 min			36 min		1	71	3,123	1,562
6	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	604	201
7	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	610	203
8	Rain Bird PEB	Turf Spray	0.96 in/h			32 min			32 min		1	63	2,559	1,279
9	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	617	206
10	Rain Bird PEB	Bubbler	3.4 in/h		6 min		6 min		6 min		1	18	648	216
11	Rain Bird PEB	Turf Spray	0.81 in/h			38 min			38 min		1	75	3,009	1,505
TOTALS:				80	106	80			186		449		13,724	6,023

WATERING SCHEDULE - EASTERN STANDARD TIME

NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN/WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	592	197
2	Rain Bird PEB	Bubbler	3.4 in/h		6 min		6 min		6 min		1	18	828	276
3	Rain Bird PEB	Bubbler	3.4 in/h		6 min		6 min		6 min		1	18	576	192
4	Rain Bird PEB	Bubbler	3.41 in/h		6 min		6 min		6 min		1	18	558	186
5	Rain Bird PEB	Turf Spray	0.85 in/h			53 min			14 min		1	0.75	53	2,332
6	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	604	201
7	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	610	203
8	Rain Bird PEB	Turf Spray	0.96 in/h			48 min			14 min		0.75	48	1,950	1,950
9	Rain Bird XCZ-150-LCS	Area for Dripline	1.44 in/h		14 min		14 min		14 min		1	42	617	206
10	Rain Bird PEB	Bubbler	3.4 in/h		6 min		6 min		6 min		1	18	648	216
11	Rain Bird PEB	Turf Spray	0.81 in/h			56 min			14 min		0.75	56	2,247	2,247
TOTALS:				80	157	80			80		397		11,561	8,206

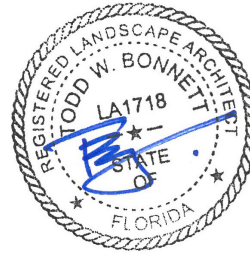


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This item has been electronically signed and sealed by Todd W. Bonnett, RLA FL#LA1718 using a Digital Signature and date.
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Digitally signed by Todd W Bonnett
Date: 2024.06.21 09:41:39-0400

Todd W. Bonnett, RLA FL #LA1718

606 SPORTS TRAINING
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA
IRRIGATION PLAN

revision	description	date
△	Agency Comments	06.18.24
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drawn by: LAE
checked by: TWB
date: 05.10.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: 2022.159.1_KW_606 SPORTS_IRBASE.DWG



1. ALL MAINLINES TO HAVE A MINIMUM OF 18" OF COVER. (CLASS 200 PVC PIPE).
2. ALL LATERAL AND SUB-MAIN PIPE TO HAVE A MINIMUM OF 12" OF COVER (CLASS 200 PVC PIPE).
3. NO ROCKS, BOULDER, OR OTHER EXTRANEOUS MATERIALS TO BE USED IN BACKFILLING OF TRENCH.
4. ALL PIPE TO BE INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS.
5. ALL THREADED JOINTS TO BE COATED WITH TEFLON TAPE OR LIQUID TEFLON.
6. ALL LINES TO BE THOROUGHLY FLUSHED BEFORE INSTALLATION OF SPRINKLER HEADS.
7. SPRINKLER AND RELATED EQUIPMENT TO BE INSTALLED AS PER DETAILS.
8. ALL ELECTRICAL JOINTS TO BE MADE USING WATERPROOF CONNECTIONS AS SHOWN ON DETAILS.
9. ALL EQUIPMENT NOT SPECIFIED IN THE LEGEND SHALL BE DETERMINED AND FURNISHED BY THE CONTRACTOR.
10. NO ELECTRICAL CONNECTIONS SHALL BE MADE IN THE FIELD EXCEPT AT A VALVE CONNECTION, BUT AT ANOTHER VALVE BOX SPECIFICALLY FOR CONNECTIONS.
11. ANY DISCREPANCY BETWEEN THIS SHEET AND OTHERS IN THIS SET MUST BE REFERRED TO THE IRRIGATION CONSULTANT BY THE CONTRACTOR FOR CLARIFICATION BEFORE PRECEDING WITH THE WORK.
12. ALL 24 VOLT WIRE SHALL BE #12 UF/L FOR COMMON WIRE, AND #14 UF/UL FOR CONTROL WIRES, DIRECT BURIAL, SOLID COPPER.
13. CONTRACTOR TO BE RESPONSIBLE FOR PROPER COVERAGE OF AREAS TO BE WATERED. I.E ADJUST HEADS WITH INSUFFICIENT COVERAGE DUE TO BLOCKAGE BY EXISTING OR PROPOSED SITE FEATURES.
14. CONTRACTOR TO REFER TO LANDSCAPE PLAN TO KEEP SPRINKLER EQUIPMENT AND ACCESSORY MATERIAL FROM INTERFERING WITH PROPER PLANTING, I.E VERIFY ROOT BALL SIZE FOR PLANTING.
15. CONTRACTOR SHALL PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN A VALVE BOX (WRAP AROUND 3/4" PIPE 12 TIMES).
16. SPRINKLERS IN LOW-LYING AREAS SHALL HAVE CHECK VALVES.
17. ALL SPRINKLERS TO BE MOUNTED ON FLEX PIPE - REFER TO DETAILS.
18. INSTALL DRIP LINE TUBING AND NON-PRESSURE LATERAL LEAD LINE PIPING IN LANDSCAPE AREAS AND ADJACENT TO SELECTED PLANT MATERIAL AS SHOWN IN DETAILS.
19. CONTRACTOR SHALL UTILIZE VALVE I.D. TAGS ON ALL REMOTE CONTROL VALVES.
20. 24 VOLT WIRE SHALL BE COLOR CODE: COMMON-WHITE, CONTROL-RED.
21. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDED GROUNDING EQUIPMENT FOR POWER SUPPLY AND VALVE OUTPUT WITH (2) 5/8" COPPER CLAD GROUND RODS.
22. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDATION ON FAULT GROUND AND LIGHTNING PROTECTION.
23. CONTROLLER GROUNDING MUST BE PER ASIC REQUIREMENTS.
24. ALL MATERIAL TO BE SUPPLIED BY CONTRACTOR TO OWNER:
 - A. TWO WRENCHES FOR DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER HEAD AND VALVE SUPPLIED
 - B. TWO KEYS FOR EACH OF THE AUTOMATIC CONTROLLERS.
 - C. TWO QUICK COUPLER KEYS WITH MATCHING HOSE SWIVELS.
25. SYSTEM IS DIAGRAMMATIC TO IMPROVE CLARITY. ALL MAINLINE PIPING, ELECTRIC VALVES AND WIRING ARE TO BE INSTALLED IN LANDSCAPED AREAS AND REFERENCE THE LANDSCAPE PLAN PRIOR TO THE INSTALLATION OF PIPING TO AVOID CONTACT WITH PLANT MATERIALS EXISTING OR NEW.
26. CONTRACTOR TO ADD EXTENSION RISERS TO POP-UP HEADS WHEN NEEDED TO PROVIDE PROPER COVERAGE.
27. CONTRACTOR TO INSTALL SPRINKLER EQUIPMENT 18" FROM FOUNDATIONS, ALSO INSTALL SPRINKLERS 4" FROM CURBS OR WALKS.
28. PRIOR TO BID IRRIGATION CONTRACTOR SHALL VERIFY RIGHT-OF-WAY AND BACKFLOW REQUIREMENTS NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS. CONTRACTOR SHALL NOTIFY CONSULTANT OF ANY CHANGES FROM PLANS OR SPECIFICATIONS.
29. IRRIGATION CONTRACTOR SHALL PROVIDE THE OWNER AND LANDSCAPE ARCHITECT WITH A REPRODUCIBLE AS-BUILT DRAWING OF THE INSTALLED IRRIGATION SYSTEM IN A PDF FILE FORMAT BEFORE FINAL ACCEPTANCE. PROVIDE CROSS-MEASURED LOCATIONS OF ALL VALVE LOCATIONS, CONTROLLER, WATER SOURCE, WIRE SPLICES, SLEEVE LOCATIONS, ETC.
30. A 1-YEAR WARRANTY PERIOD SHALL BE PROVIDED FOR SYSTEM AFTER SUBSTANTIAL COMPLETION IS ACCEPTED, START UP AND ADJUSTING OF SYSTEM IN SPRING TIME SHALL BE INCLUDED IN WARRANTY.
31. PRIOR TO BID, CONTRACTOR SHALL VERIFY THAT ALL MATERIAL, INSTALLATION PARAMETERS AND OPERATIONS CONFORM TO ALL APPLICABLE CODES AND ORDINANCES NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS. CONTRACTOR SHALL NOTIFY IRRIGATION CONSULTANT/DESIGNER OF ANY CHANGES REQUIRED DUE TO CURRENT CODE OR ORDINANCE DISCREPANCIES. IF CONTRACTOR DOES NOT COMPLY TO THIS NOTIFICATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY INSTALLATION CHANGE AND REDESIGN COSTS FOR NON-COMPLIANCE.
32. UNLESS OTHERWISE NOTED, THE CONTRACTOR MUST COMPLETE TWO PRESSURE TESTS OF THE IRRIGATION SYSTEM MAINLINE (BOTH TO SHOW NO DROP IN PRESSURE DURING DURATION OF THE TEST).
 - A. 1.5-HOUR PRESSURE TEST AT 1.5 TIMES THE SYSTEM STATIC PRESSURE
 - B. 24-HOUR PRESSURE TEST AT THE SYSTEM STATIC PRESSURE
33. IRRIGATION INSTALLATION CONTRACTOR SHALL PROVIDE THE OWNER WITH A COLOR-CODED ZONE DIAGRAM PLAN, 8-1/2"X11" LAMINATED SHEET(S) WITH AN ELECTRONIC FILE TO IDENTIFY THE CONTROL VALVE STATION TO THE CONTROL VALVE NUMBER FOR EACH CONTROLLER. THE LAMINATED CHART IS TO BE LOCATED IN AN ADHESIVE POUCH ATTACHED TO THE INSIDE OF CONTROLLER(S).
34. THE CONTROLLER(S) SHALL SCHEDULE PROGRAM 'A' TO A REGULAR RUN-TIME SETTINGS FOR AFTER THE ESTABLISHMENT PERIOD OF THE PLANT MATERIAL. PROGRAM 'B' SHALL BE USED DURING THE ESTABLISHMENT PERIOD AND TURNED OFF AFTER THE 30-60 DAYS OF PLANT INSTALLATION.
35. THE IRRIGATION CONTRACTOR WILL READ ALL SPECIFICATIONS AND REVIEW ALL DETAILS AND EXAMINE THESE PLANS CAREFULLY PRIOR TO BIDDING THIS PROJECT. FAILURE TO READ THIS INFORMATION IS NOT AN ACCEPTABLE REASON IF THE JOB IS UNDERBID.
36. THE PLAN MAY NOT INCLUDE ALL MATERIALS. THIS DOESN'T RELIEVE THE CONTRACTOR FROM BEING RESPONSIBLE TO PROVIDE A COMPLETE SYSTEM IN PERFECT WORKING ORDER.

1. INSTALL DRIP TUBING AT GRADE AND COVER WITH MULCH. TYPICAL SPACING FOR DRIP TUBING IS 12" TO 18" ON CENTER. SPACING TO BE DETERMINED BY PLANT LAYOUT. REFER TO LANDSCAPE PLAN. ANCHOR TUBING EVERY 10' WITH 12" LONG PLASTIC TUBING STAKES. INSTALL FLUSH VALVE ASSEMBLIES AT ALL TUBING "DEAD ENDS". INSTALL AIR/VACUUM RELIEF VALVES AT "HIGH POINTS" OF EVERY SECTION.
2. GRID LAYOUT SHALL BE USED ON THIS PROJECT. USE CENTER GRID LAYOUT WHERE POSSIBLE.
3. WHEN SLEEVEING DRIPLINE, USE BLANK DRIPLINE IN SLEEVE. SLEEVE SHALL BE 2X DRIPLINE DIAMETER. NO EMITTER DRIPLINE SHALL BE PLACED IN SLEEVE.
4. THE LENGTH OF ANY DRIPLINE LATERAL SHALL NOT BE LONGER THAN: 12' EMITTERS @ 0.9 GPH
 - a) @ 15 PSI = 155 FEET
 - b) @ 20 PSI = 169 FEET
 - c) @ 30 PSI = 230 FEET
 - d) @ 40 PSI = 255 FEET
- LATERAL DISTANCE DOUBLED WHEN CENTER FEED LAYOUT USED (SEE CENTER FEED LAYOUT DETAIL.
5. MANUAL FLUSH VALVE SHALL BE USED & PLACED WITH A 6" X 6" SUMP. VALVES SHALL BE OPENED EVERY WATERING DAY FOR 2 WEEKS AND THEN A MINIMUM OF 2 TIMES A YEAR TO CLEAR DRIPLINE OF DEBRIS.
6. AIR/VACUUM RELIEF SHALL BE INSTALLED WHEN THE CHANGE IN SLOPE OCCURS 3% OR GREATER.
7. STAPLES SHALL BE USED AT 5' O.C. AND 2 STAPLES X'ED OVER EACH OTHER WITH ANY CHANGE IN DIRECTION, ELBOWS, OR CROSSES.
8. SUDDLY EXHAUST HEADERS AND DRIPLINE SHALL BE PLACED 2" - 4" FROM PLANTS AND PAVEMENT EDGES.
9. BLANK DRIPLINE SHALL BE USED FOR ALL SUPPLY AND EXHAUST HEADERS, UNLESS OTHERWISE NOTED ON PLANS.
10. PRIOR TO COVERING DRIPLINE, DRIPLINE CIRCUIT MUST BE PRESSURIZED AND TESTED FOR PROPER OPERATION.
11. DRIP LINE LATERALS SHALL BE LAID IN THE LONGEST RUN, WHETHER IT BE THE WIDTH OR LENGTH OF THE ZONE.

1. IRRIGATION SYSTEM IS DESIGNED TO OPERATE OFF A POTABLE WATER METER PROVIDING A MINIMUM FLOW OF 45 GPM AND A MINIMUM PRESSURE OF 60 PSI.

CONTRACTOR MUST CONTACT THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION IF THE AVAILABLE FLOW AND PRESSURE DEVIATES MORE THEN 5% OR WILL AFFECT THE PERFORMANCE OF THE SYSTEM.

MINIMUM PRESSURE REQUIREMENTS - 60 PSI AT THE POINT OF CONNECTION
 - A. 35 PSI AT THE BASE OF THE POP-UP ROTOR/ROTATOR HEADS
 - B. 30 PSI AT THE BASE OF THE POP-UP SPRAY HEADS
2. HEAD LAYOUT IS BASED ON BASE INFORMATION PROVIDED. HEADS SHALL BE LOCATED TO COMPENSATE FIELD VARIATIONS WHILE MAINTAINING 100% COVERAGE AND MINIMIZING OVER-SPRAY ONTO PAVED AREAS AND BUILDINGS.
3. 1/2" PIPE SHALL NOT BE USED FOR LATERAL PIPING



A. WHEN DAYLIGHT SAVING TIME IS IN EFFECT, LANDSCAPE IRRIGATION SHALL OCCUR ONLY IN ACCORDANCE WITH THE FOLLOWING IRRIGATION SCHEDULE:

(1) NON-RESIDENTIAL LANDSCAPE IRRIGATION MAY OCCUR ONLY ON TUESDAY AND FRIDAY AND SHALL NOT OCCUR BETWEEN 10:00 A.M. AND 4:00 P.M.; AND

(2) NO MORE THAN ¾ INCH DEPTH OF WATER MAY BE APPLIED TO AN IRRIGATION ZONE ON EACH DAY THAT LANDSCAPE IRRIGATION OCCURS AND IN NO EVENT SHALL LANDSCAPE IRRIGATION OCCUR FOR MORE THAN ONE HOUR PER IRRIGATION ZONE ON EACH DAY THAT LANDSCAPE IRRIGATION OCCURS.

B. WHEN EASTERN STANDARD TIME IS IN EFFECT, LANDSCAPE IRRIGATION SHALL OCCUR ONLY IN ACCORDANCE WITH THE FOLLOWING IRRIGATION SCHEDULE:

(1) NON-RESIDENTIAL LANDSCAPE IRRIGATION MAY OCCUR ONLY ON TUESDAY AND SHALL NOT OCCUR BETWEEN 10:00 A.M. AND 4:00 P.M.; AND

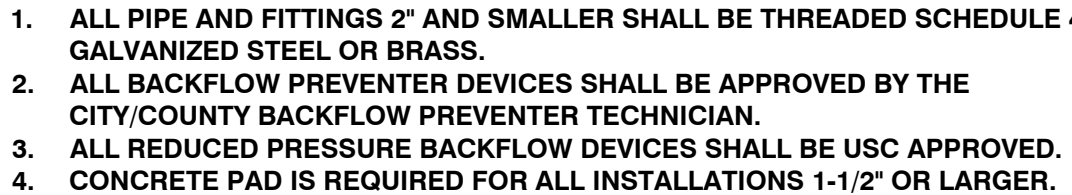
(2) NO MORE THAN ¾ INCH DEPTH OF WATER MAY BE APPLIED TO AN IRRIGATION SURFACE ON EACH DAY THAT LANDSCAPE IRRIGATION OCCURS AND IN NO EVENT SHALL LANDSCAPE IRRIGATION OCCUR FOR MORE THAN ONE (1) HOUR PER IRRIGATION ZONE ON EACH DAY THAT LANDSCAPE IRRIGATION OCCURS.

C. ALL LANDSCAPE IRRIGATION SHALL BE LIMITED IN AMOUNT TO ONLY THAT WHICH IS NECESSARY TO MEET LANDSCAPE NEEDS.

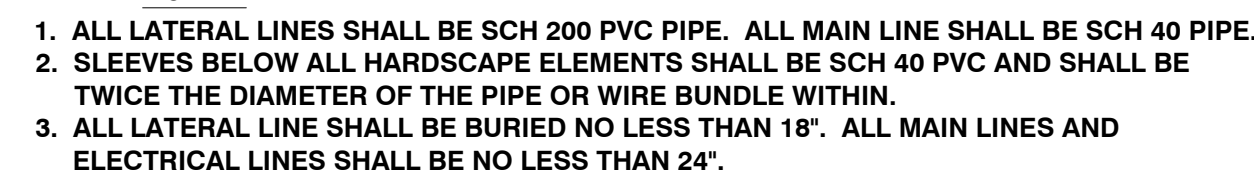
EXCEPTIONS:

- A. IRRIGATION USING A MICRO-SPRAY, MICRO-JET, DRIP OR BUBBLER IRRIGATION SYSTEM IS ALLOWED ANYTIME.
- B. IRRIGATION OF NEW LANDSCAPE IS ALLOWED ANY TIME OF DAY ON ANY DAY FOR THE INITIAL THIRTY (30) DAYS AND EVERY OTHER DAY FOR THE NEXT THIRTY (30) DAYS FOR A TOTAL OF ONE THIRTY (60) DAY PERIOD. PROVIDED THAT THE IRRIGATION IS LIMITED TO THE MINIMUM AREA AND/OR AMOUNT NECESSARY FOR SUCH LANDSCAPE ESTABLISHMENT.
- C. WATERING IN OF CHEMICALS, INCLUDING INSECTICIDES, PESTICIDES, FERTILIZERS, FUNGICIDES, AND HERBICIDES, WHEN REQUIRED BY LAW, THE MANUFACTURER, OR BEST MANAGEMENT PRACTICE, IS ALLOWED ANY TIME OF DAY ON ANY DAY WITHIN 24 HOURS OF APPLICATION. WATERING IN OF CHEMICALS SHALL NOT EXCEED 1/4 INCH OF WATER PER APPLICATION EXCEPT AS OTHERWISE REQUIRED BY LAW, THE MANUFACTURER, OR BEST MANAGEMENT PRACTICE.
- D. IRRIGATION SYSTEMS MAY BE OPERATED AT ANY TIME OF DAY ON ANY DAY FOR MAINTENANCE AND REPAIR PURPOSES NOT TO EXCEED 20 MINUTES PER HOUR PER ZONE.
- E. IRRIGATION USING A HAND-HELD HOSE EQUIPPED WITH AN AUTOMATIC SHUT-OFF NOZZLE IS ALLOWED AT ANY TIME OF DAY ON ANY DAY.

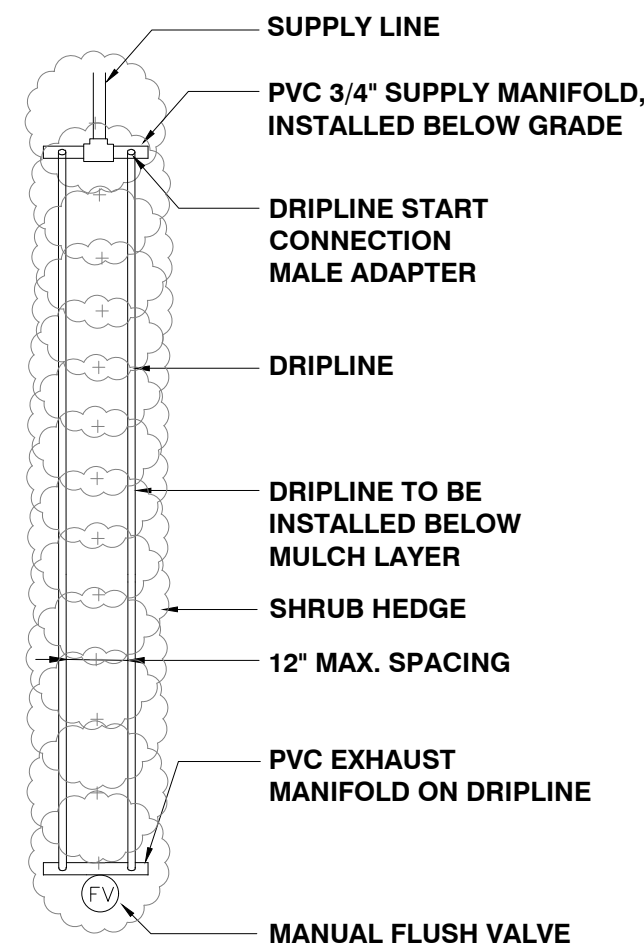
ALL IRRIGATION SYSTEMS SHALL BE PROPERLY MAINTAINED SO AS TO MINIMIZE THE WASTING OF WATER. IMPROPER MAINTENANCE OF IRRIGATION SYSTEMS SHALL INCLUDE BUT NOT BE LIMITED TO BROKEN HEADS, VALVES THAT DO NOT PROPERLY OPEN OR CLOSE, SPRINKLER HEADS IMPROPERLY ADJUSTED OR OBSTRUCTED, LEAKING HEADS/FITTINGS/PIPING, AND/OR MALFUNCTIONING TIMERS.



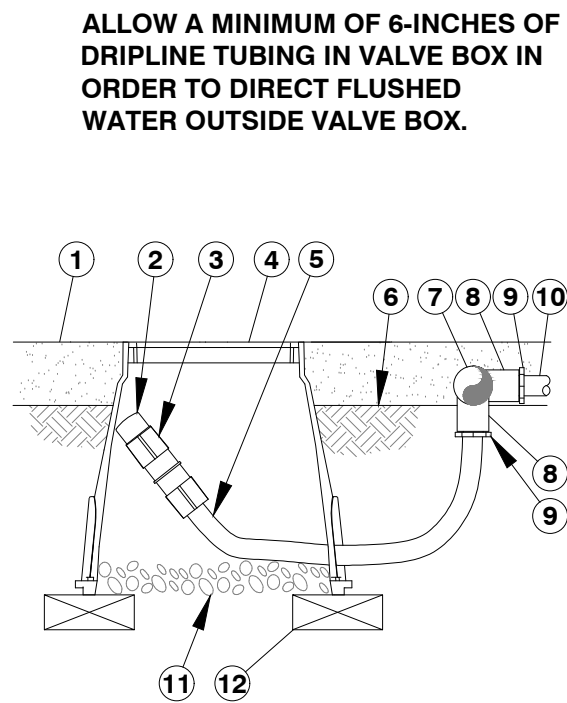
ESP-LXME CONTROLLER IN PLASTIC CABINET



L510

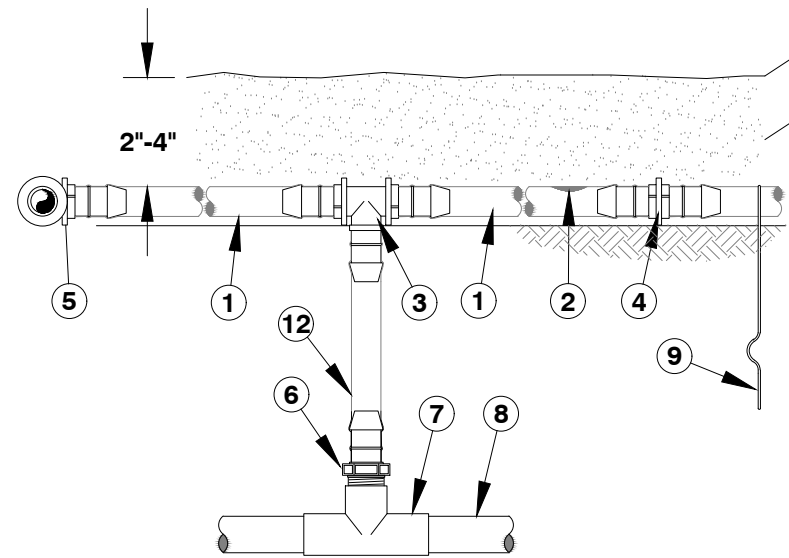


SHRUB DRIP LAYOUT



XFD ON-SURFACE DRIPLINE FLUSH POINT

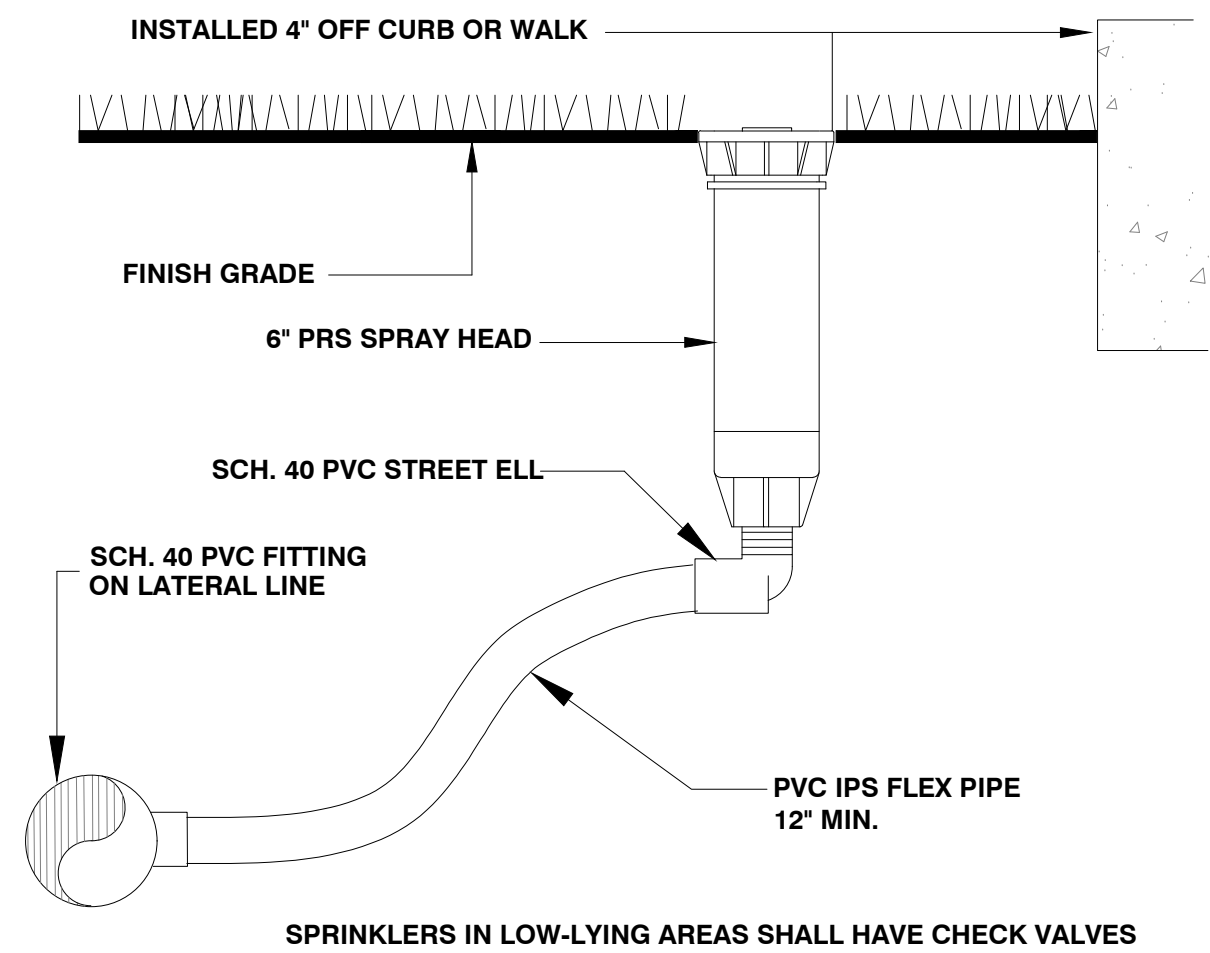
- 1 TOP OF MULCH LAYER
- 2 FLUSH CAP FOR EASY FIT
COMPRESSION FITTINGS:
POTABLE: RAIN BIRD MDCFCAP
NON-POTABLE: RAIN BIRD MDCFPCAP
- 3 EASY FIT COUPLING:
RAIN BIRD MDCFCOUP
- 4 SUBTERRANEAN EMITTER BOX:
RAIN BIRD SEB 7XB
- 5 RAIN BIRD XF BLANK TUBING
- 6 FINISH GRADE
- 7 PVC EXHAUST HEADER
- 8 PVC SCH 40 TEE OR EL
- 9 BARB X MALE FITTING:
RAIN BIRD XFF-MA FITTING (TYPICAL)
- 10 ON-SURFACE DRIPLINE:
- 11 3-INCH MINIMUM DEPTH OF
3/4" WASHED GRAVEL
- 12 BRICK (1 OF 2)



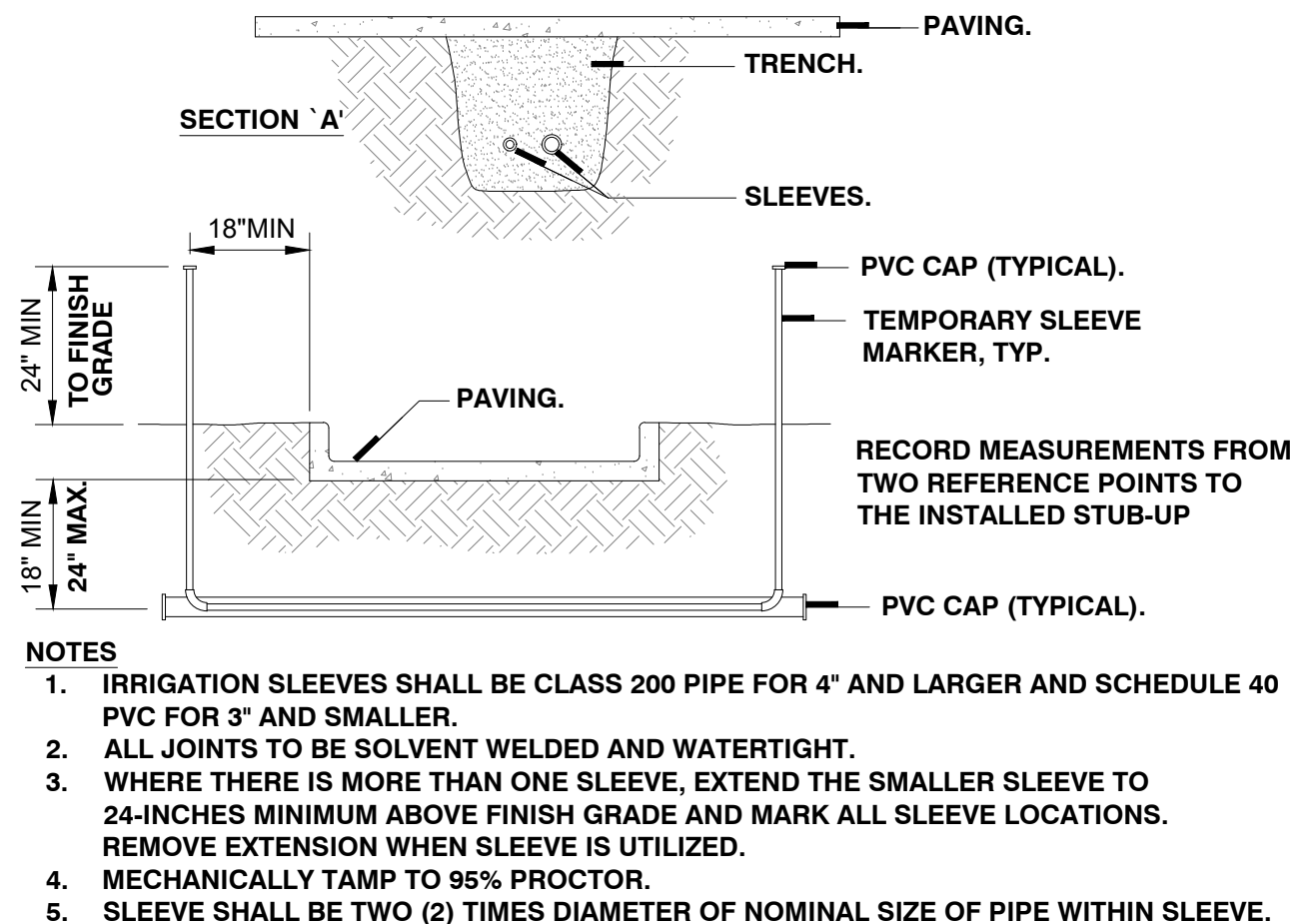
- NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
 2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

XFD ON-SURFACE DRIPLINE RISER ASSEMBLY

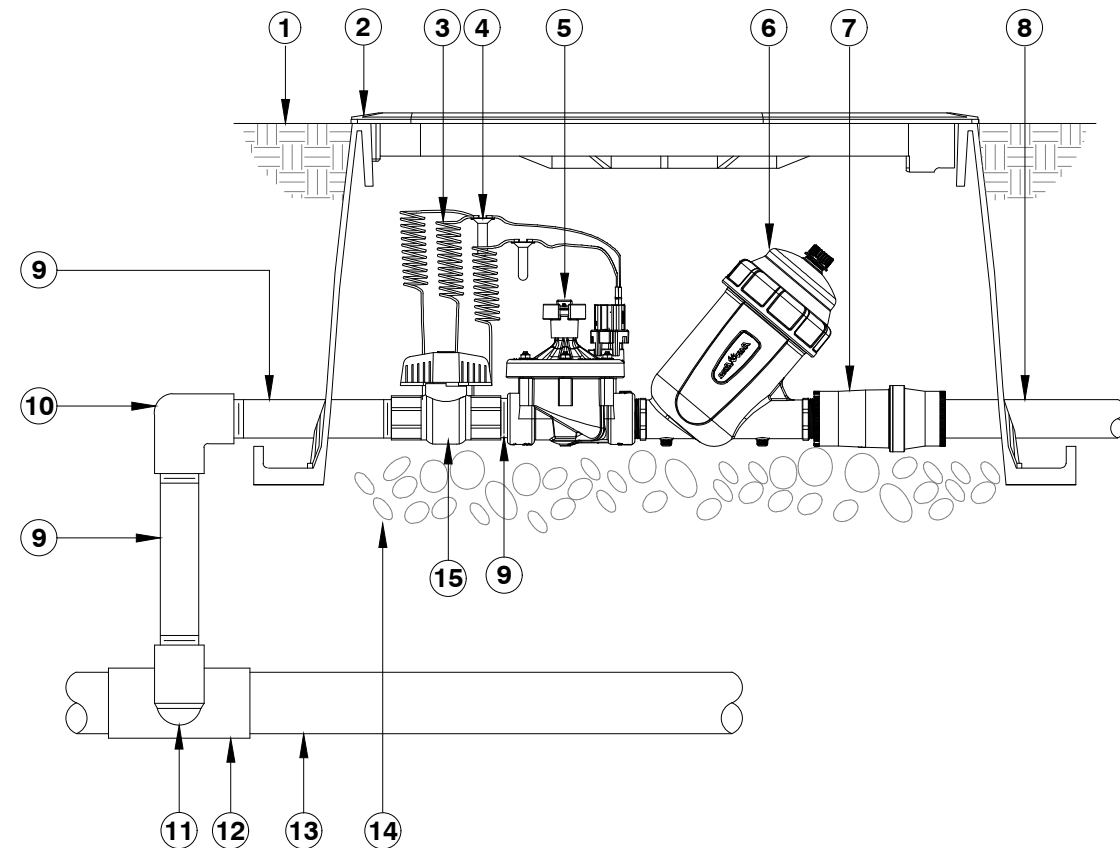
- 1 ON-SURFACE DRIPLINE:
- 2 INLINE DRIP EMITTER OUTLET, SEE PLANS
FOR DRIPLINE OUTLET SPACING.
- 3 BARB TEE 17x17x17mm
RAIN BIRD XFF-TEE
- 4 BARB COUPLING 17x17mm
RAIN BIRD XFF-COUP
- 5 BARB ELBOW 17x17mm
RAIN BIRD XFF-ELBOW
- 6 BARB MALE ADAPTER
17mm X 1/2" MPT RAIN BIRD XFF-MA-050
17mm X 3/4" MPT RAIN BIRD XFF-MA-075
- 7 PVC TEE SxSxT
- 8 PVC LATERAL SUPPLY HEADER
- 9 TIE DOWN STAKE:
RAIN BIRD TDS-050 WITH BEND (TYP)
- 10 MULCH
- 11 FINISH GRADE
- 12 RAIN BIRD XF SERIES BLANK TUBING
LENGTH AS REQUIRED



6" POP-UP SPRAY HEAD DETAIL

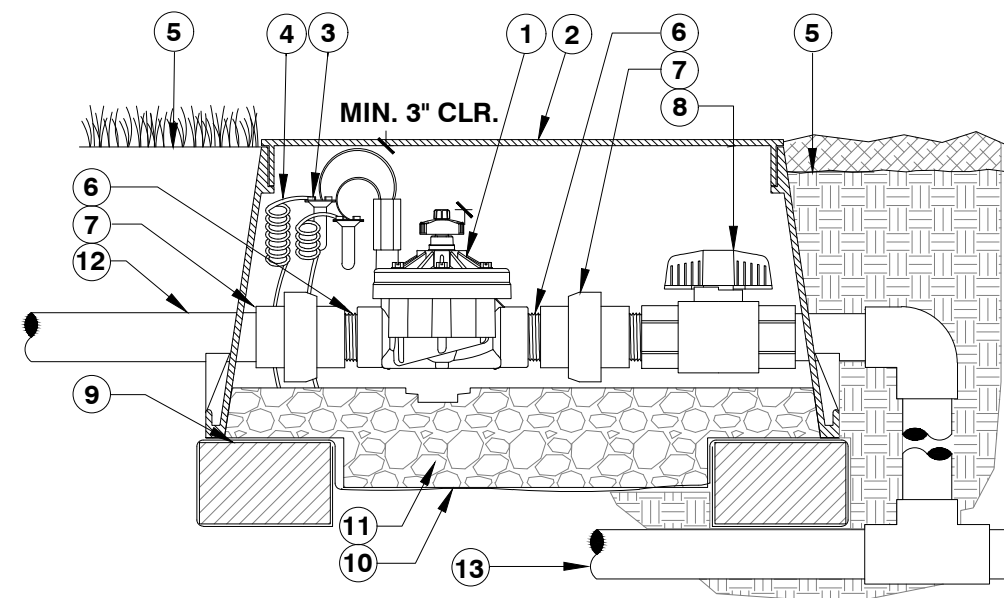


IRRIGATION SLEEVE DETAIL



RAIN BIRD XCZ-150-LCS 1.5" COMMERCIAL CONTROL ZONE KIT IN JUMBO VALVE BOX

- 1 FINISH GRADE/TOP OF MULCH
- 2 JUMBO VALVE BOX WITH COVER:
RAIN BIRD VBJMBL
- 3 30-INCH LINEAR LENGTH OF WIRE, COILED
- 4 WATERPROOF CONNECTION:
RAIN BIRD DB SERIES
- 5 1 1/2" PEB VALVE (INCLUDED IN XCZ-150-LCS KIT)
- 6 1 1/2" FILTER - RAIN BIRD LARGE CAPACITY
SCREEN FILTER (INCLUDED IN XCZ-150-LCS KIT)
- 7 1 1/2" HIGH FLOW PRESSURE REGULATOR
(INCLUDED IN XCZ-150-LCS KIT)
- 8 LATERAL PIPE
- 9 PVC SCH 80 NIPPLE 1 1/2"
- 10 PVC SCH 40 ELBOW
- 11 PVC SCH 80 NIPPLE (2" LENGTH, HIDDEN) AND
PVC 40 ELBOW
- 12 PVC SCH 40 TEE OR ELBOW
- 13 MAINLINE PIPE
- 14 4" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 15 ISOLATION VALVE, LINE SIZE



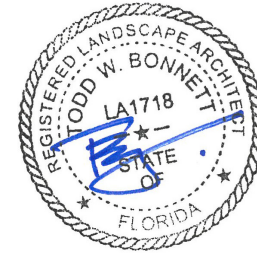
ELECTRIC REMOTE CONTROL VALVE

- 1 REMOTE CONTROL VALVE WITH FLOW
CONTROL - PER PLAN
- 2 IRRIGATION VALVE BOX: HEAT STAMP
LID WITH 'RCV' IN 2" LETTERS
- 3 WATERPROOF CONNECTORS (2)
- 4 18"-24" COILED WIRE TO CONTROLLER
- 5 FINISH GRADE AT ADJACENT
SURFACE (TURF OR MULCH)
- 6 SCH. 80 CLOSE NIPPLE, SIZE PER RCV
- 7 PVC SLIP (OR FPT) X FPT UNION
- 8 ISOLATION VALVE, LINE SIZE
- 9 BRICK SUPPORTS (4)
- 10 FILTER FABRIC - WRAP TWICE
AROUND BRICK SUPPORTS
- 11 3/4" WASHED GRAVEL - 4" MIN. DEPTH
- 12 IRRIGATION LATERAL
- 13 MAINLINE AND FITTINGS



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Todd W. Bonnett, RLA FL #LA1718

606 SPORTS TRAINING

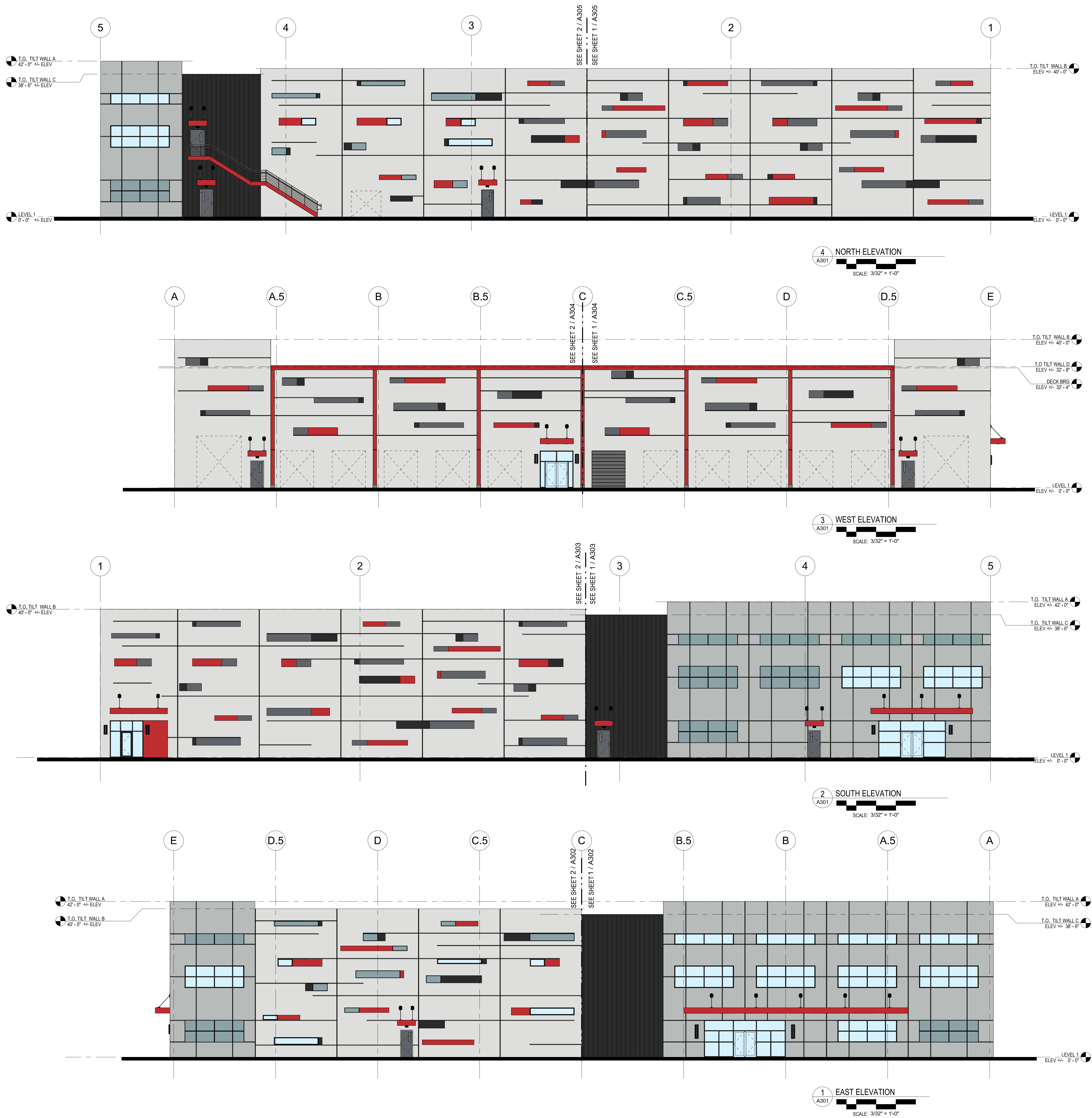
606 OCOEE APOPKA ROAD, OCOEE, FLORIDA

IRRIGATION DETAILS & NOTES

revision	description	date
△	Agency Comments	0618.24
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drawn by: LAE
checked by: TWB
date: 05.10.24
plot scale: AS SHOWN
project number: 23ROMA001
file name: 2022.159.1_KW_606
SPORTS_IRBASE.DWG

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GENERAL NOTES

- ALL DIMENSIONS ARE FROM FACE OF STUD, OR FACE OF TILT-UP PANEL. ANY DIMENSIONS ALL DIMENSIONS ARE FROM FACE OF STUD, OR FACE OF TILT-UP PANEL. ANY DIMENSIONS NOT SHOWN OR DEEMED QUESTIONABLE ARE TO BE VERIFIED BY ARCHITECT. DO NOT SCALE DRAWINGS.
- PROVIDE WOOD BLOCKING SUPPORTS AS REQUIRED FOR ALL SURFACE MOUNTED ITEMS.
- COORDINATE WORK OF THIS TRADE WITH OTHER TRADES.
- NEW DOOR AND FRAME NUMBERS CORRESPOND TO ROOM NUMBERS, WHERE MORE THAN ONE DOOR OCCURS IN A ROOM. 'A' SUFFIX HAS BEEN ADDED (I.E. 100A). SEE DIVISION 500 DRAWINGS FOR DOOR SCHEDULE.
- PROVIDE MISCELLANEOUS METAL SUPPORT FOR ALL CEILING SUSPENDED ITEMS.
- APPLY SEALANT AT ALL JUNCTURES BETWEEN DIFFERENT MATERIALS (I.E. STOREFRONT AND TILT-UP PANELS).
- APPLY SEALANT AT ALL PLUMBING FIXTURES AT JUNCTURE WITH WALL.
- ALL STEEL STUDS ARE TO BE BRACED ACCORDING TO MANUFACTURER'S LIMITING HEIGHT LOAD.
- COORDINATE LOCATION OF ADDITIONAL OPENINGS IN TILT-UP CONCRETE WALL WITH MECHANICAL & ELECTRICAL CONTRACTORS.
- ALL DOORS MUST BE INSTALLED WITH AT LEAST THE MINIMUM MANEUVERING CLEARANCE AT THE DOOR APPROACH PER THE MOST CURRENT AMERICANS WITH DISABILITIES ACT AND FLORIDA BUILDING CODE.
- PROVIDE TAPERED INSULATION CRICKETS AS REQUIRED AT ALL ROOF MOUNTED ITEMS & MISS. PENETRATIONS TO ACHIEVE POSITIVE DRAINAGE.
- MECHANICAL RTU LOCATED ON THE ROOF WILL NOT BE VISIBLE FROM THE STREET. IN CASE IT BECOMES VISIBLE, MANUF. SCREENING WILL BE INSTALLED, PER MANUF. STANDARDS.
- PROVIDE (1) COAT ASHFORD FORMULA CONCRETE SEALER ON ALL WAREHOUSE FLOORINGS.
- TILT CONTRACTOR SHALL GLUE DOWN ALL REVEAL FORMWORK.
- PROVIDE 3/4" DEEP REVEAL ON INTERIOR OF TILT PANEL @ K.O. LOCATIONS.
- PROVIDE CAULKING (INTERIOR AND EXTERIOR) SEALANT AT ALL VERTICAL TILT-UP PANEL JOINTS WITH URETHANE CAULK.
- INSTALL PLASTIC LIFT COVERS ON ALL TILT PANEL WALLS.
- EXTERIOR LIGHTING COLOR TO BE DETERMINED BY OWNER/ARCHITECT.
- PROVIDE 15 MIL VAPOR BARRIER ON TREATED COMPACTED SUBGRADE UNDER ENTIRE CONCRETE SLAB. SEE STRUCTURAL FOR MORE INFORMATION.
- PROVIDE AND INSTALL PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY NFPA 10. FIRE EXTINGUISHERS SHOWN IN ASSUMED LOCATIONS. CONTRACTOR TO COORDINATE NUMBER, TYPE & LOCATIONS REQUIRED PER CODE AND CONFIRM WITH LOCAL FIRE MARSHALL.
- PROVIDE SEALED PENETRATIONS INTO BUILDING FOR CABLE, TV, & TELEPHONE. COORDINATE WITH OWNER.
- COORDINATE THE ELEVATOR ROOM DIMENSIONS AND REQUIREMENTS WITH THE ELEVATOR MANUFACTURER.
- GC TO COORDINATE ALL UNDERGROUND UTILITIES CONDUITS WITH THE APPROVED FIXTURES PLAN.

PLAN NOTES

- NEW COLUMN MOUNTED OR WALL MOUNTED FIRE EXTINGUISHER. MOUNT TOP AT +54" A.F.F. FIRE EXTINGUISHER TO HAVE MIN. RATING OF 4A20BCA FOR EVERY 3000SQ.FT. OF FLOOR AREA. TRAVEL DISTANCE TO AN EXTINGUISHER SHALL NOT EXCEED 75 FEET. ALL EXTINGUISHERS SHALL BE CONSPICUOUSLY LOCATED AND READILY ACCESSIBLE. THE TOP OF THE EXTINGUISHER SHALL NOT BE MORE THAN 5 FEET ABOVE THE FLOOR AND THE BOTTOM OF THE EXTINGUISHER SHALL NOT BE LESS THAN 4 INCHES ABOVE THE FLOOR.
- TAPERED INSULATION CRICKET TO ACHIEVE POSITIVE DRAINAGE.
- PRE-ENGINEERED PREFINISHED ALUMINUM CANOPY. PEACHTREE PROTECTIVE COVERS REAL RED COLOR SW 6888.
- DOWNSPOUT LOCATION - 12"x12" PREFABRICATED AND PREFINISHED KYNAR METAL. SEE 5/A203 FOR MORE INFORMATION. ALL DOWNSPOUTS TO CONNECT TO STORM; SEE CIVIL DRAWINGS AND DETAIL 4/A203.
- FIRE DEPARTMENT ACCESS KEY LOCK BOX LOCATION. RECESS IN TILT AT 8'-0" A.F.F. COORDINATE LOCATION IN FIELD.
- CONCRETE FILLED PAINTED PIPE BOLLARD 4'-0" TALL W/ ROUNDED CAP. LOCATE AT FIRE RISERS, DUMPSTER ENCLOSURE AND ELECTRICAL EQUIPMENT LOCATIONS. SEE 9/A100.
- 2'X2' MAINTENANCE WALKWAY PAD. PROVIDE AT ALL ROOFTOP EQUIPMENT LOCATIONS. SEE 2/A203 FOR MORE INFORMATION.
- 42" HIGH (48" AT TRAIL) 1 1/2" DIA. GALVANIZED PAINTED RAILING SYSTEM.
- R-25 POLYISOCYANURATE ROOF INSULATION.
- EXTERIOR WALL SCONCE; TOP OF SCONCE TO ALIGN WITH TOP OF DOOR FRAME; SEE ELECTRICAL DRAWINGS.
- WALL PACK LIGHT. SEE ELECTRICAL DRAWINGS.
- CAGED ACCESS LADDER WITH LOCKABLE GATE - GALVANIZED. SEE STRUCTURAL DRAWINGS. VERTICAL LADDER W/ 1/2" X 2 1/2" FLAT BAR RAILS 18" APART W/ 3/4" NON-SLIP RUNGS AT 12" O.C. AT LEAST 7" CLEAR FROM THE WALL, ANCHOR WITH 1/2"X2 1/2" L-SHAPED FLAT BAR AT 5'-0" O.C. MAX.
- TILT-UP CONCRETE REVEAL - 2 1/4" X 3/4" DEEP. SEE 4/A403 FOR DETAIL.
- BLACK ALUMINUM STOREFRONT.
- CLERESTORY WINDOW, BLACK ALUMINUM STOREFRONT.
- 13"x12" PREFABRICATED AND PREFINISHED METAL GUTTER - SLOPE 1/8" PER FOOT.
- ESTIMATED LOCATION FOR FUTURE PLUMBING FIXTURES.
- ROOF HATCH. SEE 11/A203 AND STRUCTURAL DRAWINGS FOR MORE INFORMATION.

PAINT SCHEDULE

- NOTES:
- ALL GUTTERS, DOWNSPOUTS AND DOWNSPOUT GUARDS TO BE PREFINISHED KYNAR. COLOR TO MATCH REAL RED.
 - PAIN ALL BOLLARDS AND GUARDS SAFETY YELLOW.
 - IF THE DECK IS WELDED DOWN, ALL WELD MARKS ON DECK MUST BE TOUCHED UP WITH PAINT.
 - DIRECT METAL PRIMER TO BE USED ON ALL GALVANIZED METAL.
 - PAIN FIRE RISERS RED.
 - CONTRACTOR TO PROVIDE A MOCKUP OF THE PROPOSED COLOR SCHEME ON ONE FULL TILT PANEL FOR OWNER REVIEW PRIOR TO ORDERING ADDITIONAL PAINT.
 - PROVIDE TINTED PRIMER FOR ALL TEXTURED COATING APPLICATIONS.
 - PAIN ALL RM DOOR AND FRAMES WEB GRAY U.O.N.
 - PAIN INTERIOR COLUMNS SAFETY YELLOW TO 10' AFF AND GRAY TO BOTTOM OF JOIST.
 - INTERIOR AND EXTERIOR METAL PERSONNEL DOORS/FRAMES, METAL PROTECTOR ANGLES, METAL STAIRS, BOLLARDS ETC. TO RECEIVE A (2) COAT COMMERCIAL GLOSS SYSTEM.
 - PAIN INTERIOR FACE OF TILT-UP CONCRETE WALLS LIGHT GRAY WITH (2) COAT SYSTEM.
 - PAIN TILT-UP CONCRETE WALLS BEHIND FAKE WINDOWS.

- | | | | |
|-----|--|-----------------------|---|
| XP1 | FIELD COLOR - SCOTT SYSTEM #160 ROCKY MOUNTAIN FLAGSTONE
SHERWIN WILLIAMS SW7683 MONORAL SILVER | INDICATES AREA OF XP1 | INDICATES AREA OF XP3 |
| XP2 | FIELD COLOR - TEXCOTE
SHERWIN WILLIAMS SW7063 NEBULOUS WHITE | INDICATES AREA OF XP2 | INDICATES AREA OF XP4 |
| XP3 | ACCENT COLOR - SCOTT SYSTEM #152 GRAVE STAKE
SHERWIN WILLIAMS SW6258 TRICORN BLACK-HIGH GLOSS | INDICATES AREA OF XP5 | INDICATES FORMLINER
SCOTT SYSTEM
#152 GRAVE STAKE |
| XP4 | ACCENT COLOR - SMOOTH FINISH
SHERWIN WILLIAMS SW6258 TRICORN BLACK | INDICATES AREA OF XP6 | |
| XP5 | ACCENT COLOR - SMOOTH FINISH
SHERWIN WILLIAMS SW6868 REAL RED | | |
| XP6 | ACCENT COLOR - SMOOTH FINISH
SHERWIN WILLIAMS SW7075 WEB GRAY | | |

GLASS SCHEDULE

- STOREFRONT SYSTEM TO BE YES 45 TU OR APPROVED EQUAL.
ALL GLASS TO BE TYPE 'A' UNLESS NOTED OTHERWISE. SEE A501 AND A502
- TYPE 'A' 1" UNIT - 1/4" PPG SOLARBAN 70 ON OPTIGRAY LOW-E #2 GLASS OVER 1/4" CLEAR
- TYPE 'B' 1" UNIT - 1/4" TEMPERED PPG SOLARBAN 70 ON OPTIGRAY LOW E#2 GLASS OVER 1/4" TEMPERED CLEAR
- TYPE 'C' 1" UNIT - 1/4" VITRO SOLARBAN 70 ON SOLAR GRAY LOW E#2 GLASS OVER SPANDREL GRAY FRIT (4) ON 1/4" CLEAR.
- PROVIDE THERMALLY IMPROVED MULLION SYSTEM FOR ALL STOREFRONT FRAMING
- T= TEMPERED LOCATION
- ALL STOREFRONT FRAMING TO BE BLACK.

Owner:



Revisions:

Scale:	AS NOTED	Date:	Drawn By:	MS	Checked By:	JAG
		04/02/2024				

Scale: 3/32" = 1'-0"

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OCCEE SPORTS FACILITY

NEW CONSTRUCTION-SHELL BUILDING

606 OCCEE APOPKA ROAD

OCCEE, FLORIDA

OVERALL EXTERIOR ELEVATIONS

Certified By:



Electronic Signature:

JAMES GARRI
TANI
Digitally signed by JAMES GARRI
TANI
Date: 2024.06.21
14:33:23 -04'

This drawing has been electronically signed and sealed on this date shown in this seal, using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Drawing Number:

A301

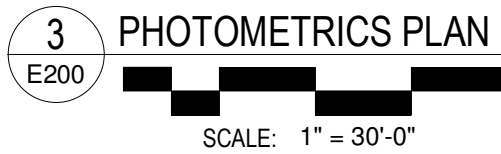
Client Project Number:

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A/E Job Number:

23186

Landreth Lighting Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	1.49	2.6	0.6	2.48	4.33
Property Line	Illuminance	Fc	0.21	1.0	0.0	N.A.	N.A.



CONTRACTOR SHALL HIRE AN APPROVED INDEPENDENT PARTY TO PROVIDE CERTIFIED DOCUMENTATION TO THE AHJ THAT PROVES THE INSTALLED LIGHTING MEETS THE PERMIT APPROVE PHOTOMETRIC PLAN AND AHJ'S LIGHTING ORDINANCES.



Introduction
The WPX LED wall packs are energy-efficient, cost-effective, and aesthetically appealing solutions for both HID wall pack replacements and new construction opportunities. Available in three sizes, the WPX family delivers 1,550 to 9,200 lumens with a wide, uniform distribution.

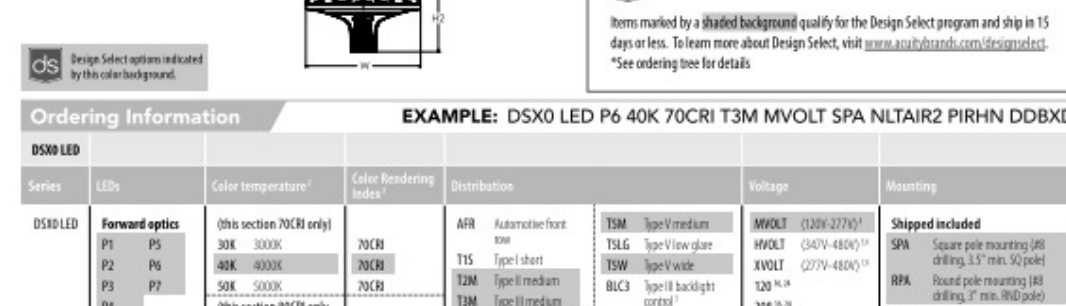
NOTES

1. All WFX LED strips come with 44V surge protection standard, except WFX3 LED P1 package which comes with 25KV surge protection standard. Add SP06KV option to get WFX3 LED P1 with 44V surge protection.
2. Sample nonstandard: WFXP1 LED P1 40W, M002 SP06KV 200000
3. Battery pack options only available on WFX3 and WFX2.
4. Battery pack options not available with 347V or P1C options.

INSTALLATION

WFX can be mounted directly over a standard electrical junction box. Please 1/2 inch conduit ports on three sides allow for surface conduit wiring. A port on the back surface allows for through conduit wiring for surfaces that don't have an electrical junction box. Wiring can be made in the same vertical compartment as all other WFX. A rack recommended for installations with LED

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C.

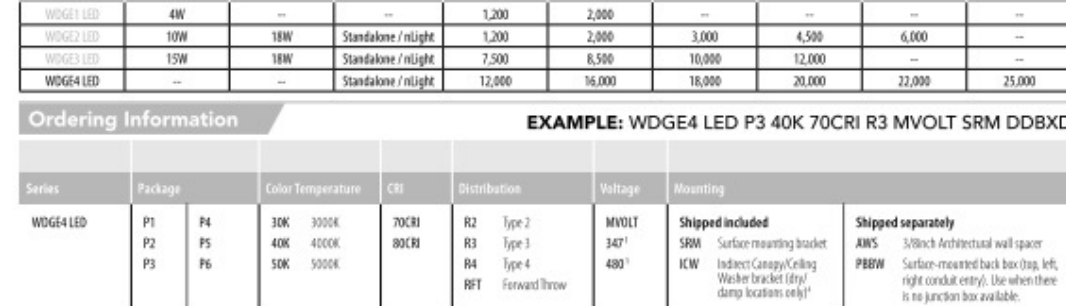


Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficiency, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

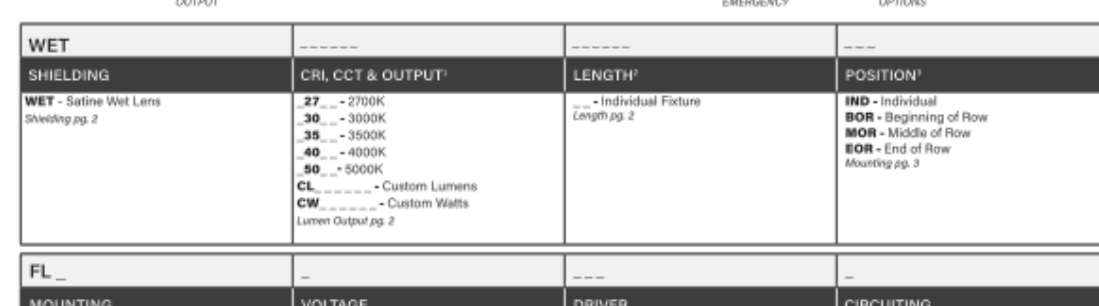
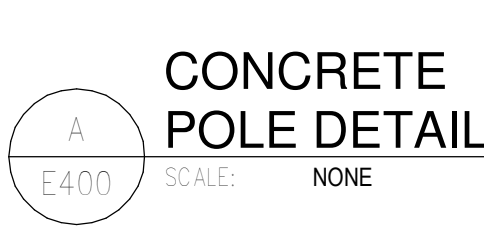
Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.aiaaibooks.com/designselect.

[illegible][illegible]

Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectangular design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with eLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE has been designed to deliver up to 25,000 lumens through a precision refractive lens with wide distribution, perfect for augmenting the lighting from pole mounted luminaires.

[illegible][illegible][illegible]

1. CALCULATIONS ARE IN FOOT-CANDLES.
2. THE POSITION OF LUMINAIRES MUST BE INSTALLED WHERE SHOWN TO GIVE OPTIMAL LIGHT LEVELS, ACCORDING TO THE LIGHTING ORDINANCES OF THE AUTHORITY HAVING JURISDICTION (AHS) AND ALL CURRENT CODES.
3. THIS PHOTOMETRIC IS PROVIDED FOR THE LIGHT FIXTURES NOTED IN THE LIGHTING FIXTURE SCHEDULE ONLY.
4. ANY CHANGES IN FIXTURES OR SUBSTITUTIONS MUST HAVE QUALITY, EFFECTIVE AND NOMINAL LUMEN OUTPUT, LIGHT QUALITY, ETC., AND MEET THE DESIGN INTENT SHOWN.
5. ANY CHANGES WILL REQUIRE A NEW PHOTOMETRIC. CHANGES NOT REQUIRED TO MEET PERMIT COMMENTS WILL CARRY AN ADDITIONAL DESIGN FEE.
6. A NEW PHOTOMETRIC MUST BE SUPPLIED WITH ALL REVISIONS. CHANGES NOT REQUIRED TO MEET PERMIT COMMENTS WILL CARRY AN ADDITIONAL DESIGN FEE.
7. ALL SUBSTITUTIONS MUST BE SUBMITTED TO THE ENGINEER 10 BUSINESS DAYS PRIOR TO BID DOWNGRADING WITH A PHOTOMETRIC PLAN THAT MEETS THE AHS LIGHTING ORDINANCES AND ALL CURRENT CODES. THE SUBSTITUTION MUST HAVE THE OWNERS' WRITTEN APPROVAL.
8. THIS PHOTOMETRIC WAS CALCULATED USING A CIVIL BASE FILED DATE 01/10/2024. THERE IS A REVISION TO THE CIVIL DRAWINGS THAT AFFECTS THE LIGHTING LAYOUT, A NEW PHOTOMETRIC MUST BE SUPPLIED.
9. THERE WILL BE AN ADDITIONAL FEE CHARGED TO REVERT ALTERNATIVE FIXTURES THAT DO NOT MEET THE WRITTEN APPROVAL. CONTRACTOR MUST PROVIDE WRITTEN CERTIFICATION AND UPDATED PHOTOMETRIC SHOWING THAT THE LIGHT FIXTURE SUBSTITUTIONS WILL PRODUCE NEAR IDENTICAL PHOTOMETRIC VALUES, CALCULATION AND MEET THE AHS LIGHTING ORDINANCES AND ALL CURRENT CODES.
10. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT MEETING THESE CRITERIA.

CONTRACTOR SHALL HIRE AN APPROVED INDEPENDENT PARTY, OR THE LIGHTING FIXTURE MANUFACTURER, TO PROVIDE CERTIFIED DOCUMENTATION TO THE AUTHORITY HAVING JURISDICTION OVER THE PROJECT. THE CERTIFIED DOCUMENTATION SHALL INCLUDE A PHOTOGRAPHIC PLAN AND AHS'S LIGHTING ORDINANCES, WHEN ALLOWED BY THE AHS. CONTRACTOR MAY SELF-PERFORM THE CERTIFICATION TESTING AND PROVIDE THE CERTIFIED DOCUMENTATION TO THE AUTHORITY HAVING JURISDICTION. DESCRIBE THE REQUIRED PROCEDURE TO BE COMPLETED BY THE LIGHTING MANUFACTURER'S REPRESENTATIVE OR THE APPROVED INDEPENDENT PARTY.

CONFIRM THAT THE TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED TO TURN THE LIGHTS ON AND OFF.

CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS FOR PHOTOSENSOR CONTROL REDUCE ELECTRIC LIGHT BASED ON THE AMOUNT OF USABLE DAYLIGHT IN THE SPACE, AS SPECIFIED.

FURNISH ALL LABOR AND MATERIAL REQUIRED FOR A COMPLETE LIGHTING CONTROL SYSTEM. THE CONTRACTOR, ON THE DRAWINGS AND SPECIFICATIONS, CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER AND PROVIDE ANY AND ALL SERVICE HOURS BY THE MANUFACTURER'S SERVICE REPRESENTATIVE IN ORDER TO PROGRAM THE LIGHTING CONTROL PANEL AND THE PHOTOCELL OR PHOTOSENSOR. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF ASHRAE 90-2016, CHAPTER 9, SECTION 9.4.1.4.

5. CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR BUSINESS HOURS AND SCHEDULING TIME CLOCK CONTROL. IN THE ASTRONOMICAL TIME CLOCK SCHEDULER, TIME CLOCK CONTROLLED TO LIGHTING SHALL TURN OFF ONE HOUR AFTER THE CLOSE OF BUSINESS. TO LIGHTING SHALL REMAIN OFF UNTIL THE BUSINESS REOPENS IN THE MORNING. PHOTOCELLS OR PHOTOSENSORS THAT SWITCHES AT LIGHT OFF IN THE MORNING.

6. PHOTOCELL CONTROLLED PHOTO LIGHTING SHALL TURN ON AND OFF BASED ON THE AUTOMATIC LIGHT SENSOR SWITCH (PHOTOCELL) INCLUDE A TIME DELAY FEATURE PROGRAMMED INTO THE PHOTOCELL OR THE LIGHTING CONTROL PANEL TO PREVENT INTERMITTENT SWITCHING. PHOTOCELL SHALL BE CONDUIT POOL MOUNTED FROM THE EXTERIOR OF THE BUILDING, BACK FACING NORTH, OR WALL MOUNTED AS SHOWN ON THE INDIVIDUAL BUILDING PLANS.

REFER TO ASHRAE STANDARD 90.1, CHAPTER 9, SECTION 9.4.3 FUNCTION TESTING FOR ADDITIONAL TESTS, CALIBRATIONS, ADJUSTMENTS, PROGRAMMING, ETC. REQUIRED BY THE CODE. PROVIDE ALL TESTING AND ADJUSTMENT OF SETTINGS FOR AUTOMATIC TIME SWITCH AND PHOTOCELLS, AS DESCRIBED IN THIS SECTION. PROVIDE FOOD DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA.

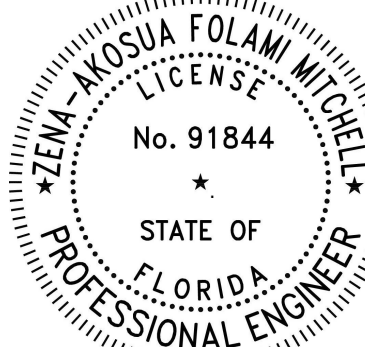
THE ENGINEER OF RECORD SHALL REVIEW THE CERTIFIED DOCUMENTATION FROM THE APPROVED INDEPENDENT PARTY, OR THE LIGHTING FIXTURE MANUFACTURER, PRIOR TO SUBMISSION TO THE AUTHORITY HAVING JURISDICTION. THE ENGINEER OF RECORD SHALL NOT PERFORM THE CERTIFICATION TESTING.

1. REFER TO WIND RATING REQUIREMENTS ON THE STRUCTURAL DRAWINGS FOR SPECIFIC REQUIREMENTS. WHERE STRUCTURAL DRAWINGS ARE NOT PROVIDED, WIND RATINGS SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, CHAPTER 6, BASE ANCHOR BOLT AND LIGHT FIXTURE ASSEMBLY SHALL BE CERTIFIED BY THE MANUFACTURER FOR THE WIND RATING. WHERE REQUIRED FOR PERMITTING, THE CONTRACTOR SHALL ACQUIRE THE SERVICE OF A REGISTERED PROFESSIONAL ENGINEER TO DESIGN, CALCULATE, PROVIDE SIGNED AND SEALED CALCULATIONS AND DRAWINGS CERTIFYING THE POLE/MOUNT LIGHT FIXTURE DESIGN AND/OR MODIFYING THE DETAIL AS REQUIRED TO MEET THE REQUIRED WIND RATINGS PER THE FLORIDA BUILDING CODE.
2. INSTALL SITE LIGHTING AS INDICATED, IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS, APPLICABLE REQUIREMENTS OF NEC STANDARDS, APPLICABLE REQUIREMENTS OF STATE, COUNTY AND LOCAL CODES, AND WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE SITE LIGHTING FULFILLS ALL REQUIREMENTS.
3. COMPLY WITH NEC ARTICLE 300.5 FOR RACEWAY BURIAL DEPTH. REFER TO BELOW GRADE RAYWAY DEPTH FOR ADDITIONAL RACEWAY BURIAL DEPTH REQUIREMENTS.
4. LIGHT FIXTURES AND ASSOCIATED WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 410. POLE SUPPORTING LUMINAIRE SHALL COMPLY WITH NEC ARTICLE 410.30(B).
5. PROVIDE IN-GROUND JUNCTION BOX SET AT EACH POLE EXCEPT THE LAST POLE IN A RUN. PROVIDE QUARTZITE BOX AT PG1118BA(TOP1118)H900 OR APPROVED EQUIV. FOR IN-GROUND APPLICATIONS. TOP SHALL BE FLUSH WITH FINISHED GRADE.
6. PROVIDE SUFFICIENT SPACE ENCOMPASSING HAND ACCESS AND CABLE ENTRANCE HOLES FOR INSTALLATION OF UNDERGROUND CABLEING.
7. PROVIDE BUMPS/HAND FUSEHOLDER (LITTLEFUSE-LEB-X3) WITH "BREAKAWAY" RECEPTABLES IN ALL CONDUCTORS RUNNING TO THE TOP OF EACH POLE. PROVIDE FLARE HOLES AT HAND HOLE OR IN BASE JUNCTION BOX AS APPLICABLE. PROVIDE KTK FUSERS IN EACH PHASE CONDUCTOR, SIZED 1.5 TIMES MAXIMUM FULL LOAD CURRENT OF BALLASTS SERVED BY EACH CONDUCTOR, NOT EXCEED RATING OF CIRCUIT OVERCURRENT PROTECTIVE DEVICE. PROVIDE FUSERS IN EACH PHASE CONDUCTOR, MAKE UP ALL OTHER SPICES IN POLE OR POLE BASE USING SCOTCHCAST 400 RESIN FOR WATER/TEGHT CONNECTION.
8. VOLTAGE DROP HAS BEEN CALCULATED FOR WIRING ARRANGEMENTS AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SIZING CONDUCTORS TO PROVIDE SUFFICIENT PULL AND VOLTAGE DROP. REFER TO THE DRAWINGS, LISTING, VOLTAGE DROP TO 3% AT THE FARTHEST FIXTURE.
9. ALL POLE MOUNTED LIGHT FIXTURE OPTICS SHALL BE FIELD ROTATABLE. ORIENT OPTICS AS DESIGNATED BY ARROWS ON THE SITE LIGHTING PLAN.
10. PROVIDE EQUIPMENT GROUNDING CONNECTIONS FOR EACH POLE MOUNT LIGHT FIXTURE INSTALLATION. ALL GROUNDING SHOWN SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
11. ALL HARDWARE (E.G. WASHERS, NUTS, ETC.) SHALL BE STAINLESS STEEL.
12. PROVIDE HOUSE SIDE SHEETS NARER THAN PROPERTY BOUNDARIES. ALL LIGHT FIXTURES SHALL BE FULL CUTOFF. REFLECTOR LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL DETAILS AND REQUIREMENTS.

THIS DRAWING HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY ZENA-AKOSU
F. MITCHELL ON THE DATE SHOWN IN THE SEAL, USING A DIGITAL SIGNATURE.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Scale:	AS INDICATED
Date:	04/02/ 2024
Drawn By:	ZFM
Checked By:	DDI

COEE SPORTS FACILITY
TENANT INTERIOR BUILD-OUT
606 OCOEE APOPKA ROAD
PHOTOMETRIC PLAN



Drawing Number:

E200
Of Sheets

Job Number:

A/E Job Number:

23186

THIS DOCUMENT PREPARED BY:

Richard S. Geller, Esq.
FISHBACK DOMINICK, LLP.
1947 Lee Road
Winter Park, FL 32789

AND RETURN TO:

City Clerk
CITY OF OCOEE
1 N Bluford Avenue
Ocoee, FL 34761

**DEVELOPMENT AGREEMENT
(606 Sports Training)**

This DEVELOPMENT AGREEMENT (the “**Agreement**”) is made and entered into this ____ day of _____, 2024 (“**Effective Date**”), by and between the CITY OF OCOEE, a Florida municipal organization, whose mailing address is 1 N Bluford Avenue, Ocoee, Florida 34761, (“**City**”), and COTTON GOODMAN PROPERTIES LLC, a Florida limited liability company with an address of 1850 Parkway Place Ste 500 Marietta, Georgia 30067 (the “**Developer**”). The City and the Developer are sometimes collectively referred to herein as the “**Parties**” and individually as a “**Party**.”

WITNESSETH:

WHEREAS, the Developer has purchased certain property located in the City of Ocoee, Orange County, Florida legally described in **Exhibit “A”** attached hereto and expressly incorporated herein by this reference (“**Property**”);

WHEREAS, the Property is commonly known as 606 Ocoee Apopka Sports Training Facility project (the “**Project**”), and the Developer obtained approval of a “**Preliminary Site Plan**” for the Property (“**Site Plan Approval**”) on November 7, 2023; and

WHEREAS, the provisions of Section 4-5B(5) of Article IV of the Ocoee Land Development Code (the “**Code**”) requires that the Owner and the City enter into a development agreement incorporating all plans and conditions of approval by reference; and

WHEREAS, the City confirms that this Agreement is consistent with and an exercise of the City’s powers under the Municipal Home Rule Powers Act; Article VII, Section 2(b) of the Constitution of the State of Florida; Chapter 166, Florida Statutes; all City Rules; other controlling law; and the City’s police powers, and is a non-statutory development agreement which is not subject to or enacted pursuant to the provisions of Section 163.3220-163.3243, *Florida Statutes*.

NOW, THEREFORE, for and in consideration of the mutual obligations contained herein and the sum of ten dollars (\$10.00) and other good and valuable consideration the sufficiency of which is hereby conclusively acknowledged the Parties agree as follows:

AGREEMENT

1. **Recitals.** The Recitals contained above are true and correct and are incorporated in this Agreement in full as if set forth herein.

2. **Project Information.**

- a. The 606 Ocoee Apopka Sports Training Center is a proposed 52,800 SF one-story building that will be utilized as a commercial recreation facility providing athletic training. The building will be constructed as a grade height tilt wall building (see architectural renderings) with an adjacent 240x180 turf area providing the opportunity to provide multiple training opportunities at one location. The plan will provide for 192 parking spaces and a stormwater retention pond will be located on the west side of the parcel. The Project is anticipated to be developed in two (2) phases.
- b. The Project is located with the SR 429 Overlay District Business Center Character Area.
- c. The current zoning on the Property is I-1 (Light Industrial) and contains approximately 5.185 acres of developable land.
- d. The Developer will construct a 12-foot-wide trail along the west side of Ocoee Apopka Road and dedicate the trail to the City.
- e. The Final Site Plan approval and Site Permit issuance is predicated on the development to the south, bringing the sewer to the property, and constructing the new east / west road, which is the site's only access. If such infrastructure is not in place or revisions are made, the Final Site plan and Site permit will be affected by this project.

3. **Development Approvals.** Nothing herein will be construed to grant or waive on behalf of the City any development approvals that may be required in connection with the Site Plan Approval or Developer's development of the Property. Notwithstanding this Agreement, the Developer must comply with all applicable procedures and standards related to the development of the Property.

4. **Compliance with Code and Approved Plans.** It is agreed that (1) the Owner shall comply with the zoning and subdivision regulations of the City as set forth in the Ocoee Land Development Code, as it may from time to time be amended, and (2) all preliminary subdivision plans, final subdivision plans, and final site plans for the Property or any portion thereof shall conform to the Ocoee Land Development Code requirements in effect at the time of approval of any such plans. In the event of any conflict between the provisions of the Ocoee Land Development Code, as it may from time to time be amended, and this Agreement, it is agreed that the provisions of this Agreement shall control.

5. **Water and Sewer; Utilities.** Developer shall construct on-site utilities necessary to service the Project in accordance with the "**Utility Plan**" as described on the Preliminary Site Plan. Developer shall grant to the City the utility easements necessary to facilitate the development of the Project.

6. **Preliminary Site Plan.** The Developer will strictly confirm to the approved Preliminary Site Plan in all respects.

7. **ROW Dedication.** Developer shall dedicate to City via warranty deed, the real property set forth on **Exhibit “B”** attached and incorporated into this Agreement by reference (the “**ROW Parcel**”) as well as a minimum of ten (10) feet along the full length of the west side of the Property. If the Developer desires to incorporate additional land into its development, an amendment to this Agreement will be required in which Developer will dedicate additional land along Pine Street if applicable to such new parcel.

8. **Unity of Title.** The Developer will record a unity of title with the contiguous parcel to the East owned by Developer (the “**East Parcel**”). The East Parcel currently has a single-family home located on it and as a condition to receipt of a certificate of occupancy for any portion of the Property, Developer will demolish the home and remove all debris.

9. **Covenants Running with the Land/Assignment.** The terms, provisions, covenants, conditions and restrictions set forth in this Agreement and the rights, privileges and benefits and duties, obligations and burdens assigned, granted, imposed and created pursuant to this Agreement shall and are hereby declared to be covenants running with the title to the Property. This Agreement shall legally benefit and bind the Developer and its respective successors and assigns.

10. **Force Majeure.** Except as otherwise expressly set forth in this Agreement, if either Party’s performance of any act (other than the payment of money) required hereunder is impractical, impossible, delayed, hindered, or prevented by reason of strikes, lock-outs, labor troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, pandemic or epidemic health occurrences as declared by applicable governmental or world health organizations, health events resulting in government mandated quarantine, shelter-in-place, travel restrictions, government office shut-down and/or moratoria, or other government-directed cessation of business related to pandemic or epidemic health occurrences, riots, terrorist acts, insurrection, adverse weather conditions, war or other reasons of a like nature not the fault of the Party delayed in performing work or doing acts required under the terms of this Agreement (all of such reasons or causes referred to in this Agreement as “force majeure”), then performance of such acts shall be excused for the period of the delay, and the period within which the performance of such act may be required hereunder shall be extended by a period equivalent to the period of such delay plus thirty (30) days. In any case where work is to be paid for out of insurance proceeds or condemnation awards or other similar such proceeds, due allowance, not to exceed ninety (90) days in the aggregate, shall be made, both to the Party required to perform such work and to the Party required to make such payment, for delays in the collection of such proceeds and award.

11. **Legal Proceedings, Attorneys’ Fees.** In the event that either Party shall institute litigation or other legal proceedings against the other to interpret or enforce any term, provision, warranty, covenant or condition set forth in this Agreement, the prevailing Party in such litigation or other legal proceedings following all appeals therefrom, if any, shall be entitled to recover from the non-prevailing Party in such litigation or other legal proceedings reasonable attorneys’, paralegals’, and experts’ fees and expenses and court costs incidental thereto, including those incurred on any bankruptcy proceeding and/or appeal of a lower court decision.

12. **Notices.**

- a. All notices provided for in this Agreement shall be in writing and delivered to the addresses below:

City: City of Ocoee
Attention: City Manager
1 N Bluford Avenue
Ocoee, Florida 34761
Email: Craig.Shadrix@ocoe.org

With a copy to: Fishback Dominick, LLP
Attn: Richard S. Geller, City Attorney
1947 Lee Road
Winter Park, FL 32789
Telephone: 407-581-9800
Email: rgeller@fishbacklaw.com
Telephone: 407-262-8400

Developer:

With a copy to:

- b. Any notice, request, demand, instruction or other communication to be given to either Party hereunder, shall be in writing and shall be hand-delivered, sent by Federal Express or a comparable overnight mail or delivery service, mailed by U.S. registered or certified mail, return receipt requested, postage prepaid, by electronic mail (email), or transmitted by facsimile or telecopier to the Parties and their listed co-recipients, at their respective addresses and/or facsimile numbers set forth herein. Any notice delivered as aforesaid shall be deemed delivered immediately upon mailing, delivery to an appropriate carrier, or receipt or refusal of delivery of said notice, whichever is earliest. The inability to deliver because of change in address of which no notice is given shall be deemed to be a receipt of the notice, demand and request. The Party claiming delivery of notice via telecopier or facsimile shall have the burden of proving notice was in fact sent, which burden can be carried without further evidence if confirmed by the transmitting telecopier or facsimile machine. Any communication sent by electronic mail, facsimile or telecopier shall promptly be followed by a copy delivered by one of the other approved methods. Receipt shall be deemed to have occurred if delivered to an authorized agent or any employee of the addressee or of the addressee's company. A time period in which a response to any notice, demand or request must be given

pursuant to the terms of the Agreement, shall commence to run from the date of receipt. Any Party may change the address for receiving notices, request, demands, or other communication by not less than three (3) days prior notice in accordance with this Section. Telephone numbers are provided for convenience only. Notice from a Party's attorney shall constitute legal notice hereunder.

- c. City and Developer may from time to time notify the other of changes regarding where and to whom notices should be sent by sending notification of such changes pursuant to this Section.

13. **Miscellaneous Provisions.**

- a. **Entire Agreement.** This Agreement constitutes the complete and entire understanding and agreement between City and Developer concerning or with respect to the topics addressed in this Agreement and supersede any and all prior or contemporaneous covenants, agreements, undertakings, statements, representations or warranties, whether written or oral, of any Party hereto concerning or with respect thereto.
- b. **Relationship of the Parties.** This Agreement does not evidence the creation of, nor shall it be construed as creating a partnership or joint venture between the City and Developer. Developer cannot create an obligation or responsibility on behalf of City or bind City in any manner. Each Party is acting for its own account, and it has made its own independent decisions to enter into this Agreement and as to whether the same is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary. Each Party acknowledges that none of the other Parties hereto is acting as a fiduciary for or as an adviser to it in respect of this Agreement or any responsibility or obligation contemplated herein.
- c. **Agency.** Developer and City, and their agents, contractors and subcontractors, shall perform all activities described in this Agreement as independent entities and not as agents of one another.
- d. **Sovereign Immunity.** Nothing contained in this Agreement shall be construed as a waiver of City's right to sovereign immunity for tort claims under and subject to § 768.28, *Florida Statutes*.
- e. **Captions, Section and Paragraph Headings.** Captions, section and paragraph headings contained in this Agreement are for convenience of reference only and are in no way intended, and shall in no way be deemed, to define, describe, extend or limit the scope, content or intent of this Agreement or of any particular term, provision, section or paragraph hereof.
- f. **Modification, Amendment or Termination.** This Agreement may not be changed, modified, amended or terminated except as expressly set forth in a separate writing signed by both of the Parties to this Agreement or their respective successors in interest or title.

- g. **Recording in Public Records.** Developer shall ensure that this Agreement is recorded among the public records of Orange County, Florida promptly after the execution of the Agreement by all Parties.
- h. **Indemnification.** Developer hereby indemnifies and holds City and its elected and appointed officials, employees and agents harmless from and against any and all claims (at law or in equity), disputes, lawsuits, injuries, damages, attorneys' fees and all adverse matters in any way arising out of or relating to the risks assumed by Developer under this Agreement.
- i. **Default.** Failure by a Party to perform any of its obligations hereunder shall constitute default hereunder, entitling the non-defaulting Party to terminate this Agreement or to pursue the remedies of specific performance, injunctive relief or damages as set forth in this Agreement. Prior to termination of this Agreement, the non-defaulting Party exercising such right shall first provide the defaulting Party with written notice specifying such default and the actions needed to cure same, in reasonable detail. Upon receipt of said notice, the defaulting Party shall be provided thirty (30) day opportunity within which to cure such default.
- j. **Bankruptcy.** In the event (a) an order or decree is entered appointing a receiver for Developer or its assets or (b) a petition is filed by Developer for relief under federal bankruptcy laws or any other similar law or statute of the United States, which action is not dismissed, vacated or discharged within sixty (60) days after the filing thereof, then City shall have the right to terminate immediately this Agreement.
- k. **No Liability or Monetary Remedy.** Notwithstanding anything herein to the contrary, Developer and City, on behalf of themselves, and their respective successors and assigns, hereby agree that neither Party shall be liable to the other for any direct, indirect, special, punitive or consequential damages, including but not limited to, damages based on loss of service, revenues, profits or business opportunities, and hereby waive any and all claims and causes of action for the recovery of such direct, indirect, special, punitive or consequential damages.
- l. **Governing Law; Binding Effect.** This Agreement and the construction, interpretation and enforcement thereof shall be construed in accordance with and governed by the laws of the State of Florida and shall be binding upon, inure to the benefit of and be enforceable by the Parties hereto and their respective successors in interest or title.
- m. **Venue.** The location for settlement of any and all claims, controversies, or disputes, arising out of or relating to any part of this Agreement, or any breach hereof, shall be Orange County, Florida.
- n. **Construction of Agreement.** The fact that any one of the Parties to this Agreement shall have drafted or structured or shall be deemed to have drafted or structured this Agreement or any particular term or provision of this Agreement shall not be

considered by any court or other tribunal in the construction or interpretation of this Agreement or any particular term or provision of this Agreement, either in favor or to the disadvantage of such Party.

- o. **Severability.** If any of the terms, provisions, covenants or conditions set forth in this Agreement or the application thereof to any particular circumstance shall be held by any Court having jurisdiction to be illegal, invalid or unenforceable under applicable law, the remainder of this Agreement shall not be affected thereby and each provision of this Agreement shall be valid and enforceable to the fullest extent otherwise permitted by law.
- p. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be and be taken to be an original, and are collectively but one instrument.
- q. **Time of the Essence.** Time, and timely performance, is of the essence of this Agreement and of the covenants and provisions hereunder. When a date upon which a specified event shall occur or be performed falls upon a weekend or legal holiday, the time allowed for the event or performance to occur shall be extended to 5:00 p.m. on the next succeeding business day. For purposes of this Agreement, a “business day” shall mean any weekday that the banks in the county in which the Property is located are open for business (thereby excluding Saturdays, Sundays and legal holidays).
- r. **Statutory Development Agreement.** This Agreement is not a statutory development agreement pursuant to Chapter 163, Florida Statutes (Florida Local Government Development Agreement Act), and is being entered into by the City pursuant to the City’s home rule authority.

SIGNATURES TO FOLLOW

DEVELOPER:

COTTON GOODMAN PROPERTIES LLC
a Florida limited liability company

By: _____
Name: _____
Title: _____

WITNESS:

Printed Name: _____
Address: _____

Printed Name: _____
Address: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, [insert year], by _____, as _____ of [insert name of developer, type of company], on behalf of the company. He/she appeared by (*check one*) ☐ physical presence or ☐ online notarization, and (*check one*) ☐ is personally known to me or ☐ has produced _____ as identification.

Print Name: _____
Notary Public
My Commission Expires: _____
Commission Number: _____

CITY:

CITY OF OCOEE, FLORIDA

By: _____
Rusty Johnson, Mayor

ATTEST:

Melanie Sibbitt, City Clerk

(SEAL)

APPROVED BY THE CITY OF OCOEE
COMMISSION AT A MEETING HELD ON
_____, 20____
UNDER AGENDA ITEM NO. ____

FOR USE AND RELIANCE ONLY BY
THE CITY OF OCOEE, FLORIDA;
APPROVED AS TO FORM AND
LEGALITY this ____ day of
_____, 20__.

FISHBACK DOMINICK

By: _____
Richard Geller, City Attorney

EXHIBIT "A"

The Property

LEGAL DESCRIPTION:

THE NORTH $\frac{1}{2}$ OF THE NORTHEAST $\frac{1}{4}$ OF THE NORTHEAST $\frac{1}{4}$ E NORTHWEST $\frac{1}{4}$, AND A STRIP ON WEST 23 YARDS ON NORTH END AND 35 YARDS ON SOUTH END, ALL IN SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA.

PARCEL A:

BEGINNING 100 FEET SOUTH OF THE NORTHWEST CORNER OF THE FOLLOWING DESCRIBED PROPERTY: THE NORTH HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA, RUN THENCE SOUTH 100 FEET, THENCE EAST 150 FEET, THENCE NORTH 100 FEET, THENCE WEST 150 FEET TO THE POINT OF BEGINNING.

ALSO

THE SOUTH 100 FEET OF THE NORTH 200 FEET, LESS THE WEST 150 FEET THEREOF, OF THE FOLLOWING DESCRIBED TRACT: THE NORTH HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, LESS A TRACT ACROSS THE WEST END 23 YARDS WIDE AT THE NORTH END AND 35 YARDS WIDE AT THE SOUTH END.

PARCEL B:

THE NORTH 100 FEET OF THE FOLLOWING DESCRIBED PROPERTY: THE NORTH $\frac{1}{2}$ OF THE NORTHWEST $\frac{1}{4}$ OF THE NORTHWEST $\frac{1}{4}$ OF SECTION 18, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA. LESS ROAD RIGHT OF WAY AND LESS THE FOLLOWING: THE EAST END 23 YARDS WIDE AT THE NORTH END AND 35 YARDS AT THE SOUTH END.

EXHIBIT “B”

The ROW Parcel

Sketch and Description

Property Description

A triangular shaped parcel of land being a portion of the North 1/2 of the Northeast 1/4 of the Northeast 1/4 of the Northwest 1/4 of Section 18, Township 22 South, Range 28 East, Orange County, Florida, more particularly described as follows:

COMMENCE at the Northeast corner of the Northwest 1/4 of said Section 18, thence South $88^{\circ}46'37''$ West, along the North line of the Northwest 1/4 of said Section 18, a distance of 30.00 feet to the West right of way line of Ocoee Apopka Road; thence South $00^{\circ}48'01''$ East, along said West right of way line, a distance of 273.12 feet to the POINT OF BEGINNING; thence continue South $00^{\circ}48'01''$ East, along said West right of way line, a distance of 50.00 feet to the South line of the North 1/2 of the Northeast 1/4 of the Northwest 1/4 of Section 18; thence South $88^{\circ}39'35''$ West, along said South line, a distance of 30.00 feet; thence North $30^{\circ}01'12''$ East a distance of 58.55 feet to the POINT OF BEGINNING.

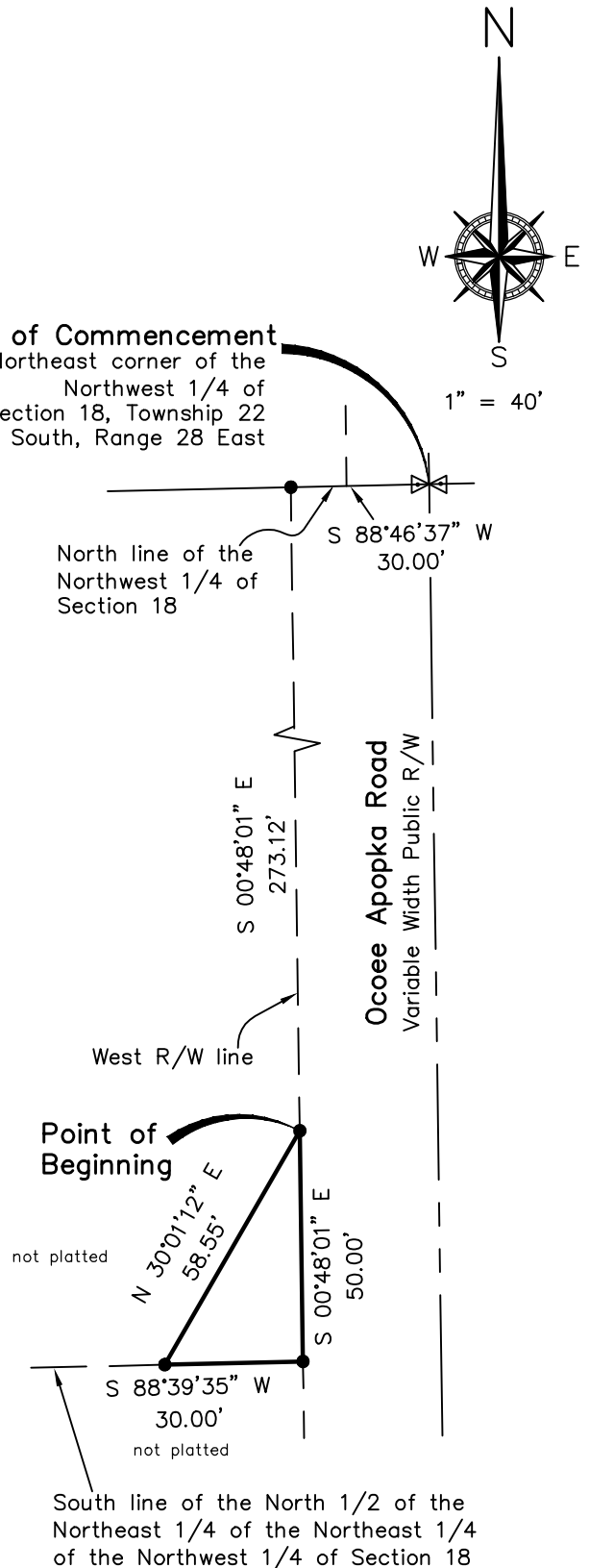
Contains 750 square feet, more or less.

Notes

1. THIS IS NOT A BOUNDARY SURVEY.
2. Bearings shown hereon are based on the North line of the Northwest 1/4 of Section 18, Township 22 South, Range 28 East being assumed as South $88^{\circ}46'37''$ West.
3. This sketch meets the Standard of Practice set forth in Florida Administrative Code Rule 5J-17, pursuant to Florida Statute Chapter 472.
4. Legend and Abbreviations
 - R/W – denotes Right of Way
 - O.R. – denotes Official Records Book
 - P.B. – denotes Plat Book
 - Pg. – denotes Page
 - – denotes change of direction

Point of Commencement

Northeast corner of the Northwest 1/4 of Section 18, Township 22 South, Range 28 East



Sheet 1 of 1



Benchmark Surveying & Mapping, LLC
Certificate of Authorization Number – LB 7874

Post Office Box 771065, Winter Garden, Florida 34777-1065
3110 Red Fox Run, Kissimmee, Florida 34746
(407) 509-9674 – www.benchmarksurveyingandmapping.com

935.34 RW SOD

Project #

5/11/2024

Date

Prepared For: Stonemont Financial Group

Prepared By:

Billy Joe Jenkins, Jr., PSM # 5205
Professional Surveyor and Mapper



Meeting Date: August 20, 2024
Item #: 6

Contact Name: Doug Gaines
Contact Number: Ext. 1503

Department Director: Doug Gaines
City Manager: Craig Shadrix

Subject: Approval of the Scope of Services for the Marketing and Graphics Firms for the City of Ocoee's 100-Year Anniversary. (Acting Support Services Director Gaines)

Background Summary: At the July 16, 2024, Regular City Commission meeting, City Staff provided an overview of events for a yearlong City-sponsored celebration for Ocoee's 100-Year Anniversary as a city. It is necessary to begin the marketing and branding campaign preparations now in order to adhere to the aggressive events schedule. The Commission discussed waiving the procurement policy for a not-to-exceed amount of \$60,000 towards marketing and branding of events and further directed staff to bring back a Scope of Services for the marketing and graphics design firms. The City solicited quotes from several firms. Following a review of the responses, City Staff has determined the responses from both Crabtree Ink Creative and BeatCreative Marketing are the most responsive and have selected to use their services. Additionally, both firms have a history of providing quality services to the City. Crabtree Ink., designed the City's current logo for both the City and CRA, and BeatCreative has a long history of providing marketing for both the Ocoee Music Festival and the State of the City address. All responses are attached.

a) Staff is recommending the City Commission formally approve the waiver to the procurement policy and direct staff to utilize the services of Crabtree Ink Creative for the following services:

- 100-Year Logo for the City of Ocoee
- Style and Campaign Guide
- Celebration Pole Banner Signs
- T-Shirt Design for Celebration
- 100-Year Celebration Collectible Poster

b) Staff is recommending the City Commission formally approve the waiver to the procurement policy and direct staff to utilize the services of BeatCreative Marketing for the following services:

- Social Media and Campaign Development
- Social Media Video & Photoshoot with Community Partnership
- Social Media Campaign On-Going (6 months total)
- Social Media Video & Photoshoot with Community Partnership On-Going (6 months total)

Issue:

Should the Honorable Mayor and City Commissioners a) formally approve the Scope of Services for Crabtree Ink Creative and waive the procurement policy at a cost not-to-exceed \$25,000 for the City of Ocoee's 100-Year Anniversary and b) formally approve the Scope of Services for BeatCreative Marketing and waive the procurement policy at a cost not-to-exceed \$35,000 for the City of Ocoee's 100-Year Anniversary?

Recommendations:

Staff recommends that the Honorable Mayor and City Commissioners a) formally approve the Scope of Services for Crabtree Ink Creative and waive the procurement policy at a cost not-to-exceed \$25,000 for the City of Ocoee's 100-Year Anniversary and b) formally approve the Scope of Services for BeatCreative Marketing and waive the procurement requirements at a cost not-to-exceed \$35,000 for the City of Ocoee's 100-Year Anniversary. Staff also recommends the City Manager be authorized to approve change orders to these purchase orders up to the limit of his purchasing authority and up to the budgeted amount.

Attachments:

1. Scope of Services - Marketing and Social Media FINAL
2. Crabtree Ink Creative
3. Updated- City of Ocoee 100 Year Quote - BeatCreative Marketing

Financial Impacts:

The marketing and graphics firms will have a total not-to-exceed amount of \$60,000.00

Type of Item: Consent

SCOPE OF SERVICES

Graphic Design, Marketing & Social Media Campaign

PROJECT NAME	City of Ocoee 100 Year Anniversary Celebration
COMPANY NAME	City of Ocoee Government
POINT OF CONTACT	Community Relations
PHONE	407-905-3100
EMAIL	jwright@ocoe.org
COMPANY MAILING ADDRESS	1 North Bluford Avenue, Ocoee, FL 34761
PROJECT LOCATION	United States
DATE	6/27/24

SCOPE OF WORK

The City of Ocoee will celebrate its 100 Year Anniversary on May 13, 2025. The centennial celebration will kick off in January 2025. To mark this milestone occasion, the city will use special events, digital platforms and marketing tools to maximize engagement with the community. Events and activities will occur on or near the city's anniversary in May 2025, however the centennial will be integrated in the city's events, activities and programs throughout the calendar year. Themes will highlight the city's past, present and vision for the next 100 years. All outreach and historical materials will be inclusive and representative of the city's diverse community.

General Project Scope

It is the intent of these specifications to describe the elements of the City of Ocoee's 100th Anniversary Marketing and Social Media Campaign.

- Centennial Logo and Graphic Design
- Centennial Marketing Campaign, Social Media Plan and Video Production

Summary of the Elements

Centennial Logo, Style Guide, Templates

1. Graphic design firm will be responsible for creating a 100 Year Anniversary logo with multiple formats and layouts for reproduction on: t-shirts, promotional items, pole banners, collectible art poster, website and city letterhead and other city templates. Develop a centennial style guide with use specifications, designs for updated communications templates (e.g., city letterhead, PowerPoint presentation, website) that build on the city's existing templates and incorporate the 100 Year

Anniversary theme. Develop campaign vision with sample layouts showing how colors, layout and imagery will be used throughout the centennial celebration. Documentation will be developed digitally in the form of a PDF, that can be shared with approved city vendors.

2. Marketing Campaign, Social Media Plan and Video Production

Marketing and social media firm will be responsible for executing a comprehensive research-based centennial marketing campaign that includes the creative development of the 100 Year kick-off campaign in January 2025. Coordinate a social media strategy to raise awareness of the 100 Year Anniversary utilizing strategic creative assets. The marketing consultant should have comprehensive knowledge of Ocoee and the surrounding West Orange County communities to build community partnerships that will elevate awareness and participation in the city's centennial activities and celebrations. A social media plan will include a minimum of ten static posts and two reels each month on the city's social media platforms. An ongoing social media campaign will include photo shoots and development a social media content calendar that is themed and inclusive of the city's signature events including the Ocoee Music Festival and other signature city events. The video will include the narrative, film, edit and produce historical videos for the 100 Year Anniversary. Video production will require research and interviews, capturing new footage, using existing video footage, historically archived photos and stock footage. The city is seeking to develop one engaging and informative centennial video that chronicles the city's rich history and promotes awareness of the city's accomplishments made over the past 100 years and vision for the future. The goal of the social media reels and video is to generate excitement around the city's milestone celebrations, educate viewers about the city's mission, services and programs.

PROJECT DELIVERABLES

Centennial Logo and Graphic Design

- Create a 100 Year Anniversary logo
- Style and campaign guide
- Three designs for pole banners
- T-shirt and promotional products artwork
- Collectable poster

Marketing Campaign, Social Media Plan and Video Production

- Collaborate with staff to develop content for the 100 Year kick-off marketing campaign from January 2025 – June 2025
- Develop ongoing social media plan to include 10 static posts per month and two reels per month
- Produce content and shoot one 5 minute 100 Year Anniversary video
- Develop detailed social media content calendar
- Work with West Orange County community partners to include them in social media and videos capturing their testimonials and 100 Year congratulatory messages

DELIVERY DATE	GRAPHIC DESIGN TASK
07/31/24	Drafts of Centennial Logo concept and design
08/29/24	Final Centennial logo and all graphic design elements

DELIVERY DATE	MARKETING, SOCIAL MEDIA, VIDEO PRODUCTION	
07/31/24	Drafts of marketing, social media, video production storyline	
08/29/24	Final marketing campaign and social media plan	
ESTIMATED COST		
EXPENSE	DESCRIPTION	COST
Not to exceed \$60,000		\$
		\$
		\$
		\$
		\$
		\$
TOTAL		\$ -

APPROVAL & COMMENTS

PROJECT OWNER	Community Relations
SIGNATURE	
DATE	
PROJECT MANAGER	Joy Wright
SIGNATURE	
DATE	

COMMENTS

From: Andy Crabtree <andy@crabtreeink.com>

Sent: Tuesday, June 4, 2024 7:42 PM

To: Wright, Joy <JWright@ocoee.org>

Subject: 100 Celebration pricing

Hello Joy,

Thank you again for taking the time to talk me through the Ocoee 100 Celebration. Wow, it's going to be a great event and I'm excited to have the opportunity to bid on it. :)

Below are some thoughts and pricing, on how I see it all coming together. As mentioned, these are high-end thoughts and can be narrowed down when the time comes. Plus we can add more to it, so let me know if I missed anything.

Thank you again and let me know if you have any questions.

—

100 Celebration Logo for City of Ocoee

Develop new celebration logo for the City of Ocoee, that encompasses 100 years. Five initial designs will be developed for review. With feedback from the client, a final design will be selected and edited (as needed) for final usage. Final design will include multiple layouts including but not limited to: horizontal, vertical, round badge, full color and one color each. In addition, all designs will be delivered in multiple formats for reproduction.

\$5500

Style and Campaign guide

Develop campaign vision with sample layouts showing how colors, layout and imagery will be used throughout the celebration. Documentation will be developed digitally in the form of a PDF, that can be shared with approved vendors.

\$3500

Celebration Pole Banner signs

Develop 3 distinct designs for pole banners, in different target areas within the city. Does not include production of banners. Specs TBD.

Design only \$2500

T-shirt design for Celebration

Develop Illustrative t-shirt design based on a 100 year celebration that incorporates the vision of the city. "The next 100 years".

T-shirt printing (production no included) but can be priced and managed based on quantities needed.

Design only \$1000

100 Year Celebration Collectable poster

Develop and illustrate unique collectable poster to celebrate 100 years. Includes illustration and doesn't include production, however printing can be handled if needed. Posters can also be numbered and signed in limited qty's if needed. The artwork can be used for other items such as stickers, greeting cards, cups, hats, etc.

Design only \$3500

Assist with promotional items/merchandise:

Source, order and manage products for the city such as merchandise, tumblers, stickers, flags, hats, pillows, etc. We have experience with this, so we can help source and locate products for you.

Price TBD based on what is needed

Social media and videos

We can help develop social media calendar, along with creating content and manage/art direct video shoots for campaign. Basically we can handle this for you, and provide finished content for your team to post.

Price TBD based on what is needed.

Andy Crabtree | *Principal*
Crabtree Ink Creative

407.538.8325
P.O. Box 770368
Winter Garden, FL 34777

https://link.edgepilot.com/s/6229bb42/PL0dRbfd_E_fwGmDIMR4MQ?u=http://www.crabtreeink.com/



City of Ocoee 100 Year Anniversary

January 2025 – June 2025

Centennial marketing campaign and social media plan

Production of Centennial videos to air on social media and Ocoee TV

Quote is based on the assumption that posting will be on the City of Ocoee FB and IG pages

MONTH	SERVICE DESCRIPTION	COST
JANUARY 2025 <i>Kick-off month</i>	SOCIAL MEDIA AND CAMPAIGN DEVELOPMENT Campaign kick-off - creative development of 100 year anniversary campaign materials. Includes development of social media strategy plan and campaign creative and social media development and posting to include: 10 static posts for the month 2 reels for the month SOCIAL MEDIA VIDEO & PHOTOSHOOT WITH COMMUNITY PARTNERSHIP January social media video production of Centennial videos. 1st of 6 photo/ video shoots Amplification and sharing each month on all local FB and social media groups such as West Orange Chamber, Healthy West Orange, We are Ocoee, Discover Ocoee, We are Winter Garden and Windermere Community.	\$2,750
FEBRUARY 2025	SOCIAL MEDIA CAMPAIGN ON-GOING Maintain Plan content calendar provided in strategy plan inclusive of social media development and posting to include: 8 static posts for the month, 2 reels for the month SOCIAL MEDIA VIDEO & PHOTOSHOOT WITH COMMUNITY PARTNERSHIP February social media video production of Centennial videos. 2nd of 6 photo/ video shoots	\$2,050
MARCH 2025	SOCIAL MEDIA CAMPAIGN ON-GOING Collaborate with OMF event Plan - content calendar provided in strategy plan inclusive social media development and	\$2,050

	posting of: 8 static posts for the month, 2 reels for the month, Add 3 additional shared posts with OMF, Along with 1 additional reel with OMF. SOCIAL MEDIA VIDEO & PHOTOSHOOT WITH COMMUNITY PARTNERSHIP March social media video production of Centennial videos. 3rd of 6 photo/ video shoots	
APRIL 2025	SOCIAL MEDIA CAMPAIGN ON-GOING Collaborate with OMF event Plan - content calendar provided in strategy plan inclusive social media development and posting of: 8 static posts for the month, 2 reels for the month, Add 4 additional shared posts with OMF (2 pre and 2 post event), Add 2 additional reels with OMF. SOCIAL MEDIA VIDEO & PHOTOSHOOT WITH COMMUNITY PARTNERSHIP April social media video production of Centennial videos. 4th of 6 photo/ video shoots	\$2,050
MAY 2025	SOCIAL MEDIA CAMPAIGN ON-GOING Maintain Plan content calendar provided in strategy plan inclusive of social media development and posting to include: 8 static posts for the month and 2 reels for the month. SOCIAL MEDIA VIDEO & PHOTOSHOOT WITH COMMUNITY PARTNERSHIP May social media video production of Centennial videos. 5th of 6 photo/ video shoots	\$2,050
JUNE 2025	SOCIAL MEDIA CAMPAIGN ON-GOING Final month wrap-up Plan content calendar provided in strategy plan inclusive of social media development and posting to include: 10 static posts for the month and 2 reels for the month. SOCIAL MEDIA VIDEO & PHOTOSHOOT WITH COMMUNITY PARTNERSHIP June social media video production of Centennial videos. 6th of 6 photo/ video shoots	\$2,050
TOTAL		\$13,000

***Add-Ons for specific events - Other than the OMF other events that may be planned will get their own set of marketing posts. **\$300 per event campaign**

- 3 static posts per event
- 1 reel per event



Meeting Date: August 20, 2024
Item #: 7

Contact Name: Trent Hopper
Contact Number: Ext. 4306

Department Director: Jen Bolling
City Manager: Craig Shadrix

Subject: Approval to Replace Electrical Panels at City of Ocoee Lift Stations 14, 15, 46, 47. (Acting Utility Director Bolling)

Background Summary:

As part of the approved City of Ocoee Budget for Fiscal Year 2022-2023, the Wastewater Facilities Repair & Replacement (R&R) budget included \$80,000.00 to replace the electrical panels at Lift Stations 14, 15, 46 & 47. As a separate effort, Staff was also working to upgrade the SCADA communication system, and the evaluation of these upgrades required that Staff pause the electrical panel replacements to ensure that the new panels would be compatible with SCADA upgrades. After the upgrades to SCADA were approved by the City Commission on June 4, 2024, Staff requested an updated quote from Process Control Services LLC, the approved Sole Source Vendor for instrumentation & repair of SCADA Systems, for the replacement of the electrical panels at Lift Stations 14, 15, 46, 47.

Process Control Services LLC provided a quote of \$112,666.00 to replace the electrical panels. While this is higher than the budgeted amount, Staff were able to realize savings on other items included in the approved R&R budget, leaving sufficient funds in R&R to pay the increased cost with no financial impact.

Issue:

Should the Honorable Mayor and City Commission approve to replace the electrical panels at City of Ocoee lift stations 14, 15, 46 & 47 with Process Control Services LLC a cost of \$112,666.00?

Recommendations:

Staff recommends that the Honorable Mayor and City Commissioners authorize the City Manager to cause the replacement of the electrical panels at City of Ocoee lift stations 14, 15, 46 & 47 with Process Control Services LLC at a cost of \$112,666.00. Staff also recommends that the City Manager be authorized to approve changes to this contract up to the limit of his purchasing authority for each change order.

Attachments:

1. Ocoee Lift Station Panels 2024

Financial Impacts:

None as this project is adequately funded through Fiscal Year 2022-2023 R&R Job#A000397

Type of Item: Consent

Process Control Services LLC

**1205 Pinewood Lane
Ocoee FL, 34761
407.252.5033**

SCOPE OF SUPPLY

Date: 7/8/24

Project: Lift station panels 2024

Customer: Trent Hopper

In accordance with the attached Terms and Conditions, Process Control Services LLC is pleased to offer the following materials/services for the above referenced project. While our complete offering is detailed in this submission, purchase orders directly to manufacturers may be required when ordering.

Provide the following equipment:

- **LS 46 Duplex Pump Control Panel 230 Vac 3 phase 10HP**
 - Nema 3R 304 SS gasketed enclosure with inner door, back panel and 3 point latch
 - Main breaker, 230 Vac 3 phase, Square D
 - Emergency breaker, 230 Vac 3 phase, Square D
 - Generator receptacle with angle adapter
 - Surge arrestor 230 Vac
 - Incoming power phase monitor with fuses
 - (2) Circuit breaker sized for 10 HP 230 Vac 3 phase Pump motors, Square D
 - (2) FVNR motor starter, size 2, sized for 10 HP 230 Vac 3 phase pump motors, Square D
 - Current switch
 - Surge arrestor 120 Vac
 - 120 Vac control circuit breakers
 - (2) 3 Position selector switches Hand-Off-Auto
 - (2) Pilot lights, Pump Run
 - (2) Pilot lights, Pump Seal Fail
 - (1) Pushbutton, Alarm Silence
 - (2) Run Time meters
 - (2) Seal Fail relays
 - (2) Pushbutton, Pump Reset
 - Float control, 24 Vac

Process Control Services LLC

1205 Pinewood Lane

Ocoee FL, 34761

407.252.5033

- Alternator
- Transformer, 24VAC
- GFI receptacle
- DC power supply
- Battery back-up
- Vent drain
- Alarm horn
- Alarm light
- Terminal strip for future RTU
- Misc. panel components, nameplates, wire duct, terminals, etc.
- UL listing

PCS's Price is: \$ 24,934.00

- **LS 47 Duplex Pump Control Panel 230 Vac 3 phase 15HP**

- Nema 3R 304 SS gasketed enclosure with inner door, back panel and 3 point latch
- Main breaker, 230 Vac 3 phase, Square D
- Emergency breaker, 230 Vac 3 phase, Square D
- Generator receptacle with angle adapter
- Surge arrestor 230 Vac
- Incoming power phase monitor with fuses
- (2) Circuit breaker sized for 15 HP 230 Vac 3 phase Pump motors, Square D
- (2) FVNR motor starter, size 2, sized for 15 HP 230 Vac 3 phase pump motors, Square D
- Current switch
- Surge arrestor 120 Vac
- 120 Vac control circuit breakers
- (2) 3 Position selector switches Hand-Off-Auto
- (2) Pilot lights, Pump Run
- (2) Pilot lights, Pump Seal Fail
- (1) Pushbutton, Alarm Silence
- (2) Run Time meters
- (2) Seal Fail relays
- (2) Pushbutton, Pump Reset
- Float control, 24 Vac
- Alternator
- Transformer, 24VAC
- GFI receptacle
- DC power supply
- Battery back-up
- Vent drain
- Alarm horn
- Alarm light
- Terminal strip for future RTU

Process Control Services LLC

1205 Pinewood Lane

Ocoee FL, 34761

407.252.5033

- Misc. panel components, nameplates, wire duct, terminals, etc.
- UL listing

PCS's Price is: \$ 28,268.00

- **LS 14 Duplex Pump Control Panel 230 Vac 3 phase 20HP**

- Nema 3R 304 SS gasketed enclosure with inner door, back panel and 3 point latch
- Main breaker, 230 Vac 3 phase, Square D
- Emergency breaker, 230 Vac 3 phase, Square D
- Generator receptacle with angle adapter
- Surge arrestor 230 Vac
- Incoming power phase monitor with fuses
- (2) Circuit breaker sized for 20 HP 230 Vac 3 phase Pump motors, Square D
- (2) FVNR motor starter, size 3, sized for 20 HP 230 Vac 3 phase pump motors, Square D
- Current switch
- Surge arrestor 120 Vac
- 120 Vac control circuit breakers
- (2) 3 Position selector switches Hand-Off-Auto
- (2) Pilot lights, Pump Run
- (2) Pilot lights, Pump Seal Fail
- (1) Pushbutton, Alarm Silence
- (2) Run Time meters
- (2) Seal Fail relays
- (2) Pushbutton, Pump Reset
- Float control, 24 Vac
- Alternator
- Transformer, 24VAC
- GFI receptacle
- DC power supply
- Battery back-up
- Vent drain
- Alarm horn
- Alarm light
- Terminal strip for future RTU
- Misc. panel components, nameplates, wire duct, terminals, etc.
- UL listing

PCS's Price is: \$ 29,732.00

- **LS 15 Duplex Pump Control Panel 230 Vac 3 phase 20HP**

- Nema 3R 304 SS gasketed enclosure with inner door, back panel and 3 point latch
- Main breaker, 230 Vac 3 phase, Square D

Process Control Services LLC

1205 Pinewood Lane

Ocoee FL, 34761

407.252.5033

- Emergency breaker, 230 Vac 3 phase, Square D
- Generator receptacle with angle adapter
- Surge arrestor 230 Vac
- Incoming power phase monitor with fuses
- (2) Circuit breaker sized for 20 HP 230 Vac 3 phase Pump motors, Square D
- (2) FVNR motor starter, size 3, sized for 20 HP 230 Vac 3 phase pump motors, Square D
- Current switch
- Surge arrestor 120 Vac
- 120 Vac control circuit breakers
- (2) 3 Position selector switches Hand-Off-Auto
- (2) Pilot lights, Pump Run
- (2) Pilot lights, Pump Seal Fail
- (1) Pushbutton, Alarm Silence
- (2) Run Time meters
- (2) Seal Fail relays
- (2) Pushbutton, Pump Reset
- Float control, 24 Vac
- Alternator
- Transformer, 24VAC
- GFI receptacle
- DC power supply
- Battery back-up
- Vent drain
- Alarm horn
- Alarm light
- Terminal strip for future RTU
- Misc. panel components, nameplates, wire duct, terminals, etc.
- UL listing

PCS's Price is: \$ 29,732.00

This quote is valid for 60 days.

PCS's price includes:

- Engineering
- Submittals, Operation & Maintenance Manuals
- 1-Year Warranty
- Factory Check Out
- Start-up and Training

PCS's price does not include:

- Field instruments
- Field installation
- Taxes

Process Control Services LLC

1205 Pinewood Lane
Ocoee FL, 34761
407.252.5033

If you should have any questions, please feel free to give me a call at any time.

PRICE, DELIVERY AND TERMS OF OFFERING

Prices submitted are for equipment/services specifically listed within this Scope of Supply which constitute our complete offering; Sections may be referenced for identification and clarification only and **does not imply the Section is offered in its entirety.**

PRICE: SEE ABOVE **TAX if applicable.** FOB factory with freight allowed to jobsite, shipped via standard commercial carrier.

DELIVERY: 12-14 weeks after complete and acceptable approval is received.

SUBMITTAL FOR APPROVAL: 6 weeks after acceptable purchase Agreement is received.

TERMS OF PAYMENT

Based on initial and continuing credit approval by Process Control Services LLC., the following payment terms apply:

- Net 30
- NO HOLDBACK (RETAINAGE) provision is offered or allowed

Process Control Services LLC

1205 Pinewood Lane

Ocoee FL, 34761

407.252.5033

Thank you for the opportunity to offer this Scope of Supply, questions and/or comments regarding this offering should be directed to the salesperson whose name is affixed to the Scope of Supply.

Wade Mathis

407-252-5033

Wademathis@gmail.com



Meeting Date: August 20, 2024
Item #: 8

Contact Name: TJ Tomlinson
Contact Number: Ext. 4301

Department Director: Jen Bolling
City Manager: Craig Shadrix

Subject: Approval of an Escrow Agreement with Lamberts Cable Splicing Company, LLC for Replacement of City's Force Main. (Acting Utility Director Bolling)

Background Summary:

In July 2023, a subcontractor of Lamberts Cable Splicing Company, LLC (Lamberts) damaged the City's 8-inch force main on Maguire Rd while installing a communication conduit. After investigating the extent of the damage caused and separation conflicts with the City's force main, Lamberts agreed to design, permit, and replace approximately 300 feet of the City's force main.

The City is currently holding the issuance of Lamberts' right-of-way permits until the damage is repaired in accordance with the City's standards. To avoid excessive disruption of Lamberts' projects throughout the City, Lamberts has agreed to provide the City with a cash escrow in the amount of \$350,000 to be held as security until the completion of the force main replacement. Once the cash escrow is established, the City shall release the hold on Lamberts' right-of-way permits.

Issue:

Should the Honorable Mayor and City Commissioners approve the Escrow Agreement between the City of Ocoee and Lamberts Cable Splicing Company, LLC, for the design, permitting, and construction of the force main replacement?

Recommendations:

Staff recommends that the Honorable Mayor and City Commissioners approve the Escrow Agreement with Lamberts Cable Splicing Company, LLC.

Attachments:

1. Escrow Agreement - Lamberts

Financial Impacts:

None.

Type of Item: Consent

ESCROW AGREEMENT

This Escrow Agreement (this “Agreement”) between THE CITY OF OCOEE (“City) and LAMBERTS CABLE SPLICING COMPANY, LLC, a Florida limited company (“Lamberts”), and FISHBACK DOMINICK, LLP (“Escrow Agent”) dated as of the ____ day of August, 2024.

RECITALS

- A. On or about July __, 2023, Lamberts damaged the City’s force main on Maguire Road.
- B. Lamberts has agreed to design, permit and construct a replacement of the City’s force main to the City’s Standards (the “Improvements”).
- C. Lamberts desires to continue to work within the City pending completion of the Improvements.
- D. Lamberts has agreed to escrow \$350,000 (the “Escrowed Funds”) with the Escrow Agent to be held in escrow as security for completion of the Improvements in accordance with the terms of this Agreement.

AGREEMENT

In consideration of the sum of Ten and No/100 Dollars (\$10.00), the mutual promises and covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

- 1. The above referenced recitals are true and correct and are incorporated herein by reference.
- 2. Escrow Agent acknowledges receipt of the Escrowed Funds and agrees to hold and disburse the Escrowed Funds in accordance with this Agreement.
- 3. The Escrowed Funds shall be deposited in a non-interest bearing account. Escrow Agent may commingle funds received by it in escrow with escrow funds of others, and may, without limitation, deposit such funds in its custodial or escrow accounts with any reputable trust company, bank, savings bank, savings association, or other financial services entity, including any affiliate of Escrow Agent. It is understood that Escrow Agent shall be under no obligation to invest the funds deposited with it on behalf of any depositor, nor shall it be accountable for any earnings or incidental benefit attributable to the funds which may be received by Escrow Agent while it holds such funds.
- 4. Escrow Agent shall release the Escrowed Funds less legal fees to Lamberts upon receipt of written confirmation from City that Lamberts has completed construction and final clearance of the Improvements to the City’s Standards. In the event Lamberts has not completed construction of the Improvements by _____, 2024, City may elect to complete the Improvements itself and will be entitled to a release of the Escrowed Funds as necessary to pay for completion of the Improvements and associated legal fees.
- 5. In the event a dispute arises relative to the party entitled to the Escrowed Funds, Escrow Agent shall have the right to either continue to hold the Escrowed Funds until the rights of Lamberts and City have

been finally adjudicated or they have resolved the dispute and Escrow Agent shall have been notified thereof in writing signed by Lamberts and City, or interplead the Escrowed Funds in a court of competent jurisdiction.

6. Nothing herein contained shall be deemed to impose upon Escrow Agent any duty to exercise discretion, it being the intention of the undersigned that Escrow Agent shall not be obligated to act, except in accordance with the directives of this Agreement. Escrow Agent shall be jointly indemnified by Buyer and Seller against any and all claims, liabilities, damages, costs, penalties, losses, actions, suits or proceedings at law or in equity, or any other expenses, fees, including attorneys' fees, paralegals' fees and legal assistants' fees, or charges of any character or nature which it may incur directly or indirectly arising from or in any way connected with this Agreement, whether or not litigation is instituted, including expenses and attorneys' fees in connection with any interpleader action filed by Escrow Agent. Escrow Agent is hereby empowered to act and shall not incur any liability whatsoever for acting upon any document purporting or believed by Escrow Agent to be genuine.

7. Escrow Agent shall not incur any liability concerning the financial status or insolvency of any other party, or any misrepresentation made by any other party.

8. Escrow Agent shall not incur any liability concerning the legal effect, insufficiency, or undesirability of any instrument deposited with or delivered by or to Escrow Agent or exchanged by the parties hereunder, whether or not Escrow Agent prepared such instrument.

9. Escrow Agent shall not incur any liability concerning the default, error, action or omission of any other party to this Agreement.

10. Escrow Agent shall not incur any liability concerning any loss or impairment of funds that have been deposited in escrow while those funds are in the course of collection or while those funds are on deposit in a financial institution if such loss or impairment results from the failure, insolvency or suspension of a financial institution, or any loss or impairment of funds due to the invalidity of any draft, check, document or other negotiable instrument delivered to Escrow Agent.

11. Escrow Agent shall not incur any liability concerning the expiration of any time limit or other consequence of delay, unless a properly executed settlement instruction accepted by Escrow Agent has instructed Escrow Agent to comply with said time limit.

12. Escrow Agent shall not incur any liability concerning Escrow Agent's compliance with any legal process, subpoena, writ, order, judgment or decree of any court, whether issued with or without jurisdiction and whether or not subsequently vacated, modified, set aside or reversed.

13. Escrow Agent shall not incur any liability concerning any shortfall in the sufficiency of the amount held in escrow to accomplish the purpose of the escrow.

14. Escrow Agent shall not incur any liability concerning any obligation to collect additional funds, unless such obligation is in writing and signed by Escrow Agent.

15. If any term, covenant, condition or provision of this Agreement shall be held to any extent to be invalid or unenforceable under applicable law, the remaining terms, covenants, conditions and provisions of this Agreement shall not be affected thereby, but shall remain in full force and effect.

16. No modification of this Agreement shall be valid or binding upon the parties hereto unless in writing and executed with the formalities hereof.

17. In the event of the breach of this Agreement by any party, the other parties shall have the right to pursue any remedy provided by applicable law, including specific performance. Any party failing to comply with the terms of this Agreement will pay all expenses, including attorneys' fees, paralegals' fees, legal assistants' fees and costs incurred by the other parties to this Agreement as a result of such failure.

18. The provisions of this Agreement shall apply to and bind the heirs, successors, personal representatives and assigns of the parties hereto.

19. Whenever used herein the singular number shall include the plural, the plural the singular and the use of any gender shall include all genders.

20. This Agreement and all documents relating to same shall be construed under the laws of the State of Florida. The venue of any action or suit brought in connection herewith shall be in Seminole County, Florida.

21. All notices, demands, requests and other communications required or permitted hereunder (a "Notice") must be in writing and will be deemed to have been duly given (a) upon the date of the Notice if delivered personally; or (b) upon the date received if delivered by facsimile or email, provided that a duplicate copy is promptly delivered by U.S. Mail, certified, return receipt requested, or by overnight courier which provides a receipt, such as Federal Express; or (c) upon the date following the date of the Notice if delivered by overnight courier which provides a receipt, such as Federal Express. In the case of the U.S. Mail or overnight courier, the Notice must have adequate postage prepaid, addressed to the appropriate party and marked to a particular individual's attention as provided in this Section. The Notice will be effective upon being so deposited, but the time period in which a response to any Notice must be given or any action taken with respect to the Notice will commence to run from the date of receipt of the Notice by the addressee as evidenced by the return receipt. Rejection or other refusal by the addressee to accept or the inability of the air courier service to deliver because of a changed address of which no Notice was given will be deemed to be the receipt of the Notice sent as of the business day following deposit. If either party changes their address, that party must notify the other party of such change by Notice delivered in accordance with this Section. The initial addresses of the Parties will be as set forth below:

If to City: City of Ocoee
 Attn: Jennifer Bolling
 1 N. Bluford Drive
 Ocoee, FL 34761
 Phone: (407) 905-3100
 E-mail: jbolling@ocoe.org

If to Lamberts: Lamberts, LLC

 Attn: _____
 Email: _____

Escrow Agent: Fishback Dominick
 1947 Lee Rd.

Winter Park, FL 32789
Attn: Richard S. Geller, Esq.
Phone: (407) 262-8400
E-mail: rgeller@fishbacklaw.com

Any party hereto may, at any time by giving five (5) days' written notice to the other parties hereto, designate any other address in substitution of the foregoing address to which such notice shall be given. The attorneys for the parties may provide notices on behalf of their respective clients.

[SIGNATURES ON FOLLOWING PAGE]

Signed, sealed and delivered in the
Presence of:

By: _____

Print Name: _____
Address: 1 N. Bluford Ave. Ocoee, FL 34761

By: _____

Print Name: _____
Address: 1 N. Bluford Ave. Ocoee, FL 34761

ESCROW AGENT:

FISHBACK DOMINICK, LLP

By: _____
Richard S. Geller, City Attorney

LAMBERTS:

**LAMBERTS CABLE SPLICING COMPANY,
LLC**

By: _____

Print Name: _____

Print Title: _____

CITY:

CITY OF OCOEE, FLORIDA

By: _____
Rusty Johnson, Mayor

Attest: _____
Melanie Sibbitt, City Clerk

(SEAL)

FOR THE USE AND RELIANCE BY THE
CITY OF OCOEE ONLY. APPROVED
AS TO FORM AND LEGALITY
this _____ day of
_____, 20____.

FISHBACK DOMINICK, LLP

By: _____
Richard S. Geller, City Attorney

APPROVED BY THE OCOEE CITY
COMMISSION AT A MEETING
HELD ON _____, 20____
UNDER AGENDA ITEM NO. _____.



Meeting Date: August 20, 2024
Item #: 9

Contact Name: Brett McFarlane
Contact Number: Ext. 7145

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of the First Amendment to the Development Agreement with GS Crown Point Owner, LLC. (Concurrency & Commitment Coordinator McFarlane)

Background Summary:

At the June 20, 2023, City Commission Meeting, the City Commission approved a Development Agreement between the City and GS Crown Point Owner, LLC fka Wire Development. Section 4 of the Development Agreement discussed the terms on which the Developer would construct a new public road through the Project. In return, the City would provide both Transportation Impact Fee Credits for the Project and cash reimbursements.

The attached Development Agreement stated that based on the Project's Preliminary Site Plan (PSP) as of October 2022, the estimated cost of design, engineering, and construction of the New Road Improvements was approximately One Million Four Hundred Thousand and No/ 100s Dollars (\$1,400,00.00). The Development Agreement further acknowledged that the final reimbursement amount for the New Road Improvements would be based upon all the fees, costs, and expenses incurred by the Developer relating to the final design, engineering, and construction of the New Road Improvements, as agreed upon by both parties.

The Developer has finalized the total cost for the New Road Improvements with bid documentation, which includes the increased cost of materials since 2022, which has been consistent in all capital projects, and includes city-initiated upgrades like wider sidewalks on the south side, a roundabout with pavers and raised pedestrian crossings to slow traffic due to the proximity to the high school. The cost of Duke Energy lighting installation has been provided and additional expenses for the Orange County right-of-way use permit for the intersection at Ocoee Apopka Road added costs with improvements to turn lanes. The updated total cost, which has been reviewed and accepted by the Public Works Department, is Two Million Seven Hundred Forty-Nine Thousand Nine Hundred Seventy-Nine Dollars and Seven Cents (\$2,749,979.07).

Staff is requesting the approval of the attached First Amendment to the Development Agreement between the City and GS Crown Point Owner, LLC. This amendment solidifies that the City has reviewed the Developer's updated cost for the New Road Improvements, and both Parties agree that the updated cost is Two Million Seven Hundred Forty-Nine Thousand Nine Hundred Seventy-Nine Dollars and Seven Cents (\$2,749,979.07).

Issue:

Should the Honorable Mayor and City Commissioners approve the First Amendment to the Development Agreement for GS Crown Point Owner, LLC?

Recommendations:

Staff recommends the Honorable Mayor and City Commissioners approve the First Amendment to the Development Agreement for GS Crown Point Owner, LLC.

Attachments:

1. First Amendment to Development Agreement - GS Crown Point Owner
2. Approved ROW Budget
3. Duke Energy ROW Lighting Agreement
4. Development Agreement - GS Crown Point Owner

Financial Impacts:

In 2023, the estimated cost for the New Road Improvements was One Million Four Hundred Thousand and No/ 100s Dollars (\$1,400,00.00). The total new cost for the New Road Improvements is Two Million Seven Hundred Forty-Nine Thousand Nine Hundred Seventy-Nine Dollars and Seven Cents (\$2,749,979.07), up by One Million Three Hundred Forty-Nine Thousand Nine Hundred Seventy-Nine Dollars and Seven Cents (\$1,349,979.07).

Type of Item: Consent

THIS DOCUMENT PREPARED BY:

Richard S. Geller, Esq.
FISHBACK DOMINICK, LLP.
1947 Lee Road
Winter Park, FL 32789

AND RETURN TO:

City Clerk
CITY OF OCOEE
1 N Bluford Avenue
Ocoee, FL 34761

**FIRST AMENDMENT TO DEVELOPMENT AGREEMENT
(GS Crown Point Owner, LLC)**

This FIRST AMENDMENT TO DEVELOPMENT AGREEMENT (the “**Amendment**”) is made and entered into this ____ day of _____, 2024 (“**Amendment Effective Date**”), by and between the **CITY OF OCOEE**, a Florida municipal organization, whose mailing address is 1 N Bluford Avenue, Ocoee, Florida 34761, (“**City**”), and **GS CROWN POINT OWNER, LLC**, a Delaware limited liability company, with an address of c/ o Greystar Real Estate Partners, 465 Meeting Street, Suite 500, Charleston, South Carolina 29403 (the “**Developer**”). The City and the Developer are sometimes collectively referred to herein as the “**Parties**” and individually as a “**Party**.”

RECITALS:

A. The Parties executed that certain Development Agreement dated on or about October 13, 2023 (the “**Development Agreement**”), relating to the development of the Project (as defined in the Agreement).

B. The Parties have agreed to modify the provisions of the Development Agreement on the terms and provisions hereinafter set forth.

AGREEMENT

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements set forth in this Amendment, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Section 4 of the Development Agreement stated that both Parties agreed and acknowledged that the estimated total cost for the design, engineering, and construction of the New Road Improvements was approximately One Million Four Hundred Thousand and No/ 100s Dollars (\$1,400,00.00); however, the final reimbursement amount was to be determined based on all fees, costs, and expenses incurred by the Developer related to the final design and engineering of the New Road Improvements as approved by the Parties and all actual costs and expenses incurred by the Developer in connection with construction of the New Road Improvements based on the final design and engineering as approved by the Parties.

2. **Updated Cost of New Road Improvements.** Based on all fees, costs, and expenses for the design, engineering, and construction of the New Road Improvements by the Developer, the new total cost for the New Road Improvements is Two Million Seven Hundred Forty-Nine Thousand Nine Hundred Seventy-Nine Dollars and Seven Cents (\$2,749,979.07). The Parties acknowledge and approve of the updated cost for the New Road Improvements.

3. **Conflicts.** In the event of any conflict between the terms of this Amendment and the Development Agreement, the terms of this Amendment shall prevail.

4. **Ratification.** The Development Agreement as amended and modified by this Amendment is ratified and confirmed by the Parties and remains in full force and effect.

SIGNATURES TO FOLLOW

DEVELOPER:

GS CROWN POINT OWNER, LLC

a Delaware limited liability company

By: _____

Name: _____

Title: _____

WITNESS:

Printed Name: _____

Address: _____

Printed Name: _____

Address: _____

STATE OF FLORIDA

COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, [insert year], by _____, as _____ of [insert name of developer, type of company], on behalf of the company. He/she appeared by (*check one*) ☐ physical presence or ☐ online notarization, and (*check one*) ☐ is personally known to me or ☐ has produced _____ as identification.

Print Name: _____

Notary Public

My Commission Expires: _____

Commission Number: _____

CITY:

CITY OF OCOEE, FLORIDA

By: _____
Rusty Johnson, Mayor

ATTEST:

Melanie Sibbitt, City Clerk

(SEAL)

APPROVED BY THE CITY OF OCOEE
COMMISSION AT A MEETING HELD ON
_____, 20____
UNDER AGENDA ITEM NO. _____

FOR USE AND RELIANCE ONLY BY
THE CITY OF OCOEE, FLORIDA;
APPROVED AS TO FORM AND
LEGALITY this ____ day of
_____, 20__.

FISHBACK DOMINICK

By: _____
Richard Geller, City Attorney

GREYSTAR

DEVELOPMENT
& CONSTRUCTION, L.P.

NOTES	DESCRIPTION	QUANTITY	UNITS	COST	TOTAL
	EARTHWORK				
	CLEAR / GRUB	1.78	AC	\$ 10,462.91	\$ 18,623.98
	DEMO ROW / UTILITIES	1	LS	\$ 19,784.73	\$ 19,784.73
	EXCAVATION	3998	CY	\$ 2.98	\$ 11,914.04
	RDWY GRADE	7675	SY	\$ 0.68	\$ 5,219.00
					\$ 55,541.75
	POTABLE WATER				
	12" DIP	1685	LF	\$ 97.98	\$ 165,096.30
	12" GATE VALVE	6	EA	\$ 5,765.18	\$ 34,591.08
	CONNECT TO EXISTING	3	EA	\$ 2,161.09	\$ 6,483.27
	12"X6" WET TAP FH	2	EA	\$ 12,050.33	\$ 24,100.66
	8" DIP	126	LF	\$ 70.30	\$ 8,857.80
	8" GATE VALVE	1	EA	\$ 4,708.77	\$ 4,708.77
	6" DIP	376	LF	\$ 50.82	\$ 19,108.32
	6" GATE VALVE	8	EA	\$ 3,696.52	\$ 29,572.16
1	8" MASTER METER		EA	\$ 37,277.42	\$ -
4	6" MASTER METER		EA	\$ 27,789.16	\$ -
1	4" MASTER METER		EA	\$ 23,885.45	\$ -
	FIRE HYDRANTS	8	EA	\$ 10,413.52	\$ 83,308.16
20% OF PIPE VALUE	WATER FITTINGS	1	LS	\$ 38,721.00	\$ 38,721.00
	TESTING	960	LF	\$ 10.00	\$ 9,600.00
					\$ 424,147.52
	SANITARY SEWER				
	8" GRAVITY	1513	LF	\$ 34.54	\$ 52,259.02
366	6" GRAVITY		LF	\$ 24.21	\$ -
	MANHOLE	11	EA	\$ 10,238.38	\$ 112,622.18
					\$ 164,881.20
	STORM SEWER				
TRUNK LINE ONLY	36" HP	560	LF	\$ 155.05	\$ 86,828.00
	30" HP	359	LF	\$ 119.63	\$ 42,947.17
	24" HP	408	LF	\$ 79.36	\$ 32,378.88
	24" RCP	149	LF	\$ 107.81	\$ 16,063.69
	18" HP	126	LF	\$ 52.20	\$ 6,577.20
	15" HP	442	LF	\$ 46.55	\$ 20,575.10
125	12" HP		LF	\$ 31.61	\$ -
194	8" HDPE		LF	\$ 26.86	\$ -
	24" M.E.S. OFFSITE	2	EA	\$ 2,769.63	\$ 5,539.26
	INLETS	11	EA	\$ 11,800.00	\$ 129,800.00
					\$ 340,709.30
	RECLAIMED				
	RECLAIMED STUBOUT	1	LS	\$ 21,841.42	\$ 21,841.42
					\$ 21,841.42
	PAVING				
	12" STABILIZED	6325	SY	\$ 6.80	\$ 43,010.00
	8" BASE	6325	SY	\$ 17.97	\$ 113,660.25
	2.00" FIRST LIFT	6325	SY	\$ 24.05	\$ 152,116.25
	1.00" SECOND LIFT	6325	SY	\$ 14.02	\$ 88,676.50
	F-CURB	347	LF	\$ 30.00	\$ 10,410.00
	D-CURB	2417	LF	\$ 20.79	\$ 50,249.43
	RIBBON CURB	587	LF	\$ 26.00	\$ 15,262.00
	4" SIDEWALK	13853	SF	\$ 7.00	\$ 96,971.00
	8" CONCRETE	1680	SF	\$ 15.00	\$ 25,200.00
	MARKINGS & SIGNAGE	1	LS	\$ -	\$ -
	PAVERS PARKING AREA	7690	SF	\$ 10.00	\$ 76,900.00
	PAVERS ROUND A BOUT	2500	SF	\$ 10.00	\$ 25,000.00
	BRICK PAVERS BASE	10190	SF	\$ 15.73	\$ 160,288.70
					\$ 857,744.13
	OFFSITE				
	Type D curb	303	LF	\$ 20.00	\$ 6,060.00
	Type F Curb	138	LF	\$ 30.00	\$ 4,140.00
	Type A Curb	172	LF	\$ 28.00	\$ 4,816.00
	Sidewalks	1845	SF	\$ 7.00	\$ 12,915.00

\$ 172,319.00

\$ 8,861.00

\$ 9,162.00

42.13
26.42
15.71
\$ 99,365.75

Breakout the costs for Round a bout.
Markings and Signage

Handicamp Ramps	2	EA	\$	1,800.00	\$	3,600.00
8" Limerock Base	1367	SY	\$	31.01	\$	42,390.67
Stabilized Subgrade	1367	SY	\$	13.60	\$	18,591.20
Asphalt Paving	1367	SY	\$	49.60	\$	67,803.20
Milliing & Resurface	2514	SY	\$	25.47	\$	64,031.58
Markings and signage	1	LS	\$	24,294.48	\$	24,294.48
ROW Grading	3325	SY	\$	2.52	\$	8,379.00
Sod Restoration	3120	SY	\$	3.16	\$	9,859.20
Demolition	1	LS	\$	7,119.42	\$	7,119.42
MOT	1	LS	\$	47,239.26	\$	47,239.26
					\$	321,239.01

Total: **\$ 2,186,104.33**

Allowance Based ROW costs

Landscpae	1	LS	\$	95,628.00	\$	95,628.00
Irrigation	1	LS	\$	27,953.00	\$	27,953.00
Street Lights (Duke)	1	LS	\$		\$	- minus our time?
OC Permits and Fees	1	LS	\$	7,500.00	\$	7,500.00 Orange County ROW Permit Only
Electrical Primary	2000	LF	\$	30.00	\$	60,000.00
					\$	191,081.00

Total Construction Cost Including Allowances : **\$ 2,377,185.33**

Total Soft Cost : **\$ 313,957.79**

Total ROW Hard & Soft Cost: **\$ 2,691,143.12**



FL01 LIGHTING SERVICE AGREEMENT

Customer Information:

CITY OF OCOEE

ELVINS.DERISMA@GREYSTAR.COM

..

Project Information:

150 N LAKESHORE DR

OCOEE Florida 34761-2223

Account Number:

9100 8961 9682

Work Order Number:

53010941

Duke Energy Representative Contact Info:

Ryan Lucas

This Lighting Service Agreement is hereby entered into this 25th day of June, 2024, between Duke Energy (hereinafter called the "Company") and CITY OF OCOEE (hereinafter referred to as the "Customer") for lighting service at the above location(s). The Customer agrees to receive and pay for lighting service from the Company in accordance with the rates, terms and provisions of the Company's Rate Schedule LS1U and Service Regulations, or its successor, as the same is on file with the Florida Public Service Commission (FLORIDA PUBLIC SERVICE COMMISSION) and as may be amended and subsequently filed with the FLORIDA PUBLIC SERVICE COMMISSION.

To the extent there is any conflict between this Agreement and the Lighting Service Rate Schedule, the Lighting Service Rate Schedule shall control. In the event of termination by the Customer during the initial term of this agreement under this rate schedule or upon early termination of service under this schedule, the customer agrees to pay remaining terms of this agreement as delegated by the FLORIDA PUBLIC SERVICE COMMISSION.

The date of *initiation* of service shall be defined as the date the first light(s) is energized. It is further agreed that Duke Energy reserves the right to discontinue service and remove any Duke Energy-owned facilities from the Customers premise if the Customer violates any of the terms of the Service Regulations, Rate Schedule or this Agreement.

Customer Signature _____

Date Signed _____

Duke Energy Representative _____

Date Signed _____

THIS IS NOT A BILL. PLEASE DO NOT SEND A PAYMENT IN RESPONSE TO THIS COMMUNICATION.

Summary of Estimated Charges					
Minimum Service Term	Initial Monthly Cost	Total Early Termination Charges	Total One Time Charges	Total Cost for Initial term	Ongoing Monthly Charge post Term
0 Years () Months	0.00	0.00	58835.95	58835.95	0.00
10 Years (120) Months	734.48	0.00	0.00	88137.60	734.48

Monthly Base Charges							
Service Required	Quantity	Product Description Fixtures and Poles	Equipment Rental**	Maintenance	Energy	Unit Total	Sub-Total
I	002	Light Fixture Shoebox LED 150W Black Type III 3000K	14.12	1.39	4.40	19.91	39.82
I	014	Light Fixture Shoebox LED 150W Black Type IV 3000K	14.12	1.39	4.40	19.91	278.74
I	004	Light Fixture Shoebox LED 50W Black Type IV 3000K	9.38	1.39	1.44	12.21	48.84
I	004	Light Pole Colonial Concrete 22ft long Black 3in tenon	14.25	0.00	0.00	14.25	57.00
I	016	Light Pole Promenade Concrete 30ft long Black 5in Tenon	19.38	0.00	0.00	19.38	310.08
		Rental, Maintenance, F&E Totals:	\$630.52	\$27.80	\$76.16		
		Estimated Change to Base Monthly Charge Total					\$734.48

One Time Charges			
Quantity Required	One Time Charge Description	Unit Price	Sub-Total
001	CIAC <i>Ex: Includes Construction Costs or possible Early Termination charges for removals</i>	58835.95	58835.95
	Total Estimated One Time Amount		\$58,835.95

DA Note: REMAINING TOTAL COST = (INITIAL TERM) – (# OF MONTHS BILLED) * (INITIAL MONTHLY COST)

THIS IS NOT A BILL. PLEASE DO NOT SEND A PAYMENT IN RESPONSE TO THIS COMMUNICATION.

**Outdoor lighting Terms and Conditions**

Duke Energy will call for locate of all public facilities. Any customer owned utilities would need to be located and marked at your expense.

If any or all of these lighting facilities will eventually be submitted to a governmental agency for inclusion into a taxing district, MSTU or MSBU special assessment program, please verify that these facilities meet the requirements within that jurisdiction. Should the agency not accept these facilities into their program, the entity who signs the Lighting Service Contract will remain responsible for payment.

Rate per Month:

The monthly charges consist of the items below. These charges may be adjusted subject to review and approval by the Florida Public Service Commission.

Customer Charge	
Pole Charge	
Light Fixture Charge	
Light Fixture Maintenance Charge	
Energy and Demand Charge:	
Non-fuel Energy Charge	
Plus the Cost Recovery Factors listed in	
Rate Schedule BA-1, Billing Adjustments**,	
except the Fuel Cost Recovery Factor and	
Asset Securitization Charge Factor:	See Sheet No. 6.105 and 6.106
Fuel Cost Recovery Factor **:	See Sheet No. 6.105
Asset Securitization Charge Factor:	See Sheet No. 6.105

***Charges are normally revised on an annual basis.*

Additional Charges:

Certain additional charges may also apply to the installation.

Gross Receipts Tax Factor:	See Sheet No. 6.106
Right-of-Way Utilization Fees:	See Sheet No. 6.106
Municipal Tax:	See Sheet No. 6.106
Sales Tax:	See Sheet No. 6.106

THE CUSTOMER AGREES:

1. To purchase from the Company all of the electric energy used for the operation of the Lighting System.
2. To be responsible for paying, when due, all bills rendered by the Company pursuant to the Company's currently effective Lighting Rate Schedule LS-1, or its successor, for facilities and service provided in accordance with this Contract.
3. To be responsible for trimming trees that may either obstruct the light output from fixture(s) or that obstruct maintenance access to the facilities.

IT IS MUTUALLY AGREED THAT:

4. Requests for exchanging facilities, upgrades, relocations, etc. are subject to Section III, paragraph 3.05, of the Company's General Rules and Regulations Governing Electric Service.

THIS IS NOT A BILL. PLEASE DO NOT SEND A PAYMENT IN RESPONSE TO THIS COMMUNICATION.

5. The Company does not guarantee continuous lighting service and will not be liable for damages for any interruption, deficiency or failure of service, and reserves the right to interrupt service at any time for necessary repairs to lines or equipment. Nothing in this Contract is intended to benefit any third party or to impose any obligation on the Company to any such third party.
6. Installation shall be made only when, in the judgment of the Company, the location and the type of the facilities are, and will continue to be, easily and economically accessible to the Company's equipment and personnel for both construction and maintenance. In the event the Customer or its contractor, subcontractor or other agent changes the grading, which requires the Company to move its facilities or otherwise incur costs to ensure compliance with applicable code requirements, Customer shall compensate the Company for all such costs incurred by the Company to comply with any applicable code requirements. In the event Customer fails to pay the Company within 30 days of the completion of such work, Customer shall pay the Company any amounts owing the Company, including interest and any attorneys and other fees and costs the Company incurs to collect any amounts owed to the Company.
7. Modification of the facilities provided by the Company under this Contract may only be made through the execution of a written amendment to this Contract.
8. The Company will, at the request of the Customer, relocate the lighting facilities covered by this Agreement, if provided sufficient rights-of-way or easements to do so. The Customer shall be responsible for the payment of all costs associated with any such Customer-requested relocation of the Company's lighting facilities.
9. The Company may, at any time, substitute for any luminaire/lamp installed hereunder another luminaire/lamp which shall be of at least equal illuminating capacity and efficiency.
10. Customer agrees to take responsibility for the cost incurred to repair or replace any fixture or pole which has been willfully damaged. The Company shall not be required to make such repair or replacement prior to payment by the Customer for damage.
11. The Company will repair or replace malfunctioning lighting fixtures maintained by the Company in accordance with Section 768.1382, Florida Statutes (2005).
12. This Contract shall be for a term of ten (10) years from the date of initiation of service. The date of initiation of service shall be defined as the date the first lights are energized.
13. Should the Customer fail to pay any bills due and rendered pursuant to this Contract or otherwise fail to perform the obligations contained in this Contract, said obligations being material and going to the essence of this Contract, the Company may cease to supply electric energy or service until the Customer has paid the bills due and rendered or has fully cured such other breach of this Contract. Service charges associated with the reconnection of service after disconnection for nonpayment or violation of Company or Commission Rules may be assessed for each lighting installation on an account. Any failure of the Company to exercise its rights hereunder shall not be a waiver of its rights. It is understood, however, that such discontinuance of the supplying of electric energy or service shall not constitute a breach of this Contract by the Company, nor shall it relieve the Customer of the obligation to perform any of the terms and conditions of this Contract.
14. If the Customer no longer wishes to receive service under this schedule, the Customer may terminate the Contract by giving the Company at least sixty (60) days advance written notice to the Company. Upon early termination of service, the Customer shall pay an amount equal to the remaining monthly customer charges, remaining Contribution in Aid of Construction ("CIAC"), if applicable, and remaining pole and fixture lease amounts for the term of the contract. The Customer will be responsible for the cost of removing the facilities.

THIS IS NOT A BILL. PLEASE DO NOT SEND A PAYMENT IN RESPONSE TO THIS COMMUNICATION.

15. In the event of the sale of the real property upon which the facilities are installed, or if the Customer's obligations under this Contract are to be assigned to a third party, upon the written consent of the Company, this Contract may be assigned by the Customer to the Purchaser or to the third party. No assignment shall relieve the Customer from its obligations hereunder until such obligations have been assumed by the Purchaser or third party and agreed to by the Company.
16. This Contract supersedes all previous contracts or representations, either written, oral or otherwise between the Customer and the Company with respect to the facilities referenced herein and constitutes the entire Contract between the parties. This Contract does not create any rights or provide any remedies to third parties or create any additional duty, obligation or undertakings by the Company to third parties.
17. This Contract shall inure to the benefit of, and be binding upon the successors and assigns of the Customer and the Company.
18. This Contract is subject to the Company's Tariff for Retail Service, or as they may be hereafter revised, amended or supplemented. In the event of any conflict between the terms of this Contract and the provisions of the Company's Tariff for Retail Services, the provisions of the Company's Tariff for Retail Service and FPSC Rules shall control, or as they may be hereafter revised, amended or supplemented.
19. The obligation to furnish or purchase service shall be excused at any time that either party is prevented from complying with this Contract by strikes, lockouts, fires, riots, acts of God, the public enemy, governmental or court actions, lightning, hurricanes, storms, floods, inclement weather that necessitates extraordinary measures and expense to construct facilities and/or maintain operations, or by any other cause or causes not under the control of the party thus prevented from compliance, and the Company shall not have the obligation to furnish service if it is prevented from complying with this Contract by reason of any partial, temporary or entire shut-down of service which, in the sole opinion of the Company, is reasonably necessary for the purpose of repairing or making more efficient all or any part of its generating, transmission, distribution or other electrical equipment.
20. In no event shall the Company, its parent corporation, affiliate corporations, officers, directors, employees, agents, and contractors or subcontractors be liable to the Customer, its employees, agents or representatives, for any incidental, indirect, special, consequential, exemplary, punitive or multiple damages resulting from any claim or cause of action, whether brought in contract, tort (including, but not limited to, negligence or strict liability), or any other legal theory.

THIS DOCUMENT PREPARED BY:

Scott A. Cookson, Esquire
Shuffield, Loman & Wilson, P.A.
1000 Legion Place, Suite 1700
Orlando, FL 32801

AND RETURN TO:

Richard S. Geller, Esq.
FISHBACK DOMINICK, LLP.
1947 Lee Road
Winter Park, FL 32789

**DEVELOPMENT AGREEMENT
(GS Crown Point Owner, LLC)**

This **DEVELOPMENT AGREEMENT** (the “**Agreement**”) is made and entered into this 13th day of October, 2023 (“**Effective Date**”), by and between the **CITY OF OCOEE**, a Florida municipal corporation, whose mailing address is 1 N. Bluford Avenue, Ocoee, Florida 34761, Attention: City Manager (“**City**”), and **GS CROWN POINT OWNER, LLC**, a Delaware limited liability company, with an address of c/o Greystar Real Estate Partners, 465 Meeting Street, Suite 500, Charleston, South Carolina 29403 (the “**Developer**”). The City and the Developer are sometimes collectively referred to herein as the “**Parties**” and individually as a “**Party**.”

WITNESSETH:

WHEREAS, Developer is under contract to purchase certain property located in the City of Ocoee, Orange County, Florida legally described in **Exhibit “A”** attached hereto and incorporated herein by this reference (“**Property**”); and

WHEREAS, the Property is commonly known as the Ocoee Crown Point Mixed Use Development (the “**Project**”). Development of the Project is described in more detail on that certain Preliminary Site Plan approved by the Ocoee City Commission on July 19, 2022 (the “**PSP**”); and

WHEREAS, the provisions of Section 4-5B(5) of Article IV of the Ocoee Land Development Code (the “**Code**”) requires that the Developer and the City enter into a development agreement incorporating all plans and conditions of approval by reference; and

WHEREAS, the City confirms that this Agreement is consistent with and an exercise of the City’s powers under the Municipal Home Rule Powers Act; Article VII, Section 2(b) of the Constitution of the State of Florida; Chapter 166, Florida Statutes; all City Rules; other controlling law; and the City’s police powers, and is a non-statutory development agreement which is not subject to or enacted pursuant to the provisions of Section 163.3220-163.3243, *Florida Statutes*; and

WHEREAS, on or about even date herewith, City and Developer are entering into that certain Road Transportation Impact Fee Credit Agreement (the “**Transportation Impact Fee Credit Agreement**”) relating to the Developer’s rights and obligations relating to the construction

of the New Road Improvements (as hereinafter defined) and receipt of Transportation Impact Fee Credits as more particularly set forth in the Transportation Impact Fee Credit Agreement and Sections 4 and 5 of this Agreement.

NOW, THEREFORE, for and in consideration of the mutual obligations contained herein and the sum of ten dollars (\$10.00) and other good and valuable consideration the sufficiency of which is hereby conclusively acknowledged the Parties agree as follows:

AGREEMENT

Section 1. Recitals. The above recitals are true and correct and incorporated herein by this reference.

Section 2. Development of the Property.

A. Development Approvals. Except as expressly set forth herein to the contrary including but not limited to those various waivers set forth in the waiver table attached hereto and incorporated herein by reference as **Exhibit “G”** (the **“Waiver Table”**), nothing herein will be construed to grant or waive on behalf of the City any development approvals that may be required in connection with the PSP or approved Final Site Plan (the **“FSP”** and collectively with the PSP, the **“Approved Plan”**) for Developer’s development of the Property. Except as expressly set forth herein to the contrary, the Developer must comply with all applicable procedures and standards related to the development of the Property.

B. Compliance with Code and Approved Plans. Except as expressly set forth herein to the contrary including but not limited to those various waivers set forth on the Waiver Table, it is agreed that (1) the Project shall comply with the zoning and subdivision regulations of the City as set forth in the Ocoee Land Development Code, as it may from time to time be amended, and (2) the Approved Plan, and all other preliminary and final site plans and plats for the Property or any portion thereof, shall conform to the Ocoee Land Development Code requirements in effect at the time of approval of any such plans/plats. In the event of any conflict between the provisions of the Ocoee Land Development Code, as it may from time to time be amended, and this Agreement, it is agreed that the provisions of this Agreement shall control.

Section 3. Maximum Density. Maximum density of the Project as reflected on the Approved Plan shall be as follows:

- A. 315 multi-family dwelling units; and
- B. 20,000 square feet of commercial space.

Section 4. New Road Improvements; Impact Fee Credits. Subject to the terms and conditions of this Agreement, Developer shall, at Developer’s sole cost and expense, design, engineer, and construct to City standards and subject to approval by the City, a new public road (the **“New Road Improvements”**) including, but not limited to the associated underground

utilities, sidewalks, streetlights, offsite intersection improvements and landscaping as shown on the PSP as shown on **Exhibit "B"** attached hereto and incorporated herein by this reference. City acknowledges that Developer shall be entitled to receive full reimbursement for design, engineering and construction of the New Road Improvements and associated offsite improvements via receipt of transportation impact fee credits ("**Transportation Impact Fee Credits**") and direct cash reimbursement for the costs of the New Road Improvements that are in excess of the Transportation Impact Fee Credits assigned to Developer. City agrees that Developer shall be entitled to receive Transportation Impact Fee Credits at the time of issuance of each building permit for an estimated total amount of Eight Hundred Twenty-five Thousand and no/100s Dollars (\$825,000.00), which estimated amount is subject to revision based on the Approved Plan. City and Developer agree and acknowledge that the current total cost estimate of the design, engineering and construction of the New Road Improvements is estimated at approximately \$1.4 million based on the PSP; provided, however, that the final reimbursement amount shall be determined based on all fees, costs and expenses incurred by Developer relating to the final design and engineering of the New Road Improvements as approved by the Parties and all actual costs and expenses incurred by Developer in connection with construction of the New Road Improvements based on the final design and engineering as approved by the Parties. Upon commencement of construction of the New Road Improvements by Developer, Developer shall submit to the Development Services Department, on a monthly basis, in arrears, a completed Impact Fee Credit form (the "**Impact Fee Credit Form**") as shown on **Exhibit "C"** attached hereto and incorporated herein by this reference, including such supporting documentation as the City may reasonably request to evidence Developer's payment of all fees and costs relating to the design, engineering, permitting and construction of the New Road Improvements. Upon receipt and approval of such documents, City shall assign the Transportation Impact Fee Credits to Developer which Developer shall be permitted to use to satisfy the road and transportation impact fees associated with Developer's Project. For any reimbursement amounts that are in excess of the Transportation Impact Fee Credit, City will reimburse the Developer within sixty (60) days of submittal of Developer's invoice and supporting documentation for amounts in excess of the Transportation Impact Fee Credit. Developer shall keep or provide for retention of adequate records and supporting documentation which concern or reflect total project costs of the New Road Improvements. This information will be available to City, or its duly authorized agent or representative, for audit, inspection or copying, at City's sole cost and expense, for a minimum of five (5) years from the completion the New Road Improvements and final reimbursement to the Developer.

Section 5. New Road Improvements Ownership/Dedication, Restricted Parking and Maintenance. Upon completion of construction of the New Road Improvements and acceptance by the City, Developer shall convey the New Road to the City by Special Warranty Deed, such that upon conveyance, the New Road shall become a public right-of-way. Following the conveyance of the New Road by Developer to the City, City shall be responsible for all costs and expenses, except as provided in this Section, associated with maintaining, repairing and replacing the New Road Improvements, which New Road Improvements shall be maintained, at all times, in the same condition as existed as of the acceptance of the New Road by the City and delivery of the Special Warranty Deed relating to the conveyance of the New Road Improvements from the Developer to the City, normal wear and tear excepted. Notwithstanding that the New Road shall become a public right-of-way following acceptance by the City and conveyance to the City via the

Special Warranty Deed, City agrees to permit Developer to restrict public parking in those certain parking spaces along the New Road Improvements as shown on **Exhibit "D"** attached hereto and incorporated herein by this reference (the "**Restricted Parking Spaces**"). Said restriction shall be permitted from six (6) p.m. until nine (9) a.m. daily during the week and Friday from six (6) p.m. to Monday nine (9) a.m. on weekends for residents of the of the multifamily building(s). Developer acknowledges and agrees to be responsible for the costs and expenses of maintaining, repairing and replacing the Restricted Parking Spaces, which maintenance of the Restricted Parking Spaces shall be maintained, at all times, in the same condition as existed as of the acceptance of the New Road by the City and delivery of the Special Warranty relating to the conveyance of the New Road from the Developer to the City, normal wear and tear excepted.

City agrees and acknowledges that Developer is developing a mixed-use village project and that the New Road Improvements provide primary access to the Project, which are a material inducement for Developer to enter into this Agreement and to construct the Project. City agrees to maintain the New Road Improvements, with the exception of the Restricted Parking Spaces, in accordance with the City's past and current practices regarding roadway maintenance.

Section 6. Stormwater Management System. City and Developer agree and acknowledge that a master stormwater system exists with respect to the development of the Ocoee PUD (the "Master Stormwater System") and that Developer shall be permitted to connect to and discharge to the Master Stormwater System at such locations as shown on **Exhibit "E"** attached hereto and incorporated herein by reference in connection with Developer's Project.

Section 7. Signage.

A. **Master Signage Plan.** Developer will provide City with a master signage plan for the Project to include all sign types and locations. City will provide approvals in accordance with the proposed uses and as outlined below.

B. **Monument Signs.** City and Developer acknowledge and agree that the master monument sign plan as shown on the approved Crown Point PUD Plan shall be amended to permit two (2) monument signs on the north tract (the "**Northern Monument Signs**") and one (1) monument sign on the south tract (the "**Southern Monument Sign**") of the Property in locations provided on the Approved Plan and as presently contemplated on the sign plan attached hereto and incorporated herein by reference as **Exhibit "F"** (the "**Sign Plan**").

C. **Ground Level Commercial Building Signs.** City and Developer agree that the ground level commercial units consisting, but not limited to, the leasing office, commercial space, micro commercial and live-work will have wall mounted blade or canopy hanging signs as well as additional storefront signage. Blade or canopy sign locations will be submitted and permitted with the final building permit application and tenants shall be allowed to change faces without further permitting requirements. The City will receive a Master Signage Plan for these locations.

D. **Retail Signage.** The future retail development on the South Tract shall be allowed necessary temporary and permit signage consistent with typical retail outparcels.

E. **Project Specific Signage.** In addition to project related monument signage, Developer may include project related branding, signage or murals on all buildings.

F. **Wayfinding Signage.** Signage to provide directions and wayfinding may be installed at locations throughout the Project to identify locations including, but not limited to, the park, West Orange Trail and commercial/retail.

Section 8. Park Impact Fee Credits. In exchange for Developer conveying via special warranty deed approximately .4 acres of open space within the Project to the City after Developer's construction and installation of amenities for a park adjacent to the West Orange Trail, including sidewalks, benches, and other landscape and hardscape elements (the "Park"), City shall provide park impact fees in the amount of \$300,000.00 once construction of the park and related amenities are completed and approved by the City. Following conveyance of the Park to the City, Developer agrees to maintain the Park on behalf of and at the direction of the City in accordance with the regularly scheduled grounds maintenance for the Project; provided, however, that Developer shall have no liability for any loss, cause, claim, action, damage, or injury suffered in connection with such maintenance other than for the willful misconduct or gross negligence of Developer and its employees or agents.

Section 9. Average Building Heights. Building height within the Project provides for up to four (4) stories as long as the average height in the Project does not exceed forty-five (45) feet. Building height is measured in the Ocoee LDC as the vertical distance from the average line of the highest and lowest points of that portion of the lot covered by the building to the highest point of coping of a flat roof, or the deckline of a mansard roof or to the average height of the highest gable of a pitch or hip roof. For the four story and mixed-use buildings in this project, the height measurement exceeds 45 feet due to additional clearance heights for commercial space and enhanced elevations; however, the average building height for the project is less than 45 feet. As such, the City will provide a variance for the four story and mixed use buildings per the approved elevations in the Approved Plan.

Section 10. Building Construction. City agrees and acknowledges that Developer shall be permitted to construct all buildings with wood frame construction and Developer shall not be obligated to construct any portion of such buildings with concrete block, nor shall Developer be required to install elevators within any building which is three (3) stories in height or less, unless Developer elects to do so, in Developer's sole and absolute discretion.

Section 11. Trees. The Developer and City have collaborated on a plan that provides a walkable urban scale neighborhood. City agrees to provide necessary waivers for reduction in trees and landscaping based on the urban mixed-use nature of the Project and enhanced recreation and wellness areas, which shall be included on the Approved Plan. Developer will make efforts to save existing trees on the Property and has provided a potential tree save plan as part of the Approved Plan; however, Developer and City acknowledge and accept that trees will be extremely difficult to save due to the challenging grading and earthwork activities necessary for development of the site. Final approved landscape plan is included with the Approved Plan and any waivers shall be granted,

Section 12. Parking. The Developer submitted parking plan to the City as part of the Approved Plan approval process. The Project objective is to provide a walkable urban scale, mixed use neighborhood with shared parking arrangement. City agrees to provide necessary waivers for reduction in parking count and/or stall sizes based on the urban mixed-use nature of the Project, which waiver shall be included on the Approved Plan.

Section 13. Phasing. Developer may construct the Project in two or more phases, which shall be at Developer sole and absolute discretion.

Section 14. Covenants Running with the Land/Assignment. The terms, provisions, covenants, conditions and restrictions set forth in this Agreement and the rights, privileges and benefits and duties, obligations and burdens assigned, granted, imposed and created pursuant to this Agreement shall and are hereby declared to be covenants running with the title to the Property. This Agreement shall legally benefit and bind the Developer and its respective successors and assigns.

Section 15. Force Majeure. Except as otherwise expressly set forth in this Agreement, if Developer's performance of any act (other than the payment of money) required hereunder is impractical, impossible, delayed, hindered, or prevented by reason of strikes, lock-outs, labor troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, pandemic or epidemic health occurrences as declared by applicable governmental or world health organizations, health events resulting in government mandated quarantine, shelter-in-place, travel restrictions, government office shut-down and/or moratoria, or other government-directed cessation of business related to pandemic or epidemic health occurrences, riots, terrorist acts, insurrection, adverse weather conditions, war or other reasons of a like nature not the fault of the Developer delayed in performing work or doing acts required under the terms of this Agreement (all of such reasons or causes referred to in this Agreement as "force majeure"), then performance of such acts shall be excused for the period of the delay, and the period within which the performance of such act may be required hereunder shall be extended by a period equivalent to the period of such delay plus thirty (30) days. In any case where work is to be paid for out of insurance proceeds or condemnation awards or other similar such proceeds, due allowance, not to exceed ninety (90) days in the aggregate, shall be made, both to the Party required to perform such work and to the Party required to make such payment, for delays in the collection of such proceeds and award.

Section 16. Legal Proceedings, Attorneys' Fees. In the event that either Party shall institute litigation or other legal proceedings against the other to interpret or enforce any term, provision, warranty, covenant or condition set forth in this Agreement, the prevailing Party in such litigation or other legal proceedings following all appeals therefrom, if any, shall be entitled to recover from the non-prevailing Party in such litigation or other legal proceedings reasonable attorneys', paralegals', and experts' fees and expenses and court costs incidental thereto, including those incurred on any bankruptcy proceeding and/or appeal of a lower court decision.

Section 17. Notices.

1. All notices provided for in this Agreement shall be in writing and delivered to the addresses below:

City:

City of Ocoee
Attention: City Manager
150 North Lakeshore Drive
Ocoee, Florida 34761

With a copy to:

FISHBACK DOMINICK, LLP.
1947 Lee Road
Winter Park, FL 32789
ATT: Richard S. Geller, Esq.
rgeller@fishbacklaw.com

Developer:

GS Crown Point Owner, LLC
c/o Greystar Real Estate Partners
788 East Las Olas Blvd., Suite 201
Fort Lauderdale, Florida 33301
Attn: Lewis Stoneburner
Email: lstoneburner@greystar.com

With a copy to:

Greenberg Traurig, P.A.
333 S.E. 2nd Avenue, Suite 400
Miami, Florida 33131
Attention: Kimberly S. LeCompte
Email: lecomptek@gtlaw.com

2. Any notice, request, demand, instruction or other communication to be given to either Party hereunder, shall be in writing and shall be hand-delivered, sent by Federal Express or a comparable overnight mail or delivery service, mailed by U.S. registered or certified mail, return receipt requested, postage prepaid, by electronic mail (email), or transmitted by facsimile or telecopier to the Parties and their listed co-recipients, at their respective addresses and/or facsimile numbers set forth herein. Any notice delivered as aforesaid shall be deemed delivered immediately upon mailing, delivery to an appropriate carrier, or receipt or refusal of delivery of said notice, whichever is earliest. The inability to deliver because of change in address of which no notice is given shall be deemed to be a receipt of the notice, demand and request. The Party claiming delivery of notice via telecopier or facsimile shall have the burden of proving notice was in fact sent, which burden can be carried without further evidence if confirmed by the transmitting telecopier or facsimile machine. Any communication sent by electronic mail, facsimile or telecopier shall promptly be followed by a copy delivered by one of the other approved methods. Receipt shall be deemed to have occurred if delivered to an authorized agent

or any employee of the addressee or of the addressee's company. A time period in which a response to any notice, demand or request must be given pursuant to the terms of the Agreement, shall commence to run from the date of receipt. Any Party may change the address for receiving notices, request, demands, or other communication by not less than three (3) days prior notice in accordance with this Section. Telephone numbers are provided for convenience only. Notice from a Party's attorney shall constitute legal notice hereunder.

3. City and Developer may from time to time notify the other of changes regarding where and to whom notices should be sent by sending notification of such changes pursuant to this Section.

Section 18. Miscellaneous Provisions.

1. **Entire Agreement.** This Agreement constitutes the complete and entire understanding and agreement between City and Developer concerning or with respect to the topics addressed in this Agreement. City agrees and acknowledges that the City and OCPS previously recorded that certain Declaration of Conditions of Approval (Ocoee Crown Point PUD), recorded September 30, 2003, in Official Records Book 7127, Page 4804, as amended by that certain First Amendment to Declaration of Conditions of Approval, recorded September 27, 2005, in Official Records Book 8215, Page 4805, that certain Second Amendment to Declaration of Conditions of Approval recorded September 27, 2005, in Official Records Book 4825, that certain Third Amendment to Declaration of Conditions of Approval recorded August 14, 2014, in Official Records Book 10790, Page 4987 and that certain Fourth Amendment to Declaration of Conditions of Approval recorded September 5, 2019 as Document No. 20190543880 in the Public Records of Orange County, Florida (collectively, the "**Conditions of Approval**"). City hereby agrees only the following Prior Conditions of Approval shall remain binding on the Property: Conditions of Approval 2, 5, 13, 25, 26, 27, 28, 30, 32, 33, 36, 40, 42, 44, 50, 51, 53, 55, 59, 64, 65, 66, 67, 84-91, 93, 98, 103, 106 and 107.

2. **Relationship of the Parties.** This Agreement does not evidence the creation of, nor shall it be construed as creating a partnership or joint venture between the City and Developer. Developer cannot create an obligation or responsibility on behalf of City or bind City in any manner. Each Party is acting for its own account, and it has made its own independent decisions to enter into this Agreement and as to whether the same is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary. Each Party acknowledges that none of the other Parties hereto is acting as a fiduciary for or as an adviser to it in respect of this Agreement or any responsibility or obligation contemplated herein.

3. **Agency.** Developer and City, and their agents, contractors and subcontractors, shall perform all activities described in this Agreement as independent entities and not as agents of one another.

4. **Sovereign Immunity.** Nothing contained in this Agreement shall be construed as a waiver of City's right to sovereign immunity for tort claims under and subject to § 768.28, *Florida Statutes*.

5. **Captions, Section and Paragraph Headings.** Captions, section and paragraph headings contained in this Agreement are for convenience of reference only and are in no way intended, and shall in no way be deemed, to define, describe, extend or limit the scope, content or intent of this Agreement or of any particular term, provision, section or paragraph hereof.

6. **Modification, Amendment or Termination.** This Agreement may not be changed, modified, amended or terminated except as expressly set forth in a separate writing signed by both of the Parties to this Agreement or their respective successors in interest or title.

7. **Recording in Public Records.** Developer shall ensure that this Agreement is recorded among the public records of Orange County, Florida promptly after the execution of the Agreement by all Parties.

8. **Indemnification.** Developer hereby indemnifies and holds City and its elected and appointed officials, employees and agents harmless from and against any and all claims (at law or in equity), disputes, lawsuits, injuries, damages, attorneys' fees and all adverse matters in any way arising out of or relating to the risks assumed by Developer under this Agreement.

9. **Default.** Failure by a Party to perform any of its obligations hereunder shall constitute default hereunder, entitling the non-defaulting Party to terminate this Agreement or to pursue the remedies of specific performance, injunctive relief or damages as set forth in this Agreement. Prior to termination of this Agreement, the non-defaulting Party exercising such right shall first provide the defaulting Party with written notice specifying such default and the actions needed to cure same, in reasonable detail. Upon receipt of said notice, the defaulting Party shall be provided thirty (30) day opportunity within which to cure such default.

10. **Bankruptcy.** In the event (a) an order or decree is entered appointing a receiver for Developer or its assets or (b) a petition is filed by Developer for relief under federal bankruptcy laws or any other similar law or statute of the United States, which action is not dismissed, vacated or discharged within sixty (60) days after the filing thereof, then City shall have the right to terminate immediately this Agreement.

11. **No Liability or Monetary Remedy.** Notwithstanding anything herein to the contrary, Developer and City, on behalf of themselves, and their respective successors and assigns, hereby agree that neither Party shall be liable to the other for any direct, indirect, special, punitive or consequential damages, including but not limited to, damages based on loss of service, revenues, profits or business opportunities, and hereby waive any and all claims and causes of action for the recovery of such direct, indirect, special, punitive or consequential damages.

12. **Governing Law; Binding Effect.** This Agreement and the construction, interpretation and enforcement thereof shall be construed in accordance with and governed by the laws of the State of Florida and shall be binding upon, inure to the benefit of and be enforceable by the Parties hereto and their respective successors in interest or title.

13. **Venue.** The location for settlement of any and all claims, controversies, or disputes, arising out of or relating to any part of this Agreement, or any breach hereof, shall be Orange County, Florida.

14. **Construction of Agreement.** The fact that any one of the Parties to this Agreement shall have drafted or structured or shall be deemed to have drafted or structured this Agreement or any particular term or provision of this Agreement shall not be considered by any court or other tribunal in the construction or interpretation of this Agreement or any particular term or provision of this Agreement, either in favor or to the disadvantage of such Party.

15. **Severability.** If any of the terms, provisions, covenants or conditions set forth in this Agreement or the application thereof to any particular circumstance shall be held by any Court having jurisdiction to be illegal, invalid or unenforceable under applicable law, the remainder of this Agreement shall not be affected thereby and each provision of this Agreement shall be valid and enforceable to the fullest extent otherwise permitted by law.

16. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be and be taken to be an original, and are collectively but one instrument.

17. **Time of the Essence.** Time, and timely performance, is of the essence of this Agreement and of the covenants and provisions hereunder. When a date upon which a specified event shall occur or be performed falls upon a weekend or legal holiday, the time allowed for the event or performance to occur shall be extended to 5:00 p.m. on the next succeeding business day. For purposes of this Agreement, a "business day" shall mean any weekday that the banks in the county in which the Property is located are open for business (thereby excluding Saturdays, Sundays and legal holidays).

18. **Statutory Development Agreement.** This Agreement is not a statutory development agreement pursuant to Chapter 163, Florida Statutes (Florida Local Government Development Agreement Act), and is being entered into by the City pursuant to the City's home rule authority.

SIGNATURES TO FOLLOW

DEVELOPER:

Witnesses:

GS CROWN POINT OWNER, LLC,
a Delaware limited liability company

[Signature]
Printed Name: ELVISA D. SNAPE

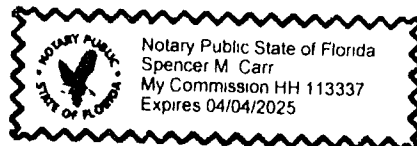
[Signature]
Printed Name: Luke Hershman

By: [Signature]
Name: R. Parker LeCorgne
Title: VP

STATE OF FLORIDA
COUNTY OF WALTON

The foregoing instrument was acknowledged before me this 13 day of OCTOBER, 2023, by PARKER LECORNE, as VP of GS Crown Point Owner, LLC, a Delaware limited liability company, on behalf of the company. He/she appeared by (check one) ☐ physical appearance or ☐ online notarization, and (check one) ☒ is personally known to me or ☐ has produced _____ as identification.

[Signature]
Print Name: SPENCER M. CARR
Notary Public
My Commission Expires: 4/4/25
Commission Number: HH 113337



CITY:

CITY OF OCOEE

By:

Rusty Johnson, Mayor

ATTEST:

Melanie Slobitt, City Clerk

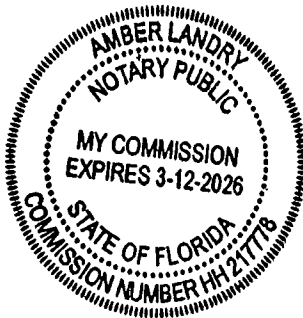
Kathy Heard, Acting

Approved as to Form:

Scott Cookson, City Attorney

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 20th day of June, 2023, by Rusty Johnson, as Mayor of the City of Ocoee, Florida, a municipal corporation of the State of Florida, on behalf of the City of Ocoee, Florida. He/she appeared by (check one) ☒ physical appearance or ☐ online notarization, and (check one) ☒ is personally known to me or ☐ has produced _____ as identification.



Amber Landry
Print Name: Amber Landry
Notary Public
My Commission Expires: 3-12-2026
Commission Number: HH 21778

Exhibit "A"
LEGAL DESCRIPTION

The Land referred to herein below is situated in the County of Orange, State of Florida, and is described as follows:

PARCEL 1

A portion of Section 6, Township 22 South, Range 28 East, Orange County, Florida, being more particularly described as follows:

BEGIN at the Southeast corner of Lot 1, Ocoee Crown Point PUD Phase 1, according to the plat thereof, as recorded in Plat Book 63, Pages 24 through 26, of the Public Records of Orange County, Florida, said point also lying on the North right of way line of West Orange Trail, per Official Records Book 5043, Page 2627, Public Records of Orange County, Florida; thence departing said North right of way line, and along the East and North lines of aforesaid Lot 1, the following eight (8) courses and distances: North 15°51'59" West, a distance of 46.09 feet to a point of curvature of a curve concave Easterly, having a radius of 230.00 feet and a central angle of 41°07'10"; thence Northerly along the arc of said curve a distance of 165.06 feet; thence North 25°15'11" East, a distance of 28.46 feet; thence North 64°44'49" West, a distance of 175.18 feet to a point of curvature of a curve concave Northeasterly, having a radius of 855.00 feet and a central angle of 15°15'38"; thence Northwesterly along the arc of said curve a distance of 227.73 feet; thence North 49°29'11" West, a distance of 487.82 feet to a point of curvature of a curve concave Northeasterly, having a radius of 280.00 feet and a central angle of 23°04'36"; thence Northwesterly along the arc of said curve a distance of 112.77 feet; thence North 26°24'35" West, a distance of 26.74 feet to the South right of way line of Ocoee Crown Point Parkway, per Plat Book 63, pages 24 through 26, of the Public Records of Orange County, Florida; thence departing aforesaid East and North lines of Lot 1, and along said South right of way line the following five (5) courses and distances: North 63°05'17" East, a distance of 60.00 feet to a point on a non-tangent curve concave Easterly, having a radius of 10.00 feet, a central angle of 68°17'57" and a chord bearing of North 07°14'15" East; thence from a tangent bearing of North 26°54'43" West, Northerly 11.92 feet along the arc of said curve to a point of reverse curvature of a curve concave Northwesterly, having a radius of 100.00 feet and a central angle of 28°29'41"; thence Northeasterly along the arc of said curve a distance of 49.73 feet to a point of reverse curvature of a curve concave Southeasterly, having a radius of 10.00 feet and a central angle of 49°04'01"; thence Northeasterly along the arc of said curve a distance of 8.56 feet to a point of reverse curvature of a curve concave Northwesterly, having a radius of 1,730.00 feet and a central angle of 05°41'30"; thence Northeasterly along the arc of said curve a distance of 171.86 feet to the South line of Wetland 1 (Staten Branch), according to the Official Records Book 10450, Page 96, of the Public Records of Orange County, Florida; thence departing said South right of way line and along said South line of Wetland 1 (Staten Branch) the following twenty-two (22) courses and distances: South 61°38'55" East, a distance of 76.25 feet; thence South 81°34'00" East, a distance of 66.61 feet; thence South 44°57'55" East, a distance of 119.80

feet; thence South 36°27'55" East, a distance of 57.50 feet; thence South 42°47'18" East, a distance of 67.80 feet; thence South 49°12'45" East, a distance of 72.19 feet; thence South 32°14'46" East, a distance of 50.38 feet; thence South 31°26'04" East, a distance of 69.99 feet; thence South 75°16'42" East, a distance of 51.73 feet; thence South 46°41'54" East, a distance of 67.26 feet; thence South 66°23'09" East, a distance of 43.50 feet; thence South 67°46'36" East, a distance of 48.28 feet; thence South 72°24'39" East, a distance of 56.14 feet; thence South 85°26'41" East, a distance of 51.81 feet; thence North 82°19'12" East, a distance of 40.21 feet; thence South 84°45'44" East, a distance of 53.70 feet; thence South 87°14'35" East, a distance of 36.13 feet; thence South 80°04'10" East, a distance of 79.45 feet; thence South 84°11'09" East, a distance of 33.89 feet; thence South 72°44'14" East, a distance of 47.40 feet; thence South 80°08'56" East, a distance of 59.73 feet; thence South 80°08'56" East, a distance of 74.39 feet to the West right of way line of County Road 437 (Ocoee-Apopka Road), per Orlando-Orange County Expressway Authority project number 75320-6460-602/603, also being a point on a non-tangent curve concave Easterly, having a radius of 2,351.97 feet, a central angle of 8°16'48" and a chord bearing of South 8°49'00" West; thence departing said South line of Wetland 1 (Staten Branch) from a tangent bearing South 12°57'24" West, Southerly 339.89 feet along the arc of said curve to the North right of way line of aforementioned West Orange Trail; thence departing said West right of way line, South 73°30'51" West, a distance of 535.21 feet along said North right of way line of West Orange Trail to the aforementioned East line of Lot 1, and the POINT OF BEGINNING.

Containing 12.26 acres, more or less.

AND

PARCEL 2

A portion of Section 6, Township 22 South, Range 28 East, Orange County, Florida, being more particularly described as follows:

COMMENCE at Southeast corner of Lot 1, Ocoee Crown Point PUD Phase 1, according to the plat thereof, as recorded in Plat Book 63, Pages 24 through 26, of the Public Records of Orange County, Florida; thence South 15°50'01" East, a distance of 39.00 feet to the POINT OF BEGINNING, said point being on the South right of way line of West Orange Trail, a 39.00 foot right of way per Official Records Book 5043, page 2627; thence North 73°30'51" East, a distance of 521.07 feet along said South right of way line to a point on the West right of way line of County Road 437 (Ocoee-Apopka Road), per Orlando-Orange County Expressway Authority project number 75320-6460-602/603, and a non-tangent curve concave Easterly, having a radius of 2,351.97 feet, a central angle of 07°45'27" and a chord bearing of South 00°11'57" East; thence from a tangent bearing of South 03°40'47" West, Southerly 318.45 feet along the arc of said curve and said West right of way line; thence departing said West right of way line, North 90°00'00" West, a distance of 452.37 feet; thence North 15°51'31" West, a distance of 177.07 feet to the aforementioned South right of way line of West Orange Trail, and the POINT OF BEGINNING.

Containing 2.69 acres, more or less.

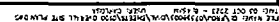


Exhibit "C"
Impact Credit Form



ASSIGNMENT OF RESERVED TRANSPORTATION CREDITS

Date: _____

The undersigned hereby assigns \$_____ in transportation credits for use in connection with the development of _____ in _____
 (Lot Number & Address) (Name of Development)

By signing below the undersigned acknowledges that it is the owner and holder of the transportation credits and agrees that these assignments will reduce the reserved credit and account balance accordingly. The undersigned understands that (1) this assignment is subject to the terms and conditions of the underlying documents authorizing the assigned credits, and (2) any building permit must be issued in the name of the Assignee or an additional assignment may be required.

Sincerely,

 Signature

 Print Name

Title: _____ (Must match name in which credits are reserved)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged by me by means of ☐ physical presence or ☐ online notarization this _____ day of _____ 20____ by _____, who ☐ is personally known to me or ☐ has produced _____ as identification and who did not take an oath.

 Signature of Notary Public

(Seal)

Transportation Impact Fee Credits Draw Form

Wire Development - City of Ocoee

DRAW DATE (MONTH)

TOTAL COST OF WORK COMPLETED				
DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		TOTAL COMPLETED TO DATE
		FROM PREVIOUS APPLICATIONS	THIS PERIOD	
Village Center Drive	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ -	\$ -	\$ -	\$ -

BREAKDOWN OF COST CREDITS + CASH								
DESCRIPTION OF WORK	TRANSPORTATION CREDITS				CASH REIMBURSEMENT			
	TOTAL CREDITS AVAILABLE	PREVIOUSLY USED	CREDITS USED THIS PERIOD	BALANCE OF CREDITS	TOTAL CASH REIMBURSEMENT	PREVIOUSLY REIMBURSED	CASH USED THIS PERIOD	BALANCE TO FINISH
Village Center Drive	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

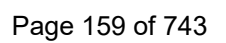


Exhibit "E"
Stormwater Management Tie In Locations

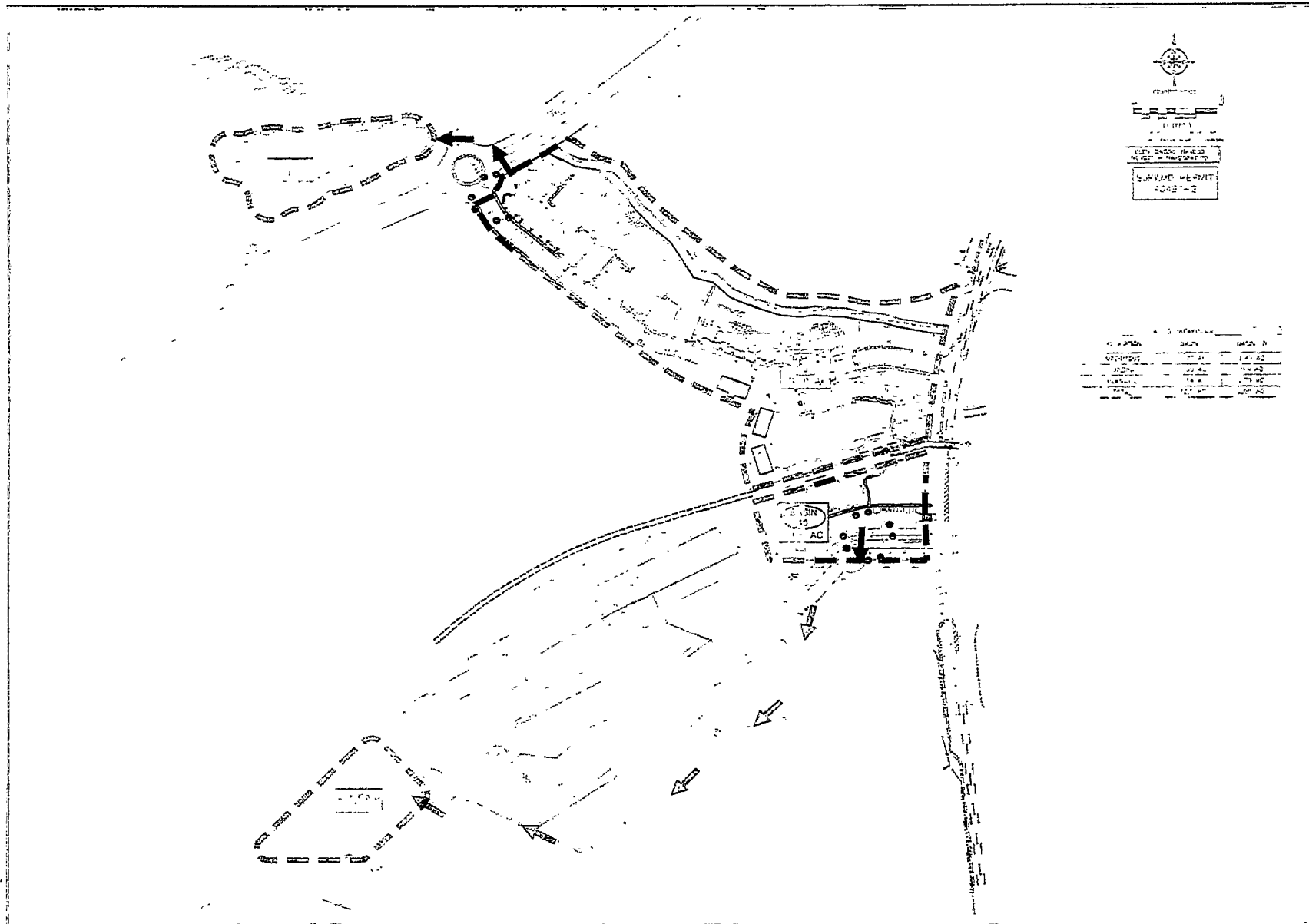


EXHIBIT F Sign Plan

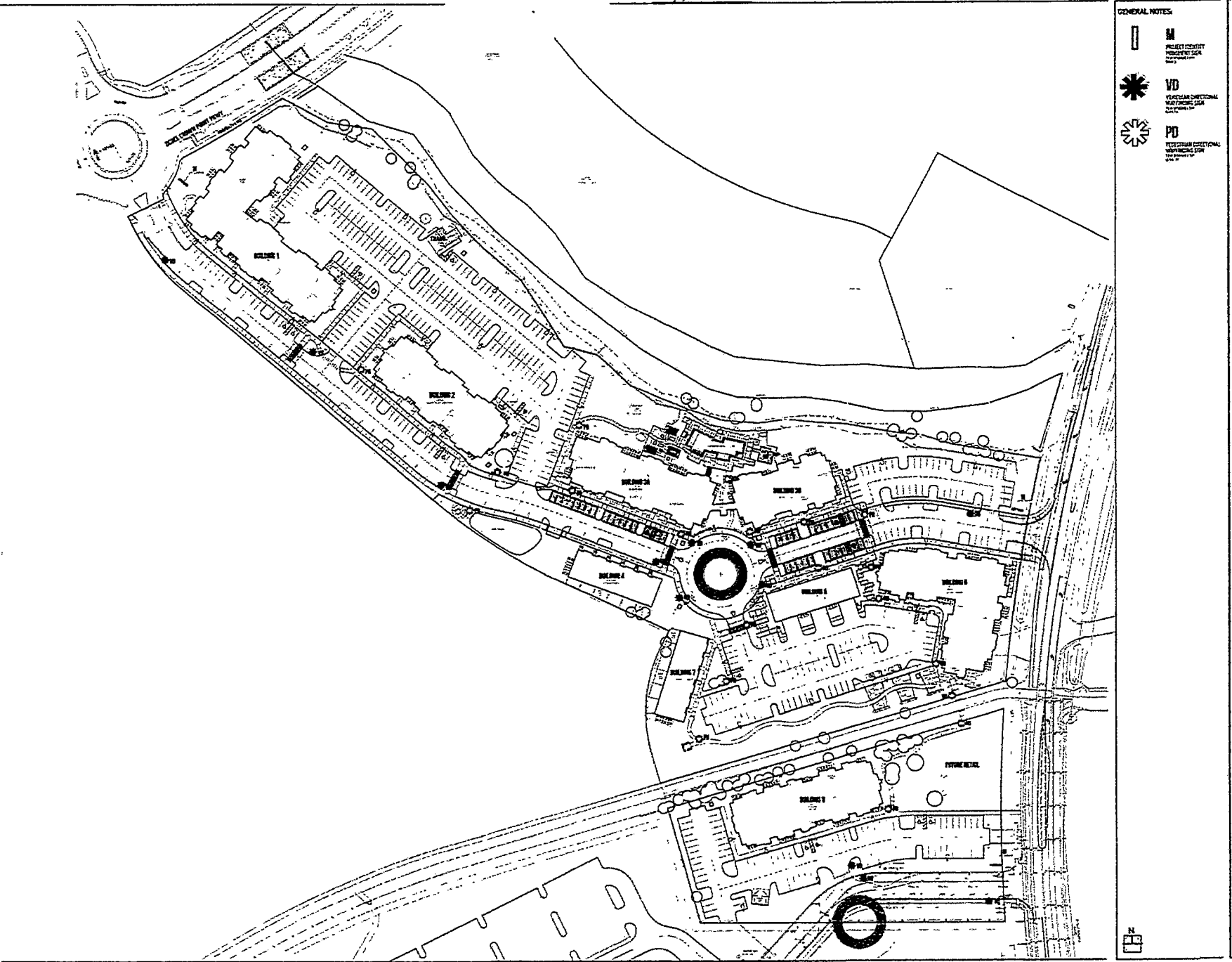


Exhibit “G”

Waiver Table

[See Attached]

Document	Code Citation	Subject	Ocoee Code Standard	PUD Standard	Proposed Standard	Justification for Waiver
OCP PUD	2.1	Building Placement / Setbacks / Building Coverage	N/A	0' side yards are permitted. 5' rear yard set back is permitted. Maximum building coverage 95%. Maximum building height 45'.	Maximum Building Height of Four Stories. Four Story Buildings will exceed 45' in height due to the mixed-use nature of the buildings where commercial space occurs, however shall not exceed a Maximum Building Height of 60'.	Due to the mixed-use nature of the project, and varying building heights, the increased height is necessary to include higher ceilings for commercial space on the first floor, in addition to the pitched roof design as approved in the elevations.
City of Ocoee Land Development Code	Section 6-15 (E)	Multifamily Development Standards	All Multifamily dwelling units shall have a minimum living area of six hundred fifty (650) square feet per unit	N/A	The project overall weighted average unit size will be greater than 650 Square Feet with no more than 15% of the overall units having less than 650 square feet of living area, with a minimum area of four hundred fifty (450) square feet.	The inclusion of smaller units sizes will allow for more options to meet the needs of the local workforce, short term stays, and keep the population within the City Limits.
City of Ocoee Land Development Code	Section 6-15 (K.3)	Multifamily Development Standards	There shall be a minimum separation of twenty (20) feet between all multifamily structures of two (2) stories or less and a minimum separation of thirty (30) feet between all multi-family structures three (3) stories or more	N/A	Building spacing to be designed in accordance with the building code and PUD Guidelines. Roof drains and drainage management will be implemented when buildings are spaced closer than 25 feet.	The intent is to create a development with a mixed use, urban context which accentuates connectivity among the buildings and amenities.
City of Ocoee Land Development Code	Section 6-15 (L)	Multifamily Development Standards	In addition to the landscape provisions contained in the Section 6-10 of this Code, street trees shall be provided at a rate of one (1) tree per attached multifamily unit.	N/A	Developer may use the tree count as approved in the FSP, and shall not be less than one (1) tree per two (2) attached multifamily units.	The public road will be built in accordance with the approved plans by the City of Ocoee. Street trees will be placed where they logically fit, given the coordination with other site work, and underground utilities.
City of Ocoee Land Development Code	Section 6-15 (M)	Multifamily Development Standards	Maintenance-free masonry screening walls on side or rear property lines may be required to buffer surrounding properties from adverse site conditions. Wood fences shall not be permitted. No wall placed on a side or rear lot line shall exceed six (6) feet in height. Landscaping shall be provided in the form of hedge material or shrubs planted adjacent to both sides of the wall equal to twenty-five (25) percent of its length.	Typical Rear Yard Fence Detail (p.17): Acceptable Fence Materials: Grade A Red or White Cedar and S. Yellow Pine or non-fading white PVC.	Screening walls are not required unless hiding specific items such as trash corrals or undesirable items. Townhomes, may utilize wood, PVC or aluminum picket fences as part of their rear yard.	The development will use a mixed-use configuration to buffer surrounding properties from adverse site conditions. Properties will encourage foot traffic and take advantage of view corridors.
City of Ocoee Land Development Code	Section 6-15 (P)	Multifamily Development Standards	Short-term rentals are expressly prohibited in multifamily developments where the multifamily units are under the fee simple or condominium form of ownership. For purposes of this Section, "short term rentals" shall mean the rental of a residential dwelling unit for a term of less than six (6) consecutive months.	N/A	Short term stays shall be permitted to no more than 25% of the overall units, and shall be managed by the approved property manager.	This has already been approved in the PUD. The intent is to allow for a varied use of the multifamily units, including short term stays for visitors to the neighboring attractions, as well as provide more flexible options for teachers at local schools.

Document	Code Citation	Subject	Ocoee Code Standard	PUD Standard	Proposed Standard	Justification for Waiver
OCP PUD	2.4	Building Expression	N/A	A "punched" window expression is desirable. Large expanses of glass curtain walls are discouraged as being generally inconsistent with the Master Plan.	Larger areas of glass may be utilized in limited areas within the Village Center on the ground level, where Commercial uses are differentiated from the multifamily residences to maximize the mixed-use urban feel.	To encourage a varying experience of a mixed-use development from commercial spaces to residential outside of the Village Center.
OCP PUD	4.3.3	Style of Fixtures and Light Poles	N/A	The finish of all free-standing fixtures, supports and poles shall be colored black. Period-style fixtures within the traditional neighborhood area will utilize a one or two-pole luminaire light fixture.	Developer plans to use black, bronze or brushed aluminum that will tie into existing fixtures and features throughout the community for the internal site lighting. Street lights will be standard fixtures, typically black as provided by Duke.	To encourage a creative community and be mindful of architecture and product availability.
OCP PUD + City of Ocoee Land Development Code	PUD 3.3.1 City Code Section 6-4 (G)	Off-Street Parking Standards	Ocoee Code is overwritten by OCP PUD Standard G.(6)(h) Commercial establishments not otherwise classified: One (1) space for each two hundred (200) square feet of first floor gross area, plus one (1) space for each three hundred (300) square feet of floor area above the first floor, excluding all rooms used for storage.	3.3.1 Minimum or maximum parking requirements will not be established. Parking lots are part of the total parking count which also includes on-street parallel parking/ Parking for the Village will be evaluated in total, and will take into consideration shared parking with other uses, such as the work force which has mostly after-hours parking.	Mixed use parking scenario is used to promote an urban mixed-use environment, and minimum or maximum parking requirements will not be established. Certain retail spaces will be designated in specific locations during normal business hours, and will be shared with the multifamily uses after hours.	To encourage a variety of uses within the development, developer will utilize multiple parking configurations and sizes, allowing for on street parallel and pull in spaces, off-street parking spaces and compact spaces, as well as handicap spaces.
OCP PUD + City of Ocoee Land Development Code	PUD 3.3.1 City Code Section 6-4 (H)	Off-Street Parking Standards	Ocoee Code is overwritten by OCP PUD Standard H(1) Each off-street parking space shall include one hundred eighty (180) square feet in addition to space for access drives and aisles. The minimum size of each space shall be nine (9) feet by twenty (20) feet. Aisles for two-way traffic in parking lots shall be twenty-two (22) feet in width.	3.3.1 Minimum or maximum parking requirements will not be established.	The Developer may use compact spaces, to increase the parking density on the overall site. The minimum size of each space shall be nine (9) feet by eighteen (18) feet totaling one hundred sixty-two (162) square feet in addition to space for access drives and isles.	To encourage a variety of uses within the development, developer will utilize multiple parking configurations and sizes, allowing for on street parallel and pull in spaces, off-street parking spaces and compact spaces, as well as handicap spaces.
City of Ocoee Land Development Code	Section 6-10 (B.2)	Landscaping	No person shall undertake land clearing or the removal of any protected tree without first obtaining a permit from the Building Department. In addition to approval by the Building Official, the permit must also be approved by the Staff Forester. An application for land clearing or tree removal shall be made on forms provided by the Building Department and shall contain, at a minimum, the following information	N/A	A tree save plan will be approved as part of the final FSP Permit issuance; however, tree saves shall not be required due to significant grading challenges on the site. The developer shall not be required to provide any additional information, including an additional tree survey, outside of the FSP set. This tract in the PD was originally planted pine, and does not require a tree survey.	Given the existing site conditions of sloping land, and dense pine trees, the Developer will ensure preservation of the marked trees to save as part of the FSP set. The significant amount of cut and fill taking place on the site will severely limit and tree saving.

Document	Code Citation	Subject	Ocoee Code Standard	PUD Standard	Proposed Standard	Justification for Waiver
City of Ocoee Land Development Code	Section 6-15 (K.1)	Multifamily Development Standards	All one-story and two-story multifamily structures shall provide a minimum twenty-five-foot setback from all boundaries of the development. Structures in excess of two (2) stories should increase the setback to reflect the additional structural height.	Village Center Building Setbacks: Front Setback - 10 feet Side Setback - 0 feet Street Setback - 10 feet Rear Setback - 10 feet	PUD Standard to prevail.	N/A
OCP PUD	Section 5 (Entirety)	Residential Design Standards		Section 5 in its entirety: 5.1 - 5.2	Developer may use Design Standards that are consistent with a Class - A mixed-use development.	The development is part of the Village Center, and not subject to the Residential Design Standards as outline in Section 5.
OCP PUD	Section 6 (Entirety)	Village Center Design Standards		Section 6 in its entirety: 6.1 - 6.14	Developer may use Design Standards that are consistent with a Class - A mixed-use development, and Section 6 as applicable. Any inconsistencies will be presented to the City and approved via the FSP plan and elevations.	The Development Standards date back to 2004, and in many cases are not applicable to current design trends and standards. The goal is to create timeless architecture, that will enhance the sense of place within the Crown Point PUD in a mixed-use format.
OCP PUD	6.7	Roof Pitch	N/A	Varied roof pitches will be permitted, as long as it fits in with the adjacent building's architectural style and should be approved by the Crown Point Architectural Review Committee. Generally, however, steep, pitched roofs are discouraged.	Developer may use a pitched roof as approved in the PSP Elevations. Extra attention to the façade has been placed on the pedestrian experience of the Village Center where commercial spaces exist.	To encourage a varying experience of a mixed-use development from commercial spaces to residential outside of the Village Center.
OCP PUD	6.10	Canopies	N/A	Flat canopies should be dressed-up with 12-24 inch fabric awning valance so as to increase visual appeal of the canopy.	If canopies are used, awning valance is optional for the Developer, however when used, canopies must remain consistent throughout to maintain an aesthetic consistency with the overall architecture in the development.	To encourage a modern, yet timeless design consistent with the aesthetic of the surrounding buildings.



Meeting Date: August 20, 2024
Item #: 10

Contact Name: CJ VanCamp
Contact Number: Ext. 2006

Department Director: Tom Smothers
City Manager: Craig Shadrix

Subject: Approval of Interlocal Agreement Between Orange County and City of Ocoee for Fire Dispatch Services. (Deputy Fire Chief Van Camp)

Background Summary: Orange County provides dispatch services to the City of Ocoee Fire Department; the current agreement for these services expires on September 30, 2024. Orange County has provided a renewal for the agreement with a term of five (5) years, to begin on October 1, 2024, and terminate on September 30, 2029. The services to be provided through this agreement include:

1. Answer 911 calls transferred from the Municipality or third party for fire and Emergency Medical Services ("EMS").
2. Provide Emergency Medical Dispatch ("EMD") pre-arrival medical instructions to callers needing aid, as well as categorize EMS calls into nationally recognized severity levels.
3. Receive and process incoming ten-digit telephone calls for emergency service, including notifications for automatic fire alarms, automatic aid, and mutual aid.
4. Provide dispatch alerting function to the Municipality fire department utilizing the County's fire station alerting system.
5. Provide differential response patterns for the Municipality, allowing the Municipality to dictate the number and type of emergency units that should be deployed on each type of emergency call in the Municipality or jurisdiction to which they provide service.
6. Allow the Municipality to utilize the County Mobile Data Computer ("MDC") system and Automatic Vehicle Location ("AVL") system.
7. Provide automatic notification to chief officers of the Municipality fire department using Computer Aided Dispatch ("CAD") system paging program.
8. Prepare up to six statistical reports on service delivery and performance for Municipality Units.
9. Provide Monthly Data export of all activity involving Municipality fire units.
10. Provide copies of records and audio files as needed or requested.
11. Appoint a designated liaison to work with the Municipality on dispatch issues.
12. Supervise all 911 functions, call taker, and dispatch assignments.
13. Provide comprehensive quality assurance function of all aspects of the dispatch system.
14. Attend regular meetings with the Municipality to share information and provide feedback on dispatch services.
15. Provide up to six automated statistical reports customized for the Municipality.
16. Provide one MDC license and associated maintenance cost for each of the Municipality's front-run emergency response vehicles that are coded to be dispatched by the CAD system.

17. Maintain city jurisdictional boundaries, addressing, and street network in the CAD system to ensure correct dispatches.

Issue:

Should the Honorable Mayor and City Commissioners approve and authorize the Mayor to enter into the Interlocal Agreement Between Orange County and the City of Ocoee Regarding Orange County's Provision of Fire Dispatch Services for the City of Ocoee?

Recommendations:

Staff recommends the Mayor and City Commissioners approve and authorize the Mayor to enter into the Interlocal Agreement Between Orange County and the City of Ocoee Regarding Orange County's Provision of Fire Dispatch Services for the City of Ocoee.

Attachments:

1. Ocoee - 2024 Dispatch Services

Financial Impacts:

The cost for dispatch services is included in the Fire Department budget each fiscal year based on the calls for service and cost allocation estimate provided by Orange County.

Type of Item: Consent

INTERLOCAL AGREEMENT
between
ORANGE COUNTY, FLORIDA
and
CITY OF OCOEE, FLORIDA
regarding
ORANGE COUNTY'S PROVISION OF FIRE DISPATCH SERVICES
FOR THE CITY OF OCOEE, FLORIDA

THIS INTERLOCAL AGREEMENT (“Agreement”), is by and between **ORANGE COUNTY, FLORIDA**, a charter county and political subdivision of the State of Florida located at 201 South Rosalind Avenue, Orlando, Florida 32801 (the “**County**”), and the **CITY OF OCOEE, FLORIDA**, a municipal corporation created and existing under the laws of the State of Florida located at 150 North Lakeshore Drive, Ocoee, Florida 34761 (the “**Municipality**”). The County and the Municipality may be referred to herein individually as “party” or collectively as “parties.”

RECITALS

WHEREAS, this Agreement is entered into pursuant to the home-rule powers granted to the County and the Municipality under the Constitution and laws of the State of Florida, including expressly, but not limited to, the powers granted under the Florida Interlocal Cooperation Act contained in Section 163.01, Florida Statutes; and

WHEREAS, both the County and Municipality provide fire and rescue services from fixed facilities which are geographically located to provide rapid response in case of emergency; and

WHEREAS, the County currently operates and maintains a modem emergency communications facility capable of receiving and dispatching fire and rescue units within the Municipality’s jurisdictional limits; and

WHEREAS, the County and the Municipality recognize that it is desirable, and in the best interest of the health, safety, and welfare of the public, to enter into this Agreement so that they may provide superior fire rescue services to County and Municipality residents.

NOW THEREFORE, in consideration of the mutual promises, terms, and conditions contained in this Agreement, and other good and valuable consideration for which the parties affirm receipt by execution of this Agreement, the County and Municipality agree as follows:

Section 1. Recitals Incorporated. The foregoing recitals are true and correct and are incorporated as part of this Agreement.

Section 2. **Purpose and Intent of the Agreement.** The purpose and intent of this Agreement is to outline the delivery of fire and rescue dispatch services through a coordinated system. More specifically, this Agreement outlines specific services and costs related to the provision of emergency communications between the County and Municipality.

Section 3. **The Obligations of the Parties.**

A. **The Obligations of the County.** The County agrees to provide the Municipality with the following “**Standard Services**”:

1. Answer 911 calls transferred from the Municipality or third party for fire and Emergency Medical Services (“**EMS**”).
2. Provide Emergency Medical Dispatch (“**EMD**”) pre-arrival medical instructions to callers needing aid, as well as categorizing EMS calls into nationally recognized severity levels.
3. Receive and process incoming ten-digit telephone calls for emergency service, including notifications for automatic fire alarms, automatic aid, and mutual aid.
4. Provide dispatch alerting function to the Municipality fire department utilizing the County’s fire station alerting system.
5. Provide differential response patterns for the Municipality, allowing the Municipality to dictate the number and type of emergency units that should be deployed on each type of emergency call in their Municipality or jurisdiction to which they provide service.
6. Allow the Municipality to utilize the County Mobile Data Computer (“**MDC**”) system and Automatic Vehicle Location (“**AVL**”) system.
7. Provide automatic notification to chief officers of the Municipality fire department using Computer Aided Dispatch (“**CAD**”) system paging program.
8. Prepare up to six statistical reports on service delivery and performance for Municipality units.
9. Provide Monthly Data export of all activity involving Municipality fire units.
10. Provide copies of records and audio files as needed or requested.
11. Appoint a designated liaison to work with the Municipality on dispatch issues.
12. Supervise all 911 functions, call taker, and dispatcher assignments.
13. Provide comprehensive quality assurance function of all aspects of the dispatch system.
14. Attend regular meetings with the Municipality to share information and provide feedback on dispatch services.

15. Provide up to six automated statistical reports customized for the Municipality.
16. Provide one MDC license and associated maintenance cost for each of the Municipality's front run emergency response vehicles that are coded to the dispatched by the CAD system.
17. Maintain city jurisdictional boundaries, addressing, and street network in the CAD system to ensure correct dispatches.

B. Supplemental Services. The Municipality may elect, at any time during this Agreement, to purchase those supplemental services from the County that are listed in **Attachment "A"**. Services purchased under **Attachment "A"** are considered "services" and the County shall purchase and retain custody of all actual equipment and devices used to provide the service. Upon termination of this Agreement, the Municipality shall not be entitled to any of the equipment or devices purchased by the County, unless otherwise negotiated and documented in the associated contract or agreement.

C. The Obligations of the Municipality. The Municipality agrees that the following services and fees are the responsibility of the Municipality, except for any supplemental services purchased pursuant to this Agreement:

1. Purchase and maintenance of Fire Station Alerting equipment in each Municipality fire station.
2. Payment for dedicated dispatch circuit linking the County's dispatch center to each Municipality fire station, for the purpose of installing a station alert printer or station mobile computer terminal, if desired.
3. Lease cost for any pagers or wireless phone devices to be carried by Municipality fire and rescue personnel, which are coded to receive automatic alerts from the County CAD system.
4. Purchase of MDC and AVL in-vehicle equipment and leased airtime.
5. MDC software license and maintenance costs for Municipality units (other than those which are provided pursuant to this Agreement).
6. Purchase of mobile and portable radios for use by Municipality units.

D. Implementation Plan. Staff from County Fire Rescue and Municipality Fire Rescue will negotiate and implement specific operational procedures and policies unique to the Municipality's operations.

Section 4. Term of Agreement and Termination.

A. Term. This is a five (5) year Agreement for the provision of dispatch service, commencing with the start of the fiscal year on **October 1, 2024** and terminating with the completion of the fiscal year ending **September 30, 2029**. This Agreement shall be deemed effective on October 1, 2024.

B. **Termination.** Either entity may elect to terminate this Agreement, with or without cause, by giving written notice to the other party no later than January 31st of the Fiscal Year preceding the Fiscal Year for which such termination shall be effective. By way of example, to terminate this Agreement for the Fiscal Year beginning on October 1, 2021, written notice of such termination must be provided to the other party no later than January 31, 2020.

Section 5. Compensation.

A. **Estimated Costs for Fiscal Year One.** For Fiscal Year One of this Agreement (10/01/2024 - 9/30/2025), the Municipality shall pay the County a sum estimated to be \$319,230.61 as compensation for the Standard Services listed in this Agreement.

B. **Standard Services Cost Formula.** The cost allocation for the remaining four (4) years of this Agreement shall be determined as followed:

1. In October, the County shall total the number of calls for service occurring in the prior fiscal year for all cities receiving fire dispatch services from the County through an interlocal agreement ("Participating Municipalities"). A "call for service" is defined as an emergency or non-emergency request for fire or EMS response within the municipal limits of a city (or other jurisdiction to which the Municipality provides service) which results in at least one fire, rescue, or EMS unit arriving on the scene of the incident.
2. The County shall calculate the percentage of municipal calls for all Participating Municipalities and apply that percentage to the cost for salaries. For example, if Municipality "A" had forty percent of the calls for service among all Participating Municipalities, then Municipality "A" would pay forty percent of the salaries. The dispatch system base cost shall be set in this Agreement to represent the contract cost for eight (8) dispatcher positions and a GIS Technician. Each dispatcher position is currently allocated a cost of \$87,423.49 and a GIS Technician is allocated a cost of \$89,470.00.
3. Total cost allocations for all currently Participating Municipalities are set at a cost not to exceed \$788,854.00.
4. At the time of execution of this Agreement, there are four (4) Participating Municipalities. These costs will be adjusted should the number of Participating Municipalities increases or decreases.
5. In Fiscal Years 2, 3, 4, and 5 of the Agreement the cost for Dispatch Services will be adjusted to match any cost changes in dispatcher and GIS technician salaries. The cost adjustment will be effective upon contract renewal on October 1st of years 2, 3, 4, and 5.

Fiscal Year 1 Dispatcher Cost	\$87,423.00
Fiscal Year 1 GIS Technician Cost	\$89,470.00
Fiscal Year 2 Dispatcher Cost	TBD
Fiscal Year 2 GIS Technician Cost	TBD

Fiscal Year 3 Dispatcher Cost	TBD
Fiscal Year 3 GIS Technician Cost	TBD
Fiscal Year 4 Dispatcher Cost	TBD
Fiscal Year 4 GIS Technician Cost	TBD
Fiscal Year 5 Dispatcher Cost	TBD
Fiscal Year 5 GIS Technician Cost	TBD

6. This formula will be recalculated to acknowledge the addition of other Participating Municipalities. Eight dispatcher positions shall be considered adequate staffing until the combined calls for service level in all Participating Municipalities exceeds twenty thousand (20,000) alarms. In this event, four additional dispatcher positions will be added for each increment of ten thousand calls for service being handled by the County on behalf of the Participating Municipalities.
7. All employees hired under this Agreement are employees of the County and it is not the intent of this Agreement to differentiate between employees assigned to perform County functions versus Municipality functions.
8. Final cost calculations for the services are determined in October for the previous year. The actual invoice for dispatch service will be sent in October of the following fiscal year in which service was rendered during the contractual period. **Attachment “B”** shows an example of how costs are allocated using this formula.
9. The parties acknowledges that the City of Ocoee provides primary Fire and EMS services to the Town of Windermere via separate Interlocal Agreement, and as such the Municipality shall be responsible for paying Windermere’s percentage of dispatch costs as defined in this section and as detailed in **Attachment “B”**.

C. **Supplemental Services Costs.** Any Supplemental Services purchased pursuant to this Agreement will be added to the cost allocated to Municipality.

D. **Invoicing.** The County shall invoice the Municipality in October of each year for all dispatch services and optional services rendered during the contractual period of the prior fiscal year. The Municipality shall make payment on such invoices pursuant to the Florida Local Government Prompt Payment Act.

Section 6. User Advisory Committee. A User Advisory Committee shall be formed, which will include a designated representative from County, Participating Municipalities, and those other entities that receive dispatch services from the County. This committee shall make recommendations regarding policy and operational procedures, as well as recommending standards of service and performance goals. The User Advisory Committee shall meet annually, or upon the request of any member.

Section 7. Conflict Resolution.

A. The County intends to work closely with the Municipality to resolve any dispatch issues or service performance conflicts, which may arise out of this Agreement. Formal conflict

resolution shall use the following procedure:

- Step 1.** The Municipality's designated liaison shall discuss the issue with the County's Fire Communications designee, who shall provide a written response within three (3) business days.
- Step 2.** If the Municipality is not satisfied with the response, the Municipality may appeal the decision, within five (5) business days of receipt of the response, to the County's Division Chief of Planning & Technical Services who shall provide a written response within three (3) business days.
- Step 3.** If the Municipality is not satisfied with the decision of the Division Chief of Planning & Technical Services, the Municipality may appeal within five (5) business days of receipt of the response, to the County Fire Chief who shall provide a written response in five (5) business days. The decision of the County Fire Chief shall be considered final.

B. Failure to adhere to the time period for appeal shall constitute waiver of any right to appeal.

Section 8. **Notices.** Any notice which may be permitted or required hereunder shall be in writing and shall be deemed to have been duly given as of the date and time the same are personally delivered, transmitted electronically (i.e. facsimile device) or within three (3) days after depositing with the United States Postal Service, postage prepaid by registered or certified mail, return receipt requested, or within one (1) day after depositing with Federal Express or other overnight delivery service from which a receipt may be obtained, and addressed as follows:

Orange County:

Deputy County Administrator
201 South Rosalind Avenue
Post Office Box 1393
Orlando, Florida 32802-1393
Telephone: 407-836-7370
Facsimile: 407-836-7395

Copy to:

Fire Chief
Fire Rescue Department
6590 Amory Court
Winter Park, Florida 32793
Telephone: 407-836-9112
Facsimile: 407-836-9128

Municipality:

Ocoee City Manager
150 North Lakeshore Drive
Ocoee, Florida 34761
Telephone: 407-905-3100
Facsimile: 407-656-5725

Copy to:

Ocoee Fire Chief
563 South Bluford Avenue
Ocoee, Florida 34761
Telephone: 407-905-3140
Facsimile: 407-905-3129

Section 9. Individual Liability. All covenants, stipulations, obligations and agreements of the parties hereto contained herein shall be deemed to be those of such party to the full extent authorized by the Constitution and the laws of the State of Florida. No covenant, stipulation, obligation or agreement contained herein shall be deemed that of any member, agent or employee of such party in his or her individual capacity, and no member, agent or employee of any party shall be personally liable hereunder or subject to any personal liability or accountability by reason hereof.

Section 10. Indemnification. Each party agrees to defend, indemnify, and hold harmless the other party, its officials and employees from all claims, actions, losses, suits, judgments, fines, liabilities, costs and expenses (including attorneys' fees) attributable to its negligent acts or omissions, or those of its officials and employees acting within the scope of their employment, or arising out of or resulting from the indemnifying party's negligent performance under this Agreement. Nothing contained herein shall constitute a waiver of sovereign immunity or the provisions of Section 768.28, Florida Statutes. The foregoing shall not constitute an agreement by either party to assume any liability for the acts, omissions, and/or negligence of the other party.

Section 11. General Provisions.

A. **No Third Party Beneficiaries.** Nothing in this Agreement, express or implied, is intended to, or shall confer, upon any person, other than the parties and their respective successors and permitted assigns, any legal or equitable right, benefit or remedy of any nature under or by reason of this Agreement.

B. **Written Modification.** None of the provisions, terms, and conditions contained in this Agreement may be added to, deleted, modified, superseded, or otherwise altered, except by written amendment executed by the parties hereto. Such amendment(s) shall not be valid, binding, and enforceable against the County unless executed by an authorized County representative and expressly approved by the County's Board of County Commissioners.

C. **No Waiver of Sovereign Immunity.** Nothing contained herein shall constitute, or be in any way construed to be, a waiver of either the County's or the Municipality's sovereign immunity or the protections and provisions of Section 768.28, Florida Statutes.

D. **Liability.** Neither party shall be liable to the other for any special, consequential, incidental, punitive, or indirect damages arising from or relating to any breach of this Agreement, regardless of any notice of the possibility of such damages.

E. **Assignments and Successors.** Each party binds itself and its partners, successors, executors, administrators, and assigns to the other party of this Agreement and to the partners, successors, executors, administrators, and assigns of such other party, in respect to all covenants of this Agreement. Neither party shall assign, sublet, convey, or transfer its interest in this Agreement without the written consent of the other, which consent shall be in the sole determination of the party with the right to consent.

F. **Waiver.** No delay or failure on the part of any party hereto to exercise any right or remedy accruing to such party upon the occurrence of an event of violation shall affect any such right or remedy, be held to be an abandonment thereof, or preclude such party from the exercise thereof at any time during the continuance of any event of violation. No waiver of a single event of violation shall be deemed to be a waiver of any subsequent event of violation.

G. **Severability.** The provisions of this Agreement are declared by the parties to be severable. However, the material provisions of this Agreement are dependent upon one another, and such interdependence is a material inducement for the parties to enter into this Agreement. Therefore, should any material term, provision, covenant or condition of this Agreement be held invalid or unenforceable by a court of competent jurisdiction, the party protected or benefited by such term, provision, covenant, or condition may demand that the parties negotiate such reasonable alternate contract language or provisions as may be necessary either to restore the protected or benefited party to its previous position or otherwise mitigate the loss of protection or benefit resulting from holding.

H. **Governing Law.** This Agreement, and any and all actions directly or indirectly associated herewith, will be governed by and construed in accordance with the internal laws of the State of Florida, without reference to any conflicts of law provisions.

I. **Venue.** For any legal proceeding arising out of or relating to this Agreement, each party hereby submits to the exclusive jurisdiction of, and waives any venue or other objection against, the Ninth Circuit Court in and for Orange County, Florida. Should any federal claims arise for which the courts of the State of Florida lack jurisdiction, venue for those actions will be in the Orlando Division of the U.S. Middle District of Florida.

J. **Jury Waiver.** Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in any legal proceeding directly or indirectly arising out of or relating to this Agreement.

K. **Construction of Agreement.** The parties hereby agree that they have reviewed this Agreement, have consulted with legal counsel of their choice, have participated in the drafting of this Agreement, and that this Agreement is not to be construed against any party as if it were the drafter of this Agreement.

L. **Authority of Signatory.** Each signatory below represents and warrants that he or she has full power and is duly authorized by their respective party to enter into and perform this Agreement. Such signatory also represents that he or she has fully reviewed and understands the above conditions and intends to fully abide by the conditions and terms of this Agreement as stated.

M. **Recordation.** The parties agree that this Agreement shall not be recorded in the official records of Orange County, Florida, or the public records of any other county in the State of Florida.

Section 12. **Entire Agreement.** This Agreement, and any documents incorporated herein, sets forth and constitutes the entire agreement and understanding of the parties with respect to the subject matter hereof. This Agreement supersedes any and all prior agreements, negotiations, correspondence, undertakings, promises, covenants, arrangements, communications, representations, and warranties, whether oral or written, of any party to this Agreement.

[SIGNATURES ON THE FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have executed and delivered this instrument on the date indicated below.

ORANGE COUNTY, FLORIDA

By: Board of County Commissioners

By: _____

Jerry L. Demings

Orange County Mayor

Date: _____

ATTEST: Phil Diamond, CPA, Comptroller
As Clerk of the Board of County Commissioners

By: _____

Date: _____

CITY OF OCOEE, FLORIDA

By: City Commission

By: _____

Rusty Johnson, Mayor

Date: _____

ATTEST:

By: _____

Melanie Sibbitt, MMC, City Clerk

Print Name: _____

FOR USE AND RELIANCE ONLY BY
THE CITY OF OCOEE, FLORIDA;
APPROVED AS TO FORM AND
LEGALITY THIS ____ DAY OF

APPROVED BY THE OCOEE CITY
COMMISSION AT A MEETING HELD
ON _____
UNDER AGENDA ITEM NO. _____

By: _____

City Attorney

Attachment “A”

The following optional Supplemental Services may be purchased by the Municipality at any time during the term of this Agreement. These Supplemental Services can be provided by the County for additional costs that will be added to the cost of services identified as “**Standard Services**” in the Agreement. The costs associated with such Supplemental Services will be billed to the Municipality in accordance with the Agreement’s invoicing provision.

1. Mobile Data Computer hardware
2. Mobile Data Computer CAD software license
3. Mobile Data Computer maintenance/replacement
4. Mobile Data Computer airtime
5. CAD Interface to Municipality Owned Software

Cost for these services shall be the negotiated by County and Municipality staff and shall reflect the actual or prorated cost of the equipment or service being provided plus an administrative fee to cover the cost of coordinating the service.

The County will provide an itemized invoice to the Municipality to fully document the services requested and provided in accordance with the mutually agreed upon cost.

Attachment “B”

This attachment is for the purpose of providing an example of how the cost allocation formula listed in the Agreement is calculated. The example below demonstrates how costs shall be assigned in this Agreement.

In October of 20XX, all calls for service that occurred in the previous calendar year were totaled for each Municipality including any additional jurisdiction to which the Municipality provides service. The County then determined what percentage of calls each Municipality handled compared to all cities receiving County dispatch service.

\$788,854.00 represents the salary costs for eight dispatchers and one GIS technician. That dollar value is then allocated back to each Municipality using their assigned percentage. Eight dispatcher positions are needed based on national standards for fire service communications. The GIS technician is required to manage the GIS layers in the computer aided dispatch (“CAD”) system for the municipalities.

Calls for Service & Cost Allocation

Calls for Service and Cost Allocation (Example Only)			
Municipality	Calls for Service	% of Calls	Salary Allocation
Maitland	2904	19%	\$152,936.24
Ocoee	5895	39%	\$310,454.26
Windermere*	225	2%	\$11,849.40
Winter Garden	5955	40%	\$313,614.10
Total	14979	100%	\$788,854.00

Additional Services Provided		
Maitland	CAD Interface	\$6,030.11
Ocoee	CAD Interface	\$1,723.66
Winter Garden	CAD Interface	\$1,640.84
Total		\$9,394.61

Total Dispatch Services	\$788,854.00
Total Additional Services	\$9,394.61
Grand Total	\$798,248.61

Agency Totals (Example Only)	
Maitland	\$158,966.35
Ocoee	\$324,027.32
Winter Garden	\$315,254.94
Total	\$798,248.61

Dispatcher Salary + Fringe is set at \$87,423.00
GIS Technician Salary+ Fringe is set at \$89,470
(Includes: base salary, shift differential, FICA, Florida State Retirement system contribution and Orange County Health Insurance)
\$87,423 X 8 dispatcher positions and 1 GIS Technician equals \$788,854
* Town of Windermere dispatch services cost are billed to the City of Ocoee

STAFF REPORT

Meeting Date: August 20, 2024
Item #: 11

Contact Name: Martrivus Keaton
Contact Number: Ext. 1088

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of Wynwood Phase 1 & 2A Replat; Project No. LS-2024-004. (Development Engineer Keaton)

Background Summary:

Wynwood Subdivision, Phases 1 and 2, is in Commission District 4, located on the south side of W. McCormick Rd. and west of N. Apopka Vineland Road. Wynwood phases 1 and 2 are identified as parcel number 34-21-28-0000-00-022.

This replat is proposed in order to realign Lots #186, #187, and #188 (Recorded in Plat Book 109, Page 130) because of a shift in the location of a drainage pipe and the easement required to maintain the pipe. The replat also includes easements/tracts for ingress/egress access, utilities, drainage, and other public utility easements.

Wynwood Subdivision, Phases 1 and 2, is replatting post-development and has received a Certificate of Completion; therefore, the developer is not required to provide a Surety covering any outstanding proposed improvements as approved in the large-scale site plans.

Issue:

Should the Honorable Mayor and City Commissioners approve the replat for Wynwood Phase 1 & 2A (Lots 186, 187 and 188)?

Recommendations:

Staff respectfully recommends the Honorable Mayor and City Commissioners approve the replat for Wynwood Phase 1 & 2A (Lots 186, 187 and 188) and authorize the Mayor and City Clerk to sign the Plat.

Attachments:

1. Plat

Financial Impacts:

None.

Type of Item: Consent

DESCRIPTION:

DESCRIPTION:
LOTS 186, 187 AND 188, WYNWOOD PHASE 1 & 2, A SUBDIVISION AS PER PLAT THEREOF RECORDED IN PLAT BOOK 109, PAGE 130 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.
BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGIN AT THE SOUTHWEST CORNER OF LOT 186, WYNWOOD PHASE 1 & 2, A SUBDIVISION AS PER PLAT THEREOF RECORDED IN PLAT BOOK 109, PAGE 130 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, AND PROCEED NORTH 11 DEGREES 06 SECONDS WEST, FOR A DISTANCE OF 89.13 FEET TO A POINT ON A CURVE CONCAVE WESTERLY, HAVING A RADIUS OF 1,030.49 FEET, THROUGH A CENTRAL ANGLE OF 02 DEGREES 13 MINUTES 27 SECONDS; THENCE PROCEED NORTHERLY ALONG SAID CURVE FOR AN ARC DISTANCE OF 40.00 FEET, (CHORD BEARING AND DISTANCE = NORTH 14 DEGREES 19 MINUTES 57 SECONDS WEST, FOR A DISTANCE OF 40.00 FEET) TO THE NORTHWEST CORNER OF LOT 188 OF SAID SUBDIVISION; THENCE NORTH 74 DEGREES 33 MINUTES 24 SECONDS EAST, ALONG THE NORTHERLY BOUNDARY OF SAID LOT 188, FOR A DISTANCE OF 120.01 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF SANDALWOOD ISLE WAY, POINT BEING ON A CURVE CONCAVE WESTERLY, HAVING A RADIUS OF 1,145.82 FEET, THROUGH A CENTRAL ANGLE OF 05 DEGREES 27 MINUTES 25 SECONDS; THENCE PROCEED SOUTHERLY ALONG SAID RIGHT OF WAY LINE AND CURVE FOR AN ARC DISTANCE OF 109.13 FEET, (CHORD BEARING AND DISTANCE = SOUTH 12 DEGREES 43 MINUTES 34 SECONDS EAST, FOR A DISTANCE OF 109.09 FEET) TO A POINT ON A CURVE CONCAVE EASTERLY, HAVING A RADIUS OF 75.00 FEET, THROUGH A CENTRAL ANGLE OF 19 DEGREE 06 MINUTES 40 SECONDS; THENCE PROCEED SOUTHERLY ALONG SAID RIGHT OF WAY LINE AND CURVE FOR AN ARC DISTANCE OF 25.02 FEET, (CHORD BEARING AND DISTANCE = SOUTH 19 DEGREES 33 MINUTES 12 SECONDS EAST, FOR A DISTANCE OF 24.90 FEET); THENCE LEAVING SAID RIGHT OF WAY LINE PROCEED SOUTH 60 DEGREES 53 MINUTES 28 SECONDS WEST, ALONG THE SOUTHERLY BOUNDARY OF SAID LOT 186, FOR A DISTANCE OF 16.56 FEET; THENCE SOUTH 79 DEGREES 14 MINUTES 11 SECONDS WEST, ALONG SAID SOUTHERLY BOUNDARY, FOR A DISTANCE OF 108.32 FEET TO THE POINT OF BEGINNING, CONTAINING 0.370 ACRES, MORE OR LESS.

PLAT LEGEND:

± MORE OR LESS	(OA) OVERALL
ID IDENTIFICATION	L LENGTH
ORB OFFICIAL RECORD BOOK	R RADIUS
PB PLAT BOOK	Δ DELTA
DB DEED BOOK	CB CHORD BEARING
PG PAGE	CH CHORD DISTANCE
CCR CERTIFIED CORNER RECORD	PNT POINT OF NON-TANGENCY
Q CENTERLINE	PC POINT OF CURVATURE
■ FOUND CONCRETE MONUMENT AS NOTED	PT POINT OF TANGENCY
■ SET 4"x4" CONCRETE MONUMENT (PRM LB 8011)	PRC POINT OF COMPOUND CURVATURE
PRM PERMANENT REFERENCE MONUMENT	PRC POINT OF REVERSE CURVATURE
● FOUND NAIL & DISK (POP LB 8011)	POC POINT ON CURVE
PCP PERMANENT CONTROL POINT	R/W RIGHT OF WAY
D.E. PUBLIC DRAINAGE EASEMENT	(NR) NON-RADIAL
U.E. PUBLIC UTILITY EASEMENT	LB LICENSED BUSINESS
IP IRON PIPE	PI POINT OF INTERSECTION
IR IRON ROD	RP RADIUS POINT
IRC IRON ROD AND CAP	(TYP) TYPICAL
CM CONCRETE MONUMENT	ESMT EASEMENT
SEC. SECTION	CF CURVE TAG
NAVD NORTH AMERICAN VERTICAL DATUM	D.U.E. DRAINAGE AND UTILITY EASEMENT
FPL FLORIDA POWER & LIGHT COMPANY	O.C.U. ORANGE COUNTY UTILITY COMMISSION
	○ SET 5/8" CAPPED IRON ROD L.B. #8011

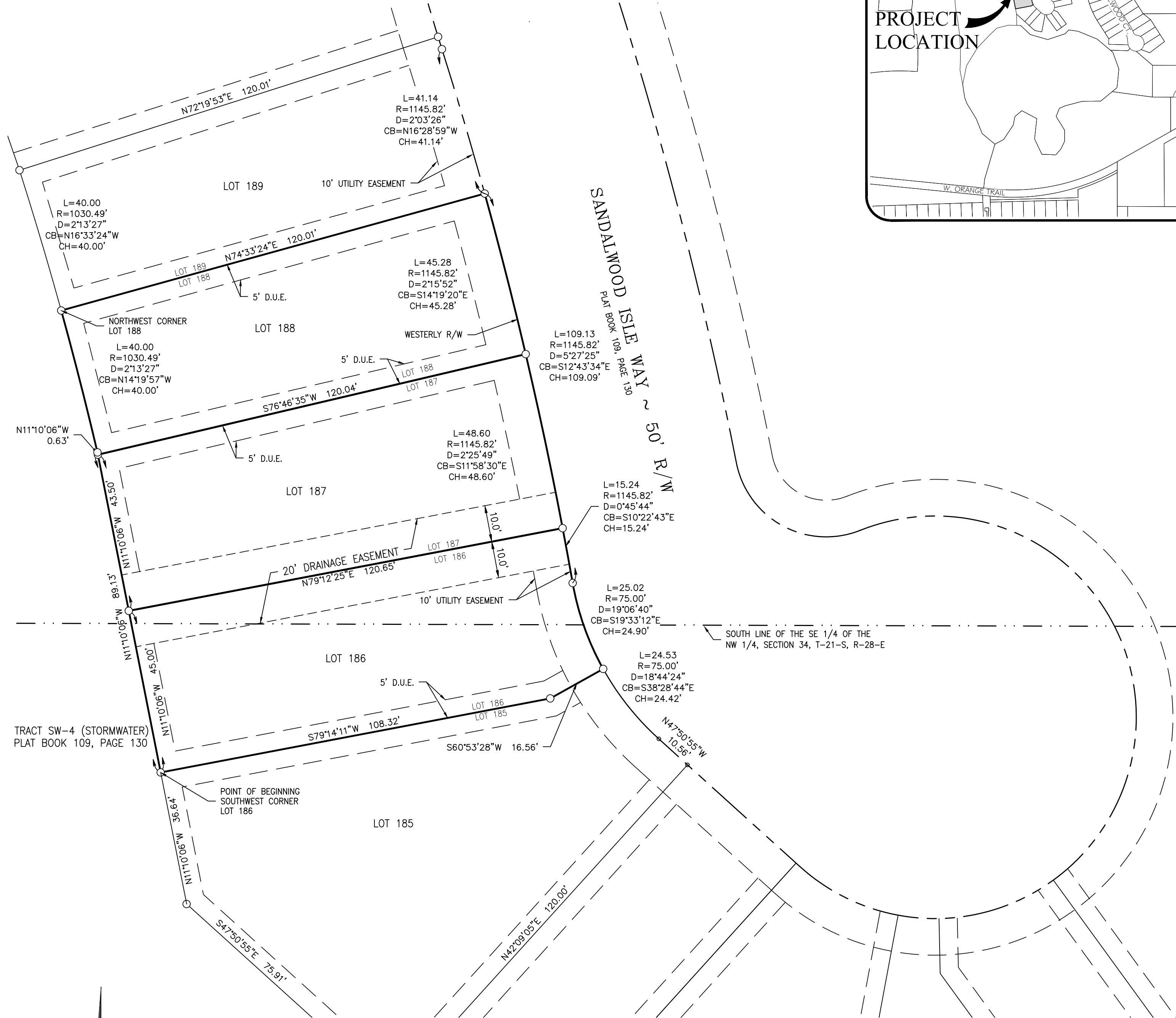
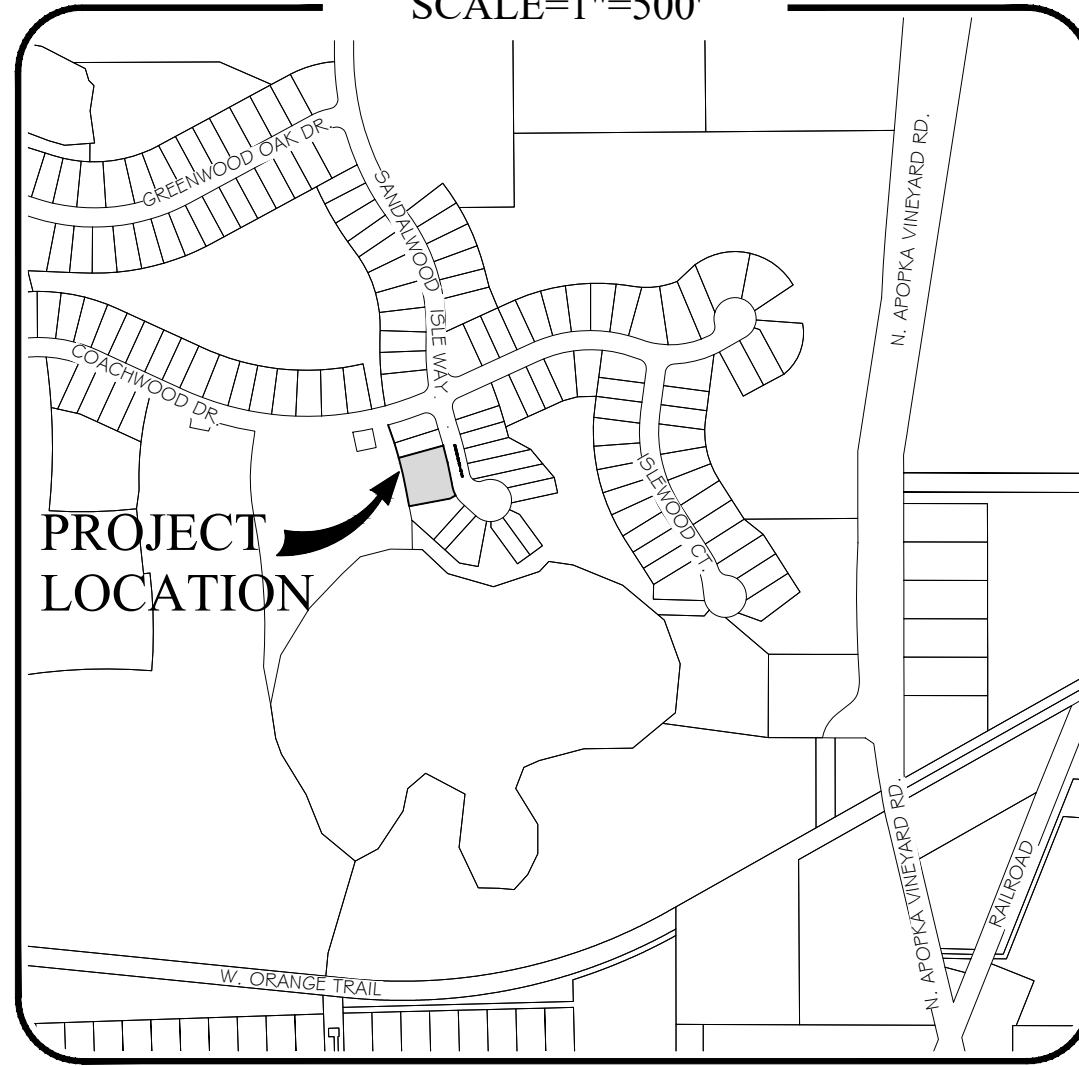
GENERAL NOTES:

- BEARINGS SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM EAST ZONE NORTH AMERICAN DATUM OF 1983 WITH 2011 ADJUSTMENT, DERIVING A BEARING OF N11°10'06"W ALONG THE WEST BOUNDARY OF LOTS 186 & 187.
- ALL LOT LINES INTERSECTING CURVES ARE RADIAL UNLESS NOTED OTHERWISE.
- ALL PLATTED UTILITY EASEMENTS, EXCLUSIVE OF PRIVATE EASEMENTS GRANTED OR OBTAINED BY A PARTICULAR ELECTRIC, TELEPHONE, GAS OR OTHER PUBLIC UTILITY, SHALL ALSO BE EASEMENTS FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES; PROVIDED, HOWEVER, NO SUCH CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES SHALL INTERFERE WITH THE FACILITIES AND SERVICES OF AN ELECTRIC, TELEPHONE, GAS OR OTHER PUBLIC UTILITY. IN THE EVENT A CABLE TELEVISION COMPANY DAMAGES THE FACILITIES OF A PUBLIC UTILITY, IT SHALL BE SOLELY RESPONSIBLE FOR THE DAMAGES PURSUANT TO SECTION 177.091(28), FLORIDA STATUTES. SUCH CONSTRUCTION, INSTALLATION, MAINTENANCE AND OPERATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL SAFETY CODE AS ADOPTED BY THE FLORIDA PUBLIC SERVICE COMMISSION.
- UNLESS OTHERWISE NOTED, ALL LOTS ARE SUBJECT TO A 5.00' UTILITY AND DRAINAGE EASEMENT (D.U.E.) ALONG ALL SIDE LOT LINES.
- THERE IS A 10.00' UTILITY EASEMENT (U.E.) ALONG ALL FRONT LOT LINES. A SIDEWALK EASEMENT, WITHIN THIS U.E., MAY BE NECESSARY TO PROTECT EXISTING TREES IN RIGHT-OF-WAY. NO REMOVAL OF PROTECTED TREES SHALL BE UNDERTAKEN WITHOUT OBTAINING A PERMIT FROM THE CITY.
- A PERPETUAL, NON-EXCLUSIVE EASEMENT OF ACCESS OVER ALL INTERNAL ROADWAYS AND PAVED AREAS IS HEREBY GRANTED TO THE CITY OF OCOC, AND ALL APPLICABLE AUTHORITIES FOR LAW ENFORCEMENT, FIRE, CODE ENFORCEMENT, OTHER EMERGENCY SERVICES AND MUNICIPAL PURPOSES.

WYNWOOD PHASE 1 & 2-A
A REPLAT OF LOTS 186, 187 AND 188 OF WYNWOOD PHASE 1 & 2 AS
RECORDED IN PLAT BOOK 109 PAGE 130 OF THE PUBLIC
RECORDS OF ORANGE COUNTY, FLORIDA
LOCATED IN SECTION 34, TOWNSHIP 21 SOUTH, RANGE 28 EAST
LOCATED IN THE CITY OF OCOC, ORANGE COUNTY, FLORIDA

LOCATION

SCALE=1"=500'



NOTICE

THIS PLAT, AS RECORDED IN ITS GRAPHIC FORM, IS THE OFFICIAL DEPICTION OF THE SUBDIVIDED LANDS DESCRIBED HEREIN AND WILL IN NO CIRCUMSTANCES BE SUPPLANTED IN AUTHORITY BY ANY OTHER GRAPHIC OR DIGITAL FORM OF THE PLAT. THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT RECORDED ON THIS PLAT THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.

QUALIFICATION STATEMENT OF SURVEYOR AND MAPPER

KNOW ALL MEN BY THESE PRESENTS, THAT THE UNDERSIGNED, BEING A LICENSED AND REGISTERED LAND SURVEYOR, DOES HEREBY CERTIFY THAT ON 2024, HE COMPLETED THE SURVEY OF THE LANDS AS SHOWN IN THE FOREGOING PLAT OR PLAN; THAT SAID PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE LANDS THEREIN DESCRIBED AND PLATTED OR SUBDIVIDED; THAT PERMANENT REFERENCE MONUMENTS HAVE BEEN PLACED OR SHOWN THEREON AS REQUIRED BY CHAPTER 177, FLORIDA STATUTES; AND THAT SAID LAND IS LOCATED IN THE CITY OF OCOC, ORANGE COUNTY, FLORIDA.

(SIGNATURE) _____ DATE: _____
DAVID JON BARTLETT, (PSM)
PROFESSIONAL SURVEYOR AND MAPPER
CERTIFICATE NO. 4018

Dewberry
DEWBERRY ENGINEERS INC.
203 ABERDEEN PARKWAY
PANAMA CITY, FLORIDA 32405
PHONE: 850.522.0644 FAX: 850.522.1011
WWW.DEWBERRY.COM
CERTIFICATE OF AUTHORIZATION NO. L.B. 8011

SHEET 1 OF 1

PLAT BOOK

PAGE

WYNWOOD PHASE 1 & 2-A

DEDICATION

KNOW MEN BY ALL THESE PRESENTS, THAT DR HORTON INC. BEING THE OWNER IN FEE SIMPLE OF THE LANDS IN THE FOREGOING CAPTION TO THIS PLAT, HEREBY DEDICATES SAID LANDS AND PLAT FOR THE USES AND PURPOSES THEREIN EXPRESSED AND HEREBY DEDICATE UTILITY EASEMENTS, AND DRAINAGE EASEMENTS TO THE PERPETUAL USE OF HE PUBLIC.

IN WITNESS WHEREOF, THE OWNER HAS CAUSED THESE PRESENTS TO BE SIGNED BY THE OFFICER NAMED BELOW ON _____, A.D. 2024.

BY: DR HORTON INC.

NAME: _____

SIGNED: _____

TITLE: _____

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF:

WITNESS (SIGNATURE) _____ WITNESS (PRINTED) _____

WITNESS (SIGNATURE) _____ WITNESS (PRINTED) _____

STATE OF FLORIDA, COUNTY OF ORANGE

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 2024, BY _____ AS _____ OF DR HORTON ON BEHALF OF THE COMPANY. SAID PERSON ACKNOWLEDGED BEFORE ME BY MEANS OF [] PHYSICAL PRESENCE OR [] ONLINE NOTARIZATION AND [] IS PERSONALLY KNOWN TO ME OR [] HAS PRODUCED AS IDENTIFICATION.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND SEAL ON THE ABOVE DATE.

SIGNATURE OF NOTARY

NOTARY PRINTED NAME

MY COMMISSION EXPIRES _____ MY COMMISSION NO. _____

CERTIFICATE OF APPROVAL BY CITY
DEVELOPMENT SERVICES DIRECTOR

THE FOREGOING PLAT HAS BEEN EXAMINED AND APPROVED.

CITY DEVELOPMENT SERVICES DIRECTOR _____ DATE _____

CERTIFICATE OF APPROVAL BY
THE BOARD OF CITY COMMISSIONERS

THIS IS TO CERTIFY THAT ON 2024, THE FOREGOING PLAT WAS APPROVED BY THE CITY COMMISSIONERS OF OCOC, FLORIDA.

CITY ATTORNEY _____ MAYOR OF OCOC _____

CITY CLERK _____ (SEAL)

CERTIFICATE OF COUNTY COMPTROLLER

I HEREBY CERTIFY THAT THE FOREGOING PLAT WAS RECORDED IN THE ORANGE COUNTY OFFICIAL RECORDS ON _____, 2024 AS FILE NO. _____, COUNTY COMPTROLLER IN AND FOR ORANGE COUNTY, FLORIDA.

BY: _____ (SEAL)

CERTIFICATE OF REVIEW BY CITY SURVEYOR

I HEREBY CERTIFY THAT I HAVE REVIEWED THE FOREGOING PLAT AND FIND THAT IT IS IN CONFORMITY WITH CHAPTER 177, FLORIDA STATUTES.

CITY SURVEYOR _____ DATE _____

PRINTED NAME: MAX RAMOS, P.S.M. 6458

COMPANY: WSP USA ENVIRONMENT & INFRASTRUCTURE, INC. LB 7932
ADDRESS: 550 NORTHLAKE BOULEVARD, SUITE 1000
ALTAMONTE SPRINGS, FLORIDA 32701

(SEAL)



Meeting Date: August 20, 2024
Item #: 12

Contact Name: Martrivus Keaton
Contact Number: Ext. 1088

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of a Two-Year Warranty Surety and Maintenance, Materials, and Workmanship Agreement for SYM Capital Partners, LLC for the Hampton Inn Ocoee. (Development Engineer Keaton)

Background Summary:

The Hampton Inn Ocoee property is in Commission District 3, on the north side of West Colonial Drive, adjacent to Extra Space Self Storage at Marshall Farms Road and W. Colonial Drive. The developer has completed construction of the subdivision's infrastructure improvements and requested a Certificate of Completion. The infrastructure improvements include potable water, sanitary sewer, reclaimed water, utilities, roadways, stormwater collection system, perimeter wall/fencing, and associated landscaping. All identified punch list repairs have been completed, and the developer is ready to start the two-year warranty period for the public improvements.

As a requirement of the Land Development Code, the developer must furnish the City with a Surety to cover any possible damage discovered during the next two years. Should the developer not choose to make those repairs, SYM Capital Partners, LLC has provided the City with a Letter of Credit in the amount of 10% of the constructed improvements cost. The attached Maintenance, Materials, and Workmanship Agreement (Form 8 from the Land Development Code) acts as the executable document between the developer and the City. The Surety will be returned to the developer upon completion of the two-year warranty period and the repair of any damages caused over those two years.

Issue:

Should the Honorable Mayor and City Commissioners accept the Surety provided by SYM Capital Partners, LLC for the two-year Hampton Inn Ocoee Hotel warranty and execute the Maintenance, Materials, and Workmanship Agreement?

Recommendations:

The Development Services Department recommends that the Honorable Mayor and City Commissioners approve the Surety and the execution of the Maintenance, Materials, and Workmanship Agreement with SYM Capital Partners, LLC for the Hampton Inn Ocoee hotel.

Attachments:

1. 2-year MMW Agreement
2. Letter of Credit for 2-year MMW Agreement

Financial Impacts:

None

Type of Item: Consent

**MAINTENANCE, MATERIALS, AND
WORKMANSHIP AGREEMENT WITH LETTER OF CREDIT**

(SUBDIVISION NAME / PHASE: HAMPTON INN OCOEE)

THIS MAINTENANCE, MATERIALS, AND WORKMANSHIP AGREEMENT (this “Agreement”) is entered into this ____ day of _____, 20____, by SYM Capital Partners, LLC, a Florida Limited Liability Company the “Developer”) and the **CITY OF OCOEE**, a Florida municipal corporation, whose address is 1 North Bluford Ave, Ocoee, Florida 34761 (the “City”).

W I T N E S S E T H:

WHEREAS, Developer, or its predecessor-in-interest or its predecessor-in title, has developed and/or constructed a subdivision known as HAMPTON INN OCOEE (the “Subdivision”) and in connection therewith has installed with the approval of the City certain roads, streets, sewer, water and reuse systems, drainage facilities (including retention and detention ponds), and/or other improvements (collectively, the “Improvements”) under the provisions, conditions, and requirements of the City’s Subdivision Regulations and the following Final Subdivision Plan (or Preliminary/Final Subdivision Plan) approval by granted the Ocoee City Commission on August 18th, 2020: [*Insert Description of FSP or P/FSP, as applicable*] COMFORT INN/ MAINSTAY PRELIMINARY/FINAL SITE PLAN; and

WHEREAS, the Subdivision is located within certain real property located in the City of Ocoee, Orange County, Florida, as more fully described in the attached **Exhibit “A”** which exhibit is incorporated herein by this reference (the “Property”); and

WHEREAS, under Section 4-4, Subdivision Review Process, of the City’s Land Development Code, Developer is required to guaranty the maintenance, materials, and workmanship of the Improvements within the Subdivision; and

WHEREAS, in order to obtain the issuance of a Certificate of Completion with respect to the Improvements, the Developer desires to guaranty such maintenance, materials, and workmanship by having Gulf Atlantic Bank (the “Bank”) (or such other bank as may be acceptable to the City) establish an Irrevocable Standby Letter of Credit in favor of the City in substantially the form attached hereto as **Exhibit “B”** and by this reference made a part hereof (“Letter of Credit”).

NOW THEREFORE, the parties agree as follows:

SECTION ONE: Establishment of Letter of Credit.

Developer does hereby agree to have Bank establish the Letter of Credit in favor of the City in the amount of FOURTEEN THOUSAND FOUR HUNDRED TWENTY SEVEN DOLLARS AND 50/100 CENTS (\$14,427.50) to guaranty the maintenance, materials, workmanship, and structural integrity of the Improvements and the other obligations of the

Developer under this Agreement. The Letter of Credit shall be established and drawn upon only in accordance with the terms of the Letter of Credit and this Agreement.

SECTION TWO: 2-Year Warranty Period.

For a period of two (2) years from the date of issuance of the Certificate of Completion (the "Warranty Period"), the Developer shall maintain the Improvements in a first-class condition and shall repair, correct and/or cure any Deficiency (as defined in Section 3 below) within thirty (30) days of receipt of written notice of a Deficiency from the City. The Developer shall pay any and all costs or expenses incidental to the performance of any such work. The City may provide notices of a Deficiency from time to time during the Warranty Period.

SECTION THREE: City's Right to Draw on Letter of Credit.

If at any time during the Warranty Period, the City notifies Developer in writing (i) that the Improvements have not been maintained in a first class condition, (ii) that paving or other structures within the Subdivision have been found by the City to not be in compliance with the Subdivision approval, and/or (iii) that there is a deficiency or fault in the materials, workmanship, or structural integrity of the Improvements which has been found by the City to not be in compliance with the Subdivision approval (collectively, a "Deficiency") and Developer fails to repair, correct and/or cure such Deficiency to the satisfaction of the City within thirty (30) days from receipt of the notice thereof as set forth in Section 2 above, then the City may draw upon the Letter of Credit without further notice to Developer in order to establish a cash escrow for the performance of the Developer's obligations under this Agreement (the "Cash Escrow").

Additionally, the City may draw on the Letter of Credit in order to establish a Cash Escrow in such amounts as the City deems necessary or appropriate (a) in the event of a default by Developer under this Agreement, and/or (b) as provided for in the Letter of Credit.

SECTION FOUR: Term of Letter of Credit.

The Letter of Credit shall be for a term of no less than two (2) years and one (1) month from the date of issuance of the Certificate of Completion. Notwithstanding anything contained in Section 3 above, in the event the City has notified Developer of a Deficiency as provided above, then the term of this Agreement shall continue and the term of the Letter of Credit shall be extended until such Deficiency is corrected. If the City has provided a notice of Deficiency which has not been repaired, corrected and/or cured within thirty (30) days from the date the Letter of Credit (or any extension or replacement thereof) is scheduled to expire, then the City may draw on the Letter of Credit and establish a Cash Escrow for the performance of the Developer's obligations under this Agreement.

SECTION FIVE: City's Use of Funds Drawn on Letter of Credit.

Unless otherwise mutually agreed to by City and Developer, the funds available through the Letter of Credit and any Cash Escrow established under this Agreement shall be used by the City only (a) to repair, correct and/or cure any Deficiency, (b) to cure a breach by Developer of its obligations under this Agreement, and/or (c) to pay for reasonable administrative expenses

and attorneys' fees and costs incurred by the City in exercising or otherwise enforcing its rights under this Agreement and Letter of Credit.

If the Developer fails or refuses to undertake the repair, correction and/or cure of any Deficiency, then the City may, but shall not be obligated to, undertake such repair, correction and/or cure any Deficiency, the cost of which shall be paid for out of the Letter of Credit and any Cash Escrow established pursuant to this Agreement. In the event the City undertakes any such repair, correction and/or cure, then the City shall be entitled to retain an administrative fee in the amount of two percent (2%) of the cost thereof and shall also be entitled to reimbursement of all costs and expenses incurred by the City in undertaking such action, including but not limited to its legal fees and costs. The City may use third party contractors to perform any such corrective actions.

SECTION SIX: Right of Entry for Corrective Activities.

In the event the City undertakes to repair, correct and/or cure any Deficiency, then in such event the Developer hereby grants to the City and its employees, contractors and representatives, the right to enter upon the Property and the Improvements for the purpose of performing any such repair, correction, and/or cure.

SECTION SEVEN: No Obligation of City to Undertake Repairs or Advance Funds.

Nothing contained herein shall be construed to in any way obligate the City to (i) advance City funds for any purpose on behalf of the Developer, or (ii) to undertake the repair, correction and/or cure of any Deficiency. Further, the City shall have no liability to the Developer or any third parties with respect to any corrective actions undertaken by the City.

SECTION EIGHT: Excess Funds.

In the event that the City draws on the Letter of Credit and establishes the Cash Escrow, then any excess funds shall be returned to the Developer after any and all of the Deficiencies have been repaired, corrected and cured to the satisfaction of the City and after the payment from the Cash Escrow of all obligations of the Developer under this Agreement.

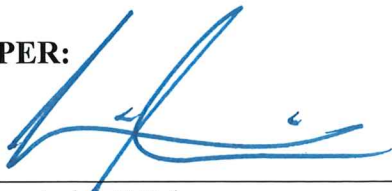
SECTION NINE: Continued Applicability of Subdivision Regulations.

This Agreement shall not be construed to relieve or release Developer from any of its obligations under the City Subdivision Regulations with respect to the Improvements.

SECTION TEN: Construction.

This Agreement shall be construed in accordance with the laws of the State of Florida.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed as of the date and year first above written.

DEVELOPER: 
By: _____
Print Name: Azim F Saju
Title: Managing Member

ATTEST:

By: _____
Melanie Sibbitt, City Clerk

(SEAL)

CITY:

CITY OF OCOEE, FLORIDA, a Florida
municipal corporation

By: _____
Rusty Johnson, Mayor

FOR THE USE AND RELIANCE BY THE
CITY OF OCOEE ONLY. APPROVED
AS TO FORM AND LEGALITY
this _____ day of
_____, 20__.

APPROVED BY THE OCOEE CITY
COMMISSION AT A MEETING
HELD ON _____, 20__
UNDER AGENDA ITEM NO. _____

FISHBACK DOMINICK

By: _____
City Attorney

EXHIBIT "A"

(Legal Description of Real Property Constituting the Subdivision)

EXHIBIT "B"

FORM OF LETTER OF CREDIT

(See Following Page)



IRREVOCABLE STANDBY LETTER OF CREDIT

Principal (Developer):

SYM Capital Partners, LLC, a
Florida limited liability company
125 NE First Avenue
Suite 1
Ocala, Florida 34470

Beneficiary:

City of Ocoee
1 Bluford Avenue
Ocoee, FL 34761

Issuing Bank:

Gulf Atlantic Bank
2222 North Roosevelt Blvd.
Key West, Florida 33040

Project:

Hampton Inn Ocoee

AMOUNT: \$14,427.50

DATE OF ISSUE: 7/19/2024

DATE OF EXPIRATION: 8/19/2026

We, GULF ATLANTIC BANK, hereby establish our Irrevocable Standby Letter of Credit No. SYM 1 in Beneficiary's, the City of Ocoee, favor and authorize you to draw on GULF ATLANTIC BANK, Attn: Adam Woods, whose address is 2222 North Roosevelt Blvd., Key West, Florida 33040, up to but not exceeding the aggregate amount of FOURTEEN THOUSAND FOUR HUNDERS TWENTY SEVEN DOLLARS AND NO 50/100 (\$14,427.50), in United States Funds, which is available by your draft on sight, when accompanied by this Irrevocable Standby Letter of Credit and the following documents:

- 1) Beneficiary's statement, on its letterhead, completed, dated and signed by an authorized representative, stating: "SYM Capital Partners, LLC has failed to fulfill its obligations in regards to the subdivision or Project known as the HAMPTON INN OCOEE, according to the City of Winter Ocoee Code or pursuant to an agreement between the City of Ocoee and SYM Capital Partners, LLC pursuant to conditions of approval for the Project. We are drawing for \$_____. under Letter of Credit No. SYM 1. Please wire proceeds to us, City of Ocoee"

Drafts must be presented **not later than August 19, 2026**. Drafts must bear the clause: "Drawn under Irrevocable Standby Letter of Credit Number SYM 1 dated _____ "

This Irrevocable Standby Letter of Credit shall remain in full force and effect notwithstanding a partial draw or draws so long as a sum remains to be drawn or until the Irrevocable Standby Letter of Credit has expired. The amount of any partial drawing will be endorsed on the reverse of this Irrevocable Standby Letter of Credit and returned to the Beneficiary unless the Irrevocable Standby Letter of Credit is paid in full.

"Authorized representative" means the Mayor, City Manager or Finance Director of the City of Ocoee.

Except as otherwise specifically stated herein, this Irrevocable Standby Letter of Credit sets forth in full the terms of our undertaking, and such undertaking shall not in any way be modified, amended, or amplified by reference to any document, instrument, or agreement referenced to herein or in which this Irrevocable Standby Letter of Credit is referred to or this Irrevocable Standby Letter of Credit relates, and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement.

We hereby agree with the drawers, endorsers, and bona fide holders of all drafts drawn under and in compliance with the terms of this Irrevocable Standby Letter of Credit, that such drafts will be duly honored upon presentation to Gulf Atlantic Bank, Attn: Adam Woods, 2222 North Roosevelt Blvd., Key West, Florida 33040

This Irrevocable Standby Letter of Credit is subject to the provisions of Florida law and Federal law which govern the same. If a conflict of law should arise, Florida law shall prevail. If a conflict between the law of another state or country and Florida law should arise, Florida law shall prevail.

It is the condition of this Irrevocable Standby Letter of Credit that it shall be expire on the Date of Expiration unless sixty (60) days prior to such date, we shall notify you in writing, by registered mail, or courier at the address indicated that we elect to renew this Irrevocable Standby Letter of Credit for such additional period. In the event we decline to renew this Irrevocable Letter of Credit, you may draw hereunder on or prior to the then relevant expiration date, up to the full amount then available hereunder, against your sight draft on us.

GULF ATLANTIC BANK

By: 

Name: Adam Woods

Title: Chief Lending Officer



Meeting Date: August 20, 2024
Item #: 13

Contact Name: Mark Olson
Contact Number: Ext. 3355

Department Director: Vincent Ogburn
City Manager: Craig Shadrix

Subject: Approval of Piggyback Uniform Vendor Contract. (Police Lieutenant Olson)

Background Summary:

The City of Ocoee Police Department purchased uniforms from Galls, totaling \$55,218.73. This amount exceeded the City Manager's current approval authority by \$5,218.73; the current approval limit for the City Manager's single vendor purchases is set at \$50,000. Since the total amount spent at Galls is over the City Manager's approval threshold, entry into a contract is required by either obtaining three quotes, using a sole source, or with a piggyback contract. The City of Ocoee Police Department is asking for the Honorable Mayor and City Commissioners for approval to piggyback the City of Orlando Police Department's contract with Galls.

Issue:

Should the Honorable Mayor and City Commissioners approve the use of a piggyback contract with Galls?

Recommendations:

Staff recommends the Honorable Mayor and City Commissioners approve the use of a piggyback contract with Galls.

Attachments:

1. Sample Contract from The City of Orlando- Uniforms For Police Department

Financial Impacts:

The City of Ocoee Police Department has an approved budget of \$149,573.00.

Type of Item: Consent



ORIGINAL

**CITY OF ORLANDO
INVITATION FOR BIDS (IFB)**

DATE OF ISSUE: Friday, March 22, 2018

IFB DUE DATE: Thursday, April 25, 2019

IFB DUE TIME: 2:00 p.m., Local Time, City of Orlando, FL

BID DELIVERY LOCATION: City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801
Bid opening held at same location.

IFB TITLE: UNIFORMS FOR ORLANDO POLICE DEPARTMENT

IFB NO: IFB19-0280
(IFB NUMBER MUST BE PLACED ON FRONT OF ENVELOPE)

THIS IS NOT AN ORDER

DIRECT ALL INQUIRIES TO: Angela Thomas, Purchasing Agent III
Phone: (407) 246-2563
Email: Angela.Thomas@cityoforlando.net

BUSINESS NAME & ADDRESS

Galls, LLC
Business Name
1340 Russell Cave Road
Address
Lexington, KY 40505
City, State, Zip
800-876-4242
Telephone Number
Rose-Lindsay@galls.com
Business Email Address

CONTACT INFORMATION

Nathan Browning
Name of Contact Individual
1340 Russell Cave Road
Contact Address
Lexington, KY 40505
Contact City, State, Zip
859-800-1061
Contact Telephone Number
Browning-Nathan@galls.com
Contact Email Address

It is the intent and purpose of the City of Orlando that this Invitation for Bids promotes competitive bidding. It shall be the bidder's responsibility to advise the City's Procurement and Contracts Division at the address noted herein, if any language, requirements, etc. or any combination thereof, inadvertently restricts or limits the requirements stated in this Invitation for Bids to a single source. Such notification must be submitted in writing and must be received by the Procurement and Contracts Division not later than ten (10) days prior to the bid closing date.

Rev: Services - 02/28/17

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**INSTRUCTIONS FOR SUBMITTING BID
IN RESPONSE TO INVITATION FOR BIDS FOR THE
UNIFORMS FOR ORLANDO POLICE DEPARTMENT**

PREPARATION OF BIDS:

1. Bidders are expected to examine this bid form, attached drawings, specifications, if any, and all instructions. Failure to do so will be at the Bidder's risk.
2. All prices and notations must be in ink or typewritten. No erasure permitted. Mistakes may be crossed out and corrections typed adjacent and must be initialed and dated in ink by the person signing the bid. All bids must be signed by the Bidder and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.
3. Each Bidder shall furnish the information required on the bid form and each accompanying sheet thereof on which he/she makes an entry.
4. Unit prices for each unit bid shall be shown. A total shall be entered in the amount column for each item bid. In case of discrepancy between a unit price and extended price, the unit prices will be presumed to be correct.
5. Although the City generally awards bids based on a "lump sum" basis to the responsive and responsible Bidder submitting the lowest total bid, the City may choose to award on a "per group" or "per item" basis. Therefore, Bidders must submit with their bids, all pricing pages on the forms provided clearly indicating which items are bid and which are not. Failure to submit these pages will render such bid non-responsive.

SUBMITTAL CHECK LIST: ✓

Bidders should use the bid check list below of standard forms which are to be completed and returned as part of your bid submittal. **Failure to complete and return required forms may result in your bid being non-responsive and not considered for award.**

The items listed below are required. Additionally, other forms/items may be required to be submitted under the terms of this Invitation for Bids which are not listed below. It is the Bidder's responsibility to read and understand the provisions of this Invitation for Bids.

- ✓ Solicitation Cover Page with completed information requested.
- ✓ Current Copy of Bidder's W-9
- ✓ Bids Price Form(s) (Unit Price and Total Price Columns completed).
- ✓ Bidder's Certification, signed and notarized.
- ✓ Bidder's Questionnaire.
- ✓ Conflict of Interest Disclosure Form.
- ✓ Contract and Acceptance Form.
- ✓ **Bid must be submitted as one (1) unbound original, one (1) hard copy, and one PDF electronic copy on a USB Drive**
- ✓ Minority/Women Owned Business Enterprise Participation Form.
- ✓ Veteran Business Enterprise Participation Form.
- ✓ Completed Addendum Acknowledgment Form for each Addendum.

It is the Bidder's responsibility to contact the City's Procurement and Contracts Division prior to submitting a bid to ascertain if any addenda have been issued, to obtain all such addenda, and return executed addenda with the bid. If you have downloaded this bid from the Internet, please ensure that you also download all such addenda.

Special Items Required:

- ✓ Certificate of Insurance required within seven (7) days of Notice of Intended Action.

SEALED BID ENVELOPE LABEL:

Complete the label below with all appropriate information and affix it to the outside of the envelope containing your submittal. This will assist in the proper processing of the submittal and avoid revealing the contents of that envelope until the official solicitation opening time and date.

SEALED BID ENCLOSED**(To be opened by Procurement official noted below)****Respondent's Name:** _____**Respondent's Address:** _____
_____**Respondent's Contact Name:** _____**Respondent's Telephone Number:**(_____) _____**City of Orlando****Procurement and Contracts Division****Attention: David Billingsley, CPSM, C.P.M.,****Chief Procurement Officer****C/O Purchasing Agent: Angela Thomas, Purchasing Agent III****400 South Orange Avenue, Fourth Floor****Orlando, Florida 32801****Solicitation No.:** IFB19-0280**Solicitation Title:** UNIFORMS FOR ORLANDO POLICE DEPARTMENT**Solicitation Due Date & Time:** THURSDAY, APRIL 25, 2019AT 2:00P.M., LOCAL TIME ORLANDO, FL

INVITATION FOR BIDS AWARD INFORMATION:

The City's Procurement and Contracts Division is the official source to obtain information relating to City of Orlando solicitations. It is incumbent on the Bidder to obtain current bid and award information prior to and after the scheduled opening date of a solicitation. Information is updated daily as it becomes available. An award, or recommendation of award, may be made at any time after the scheduled opening date of a solicitation. You may obtain award and other solicitation information in a variety of ways:

1. Bid documents are available for download from the eSupplier website:

You may access solicitation information by visiting the City's eSupplier website by copying the following link in your web browser:

<https://vendorlink.cityoforlando.net/common/default.aspx>

2. You may also visit the Procurement and Contracts Division to obtain award information, solicitation packages, addendums, and other documents. Our office is located at:

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

3. You may also call the Procurement and Contracts Division at (407) 246-2291, during normal business hours, to request a solicitation and other related information.

Please remember, email notification is provided as a courtesy to our Bidders, but it is the Bidder's responsibility to check with the City of Orlando's website at:

<https://vendorlink.cityoforlando.net/common/default.aspx> for current bid, and other information.

We appreciate your interest in doing business with the City Beautiful and wish you much success with your business ventures.

NON- MANDATORY PRE-BID CONFERENCE:

All prospective Bidders are invited to attend a **NON-MANDATORY** Pre-Bid Conference at:

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

On

Tuesday, April 9, 2019 at 2:00 p.m.,
Local Time, City of Orlando, FL

The purpose of the Pre-Bid Conference is to provide and solicit information relative to the scope, purpose, nature and extent of the Work, and any local conditions, which may affect the Work and its performance. Submission of a bid shall constitute an acknowledgment by the Bidder that it has thoroughly examined and is familiar with the **INVITATION FOR BIDS**. The failure or neglect of a Bidder to examine the **INVITATION FOR BIDS**, shall in no way relieve the Bidder of any obligations with respect to either its bid or the **INVITATION FOR BIDS**. No claim for additional compensation will be allowed which is based upon a lack of knowledge of the **INVITATION FOR BIDS**.

NON- MANDATORY
PRE-BID CONFERENCE ATTENDANCE NOTIFICATION:

A Non-Mandatory Pre-Bid Conference will be held **City of Orlando, 400 South Orange Avenue, Fourth Floor, Orlando, Florida 32801 on Tuesday, April 9, 2019 at 2:00 p.m., Local Time, City of Orlando, FL**

Please return this form by: **April 5, 2019**

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801
Telephone: (407) 246-2291
Fax: (407) 246-2869

PLEASE CHECK:

_____ We plan to attend

Name of Representatives who will attend

1. _____
2. _____
3. _____

_____ We do not plan to attend, but will be submitting a response.

_____ We do not plan to attend and will not be submitting a response because:

Signature

Title

Name of Company

Date

SPECIFICATIONS FOR THE UNIFORMS FOR ORLANDO POLICE DEPARTMENT

1.0 DESCRIPTION OF PROJECT

The purpose of this specification is to establish the requirements for an annual purchase agreement to provide uniforms for the Orlando Police Department with personalized identification and all emblems for all Orlando Police Department personnel.

2.0 MINIMUM REQUIREMENTS

The Bidder shall have a servicing store within fifteen (15) miles of Orlando Police Department Headquarters, 1250 W South St, Orlando, FL 32801. The exact address of the servicing center must be provided on Page 62, Number 7 of the Bidder Questionnaire. Failure to have a servicing store at the time of the bid submittal will cause the bid to be deemed non-responsive.

3.0 SPECIAL INSTRUCTIONS TO THE BIDDER:

- A. Delivery shall be F.O.B. destination.
- B. Successful bidder shall furnish a sample for evaluation to the Orlando Police Department's Uniform Committee Chairperson and written approval must be provided before any delivery and acceptance is allowed.
- C. Any awarded Contractor must have the ability to perform all alterations necessary for proper fit at the initial purchase of the items or afterwards for the full duration of the contract.

4.0 TERMINATION OF CONTRACT:

At the termination of the contract, the Bidder is required to surrender all art work in a digital format to be given to the City and to the Awardee of the next contract.

5.0 SUBSTITUTION OF ITEMS:

There shall be no substitution of any item without prior written approval and authorization of the Orlando Police Department's Uniform Committee Chairperson.

6.0 UNIFORM ORDERS:

All uniform orders must be delivered weekly pressed and on hangers with the exception of the dress hat. All deliveries must be signed off that they are complete and correct matching what is being delivered and invoiced.

7.0 EMBROIDERING:

EXHIBIT "1" - DEPARTMENT ART FOR EMBROIDERY

- A. All shoulder patches and rockers should be included into the price of the shirts.
- B. The circle badge and embroidery (citizen observer program) that are on the volunteer shirts should be included in the price of the shirts.

- C. The motor wings sewn on the left sleeve should be included in the price of the Elbeco motors shirt.
- D. The price for the Spiewak public safety jacket should include "POLICE" on the back and OPD badge patch on the left breast.
- E. The price for rank, special unit patches, and longevity stripes can be listed and charged separately as needed.

8.0 **MALE SHORT SLEEVE STRETCH POLICE UNIFORM SHIRT**

- A. **Model:** Spiewak SU310ZS
- B. **Color:** Navy (011)
- C. **Style:** The Uniform Shirt shall be standard military style with shirttails and permanent front and back creases.
- D. **Shirt sizes:** 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 20, 21, 22
- E. **Fabric:** The primary shirt fabric shall be 100% Polyester Sorbtek poplin designed for moisture wicking and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarns. The weight shall be 5.2 oz./sq. yd. (8-8.5 oz./ per linear yard).
- F. **Tailoring:** This garment shall be constructed according to the principles set forth in the specifications. All stitches shall be of the proper tension and size so as to avoid puckering after the shirt has been laundered and to give best durable press performance. All sewing shall be with polyester core thread to match the shirt fabric. The collar shall be single stitched 1/4" from edge. The pockets, flaps and epaulets shall be edge stitched. The shirtsleeve bottom shall be finished with a 1" clean finished.
- G. **Collar:** The collar points shall be medium spread approximately 2" in length. The outside edge of the collar shall be stitched with an edge stitch. The collar width at the back of the neck shall be 1" with a 2" collar band extension. The back of the stand shall measure 1-1/2". The inside collar stand shall be lined with 210T Polyester fabric for comfort. There shall be a collar stay sewn inside the collar along the bottom edge of each collar to hold the collar shape and still allow the attachment of collar brass. The collar shall be designed to wear with the collar points spread. The collar shall be single stitched 1/4" from edge. The pockets, flaps and epaulets shall be edge stitched. The shirtsleeve bottom shall be finished with a 1" clean finished.
- H. **Mesh Side Panels:** Mesh panels are sewn into side seam of sleeve and body with 1/16" topstitching around mesh panels. Sleeve mesh panels are sewn at the upper portion of the

sleeve seam and measure 2-3/4" at widest part and tapers down 9" long to blend with sleeve seam. Side panels measures 2-3/4" wide top and 4-3/4" at bottom hem and sewn to the side seams of the front and back of shirt. Hem shall be clean finished using double bend back folder with 1/4" top stitching gauge.

- I. **Sleeves:** The sleeves shall be one piece sewn into the shoulder, and finished with a 1" clean turn-up with no loose threads. The sleeves and side closing seams shall be attached to the body of the shirt with a merrow and a safety stitch for reinforcement.
- J. **Epaulets:** The epaulets shall be sewn onto the shoulder seam and shall extend to within 1/2" of the collar seam. The epaulet shall button at point 1" from the collar seam. The Epaulet shall be 2-1/8" wide at the shoulder seam and taper to 1-5/8", then to a point. The overall length of the epaulet shall be approximately 8". The epaulet shall be double thickness with a single edge stitch on the perimeter. The epaulets shall be box stitched to shoulders with row of cross-stitching 2-1/2" from sleeve head seam. There shall be a hidden ligne 16 button attached 1-3/8" from the epaulet attachment button on each side under each epaulet to attach a unique microphone sling (patent applied for) to insure that the radio microphone is in the proper place to be deployed.
- K. **Front:** The front shall have a center facing 1-1/2" wide placket extending from the collar stand to the bottom of shirt. The placket shall have an interlining for stability and a neat appearance and shall be 1" top stitched on each side. The center front shall contain six (6) vertical buttonholes placed 3/4" from edge and 3-1/2" apart. There shall be a button at the neck corresponding with the top buttonhole, which shall be set horizontally. There shall be an inside facing of self-material on the button side 3-1/4" wide extending from the collar stand to bottom of shirt. The buttons shall be securely attached shall correspond to the buttonholes on the center facing. There shall be a spare ligne 20 button sewn into the inside button facing. There shall be a hidden zipper sewn under the front placket for ease of wear. There shall be 4 rubberized bands 3-1/8" X 9/16" sewn into the bottom of the shirt 2" from the bottom and 1" on the inside of the outer creases designed to work with the corresponding pant waistband for maximum shirt retention (SRS™ Shirt Retention System). . The shirt shall also have two permanent stitched 1/16" wide military creases down each side from the shoulder seam to the bottom of the shirt centered to the pocket and pocket flap. Creases shall not extend through the pocket and flap.
- L. **Back:** The garment shall have a straight yoke back located approximately 4" below the collar seam. There shall be an inside yoke composed of 201T polyester for maximum comfort. The shirt shall have 3 permanent creases, 1/16" wide on the back panel. One crease shall be located at the center back and shall start at the center of the yoke and continue straight down to the bottom edge of the shirt. Each of the other two creases shall be located at the midway point between the center crease and the shoulder seam on both the left and right sides of the center crease.
- M. **Pockets:** The shirt shall have two Military-styled box pleated, breast patch pockets with 3-point button down flaps. The breast pocket shall be 5 5/8" wide X 6-3/8" long. The center

pleat shall be 1-1/2" wide. The bottom corners of the pocket shall be cut on a 40 degree angle and shall be 1" long. The pocket flaps shall be slightly tapered and shall be 6" wide at the top and 6" wide at the outside points on the bottom of the flap. The flaps shall be attached to the shirt body 1/4" above the top of the pocket, resulting in a complete pocket measurement of 6-3/8" long. The pocket shall be edge stitched around the perimeter and shall finish with a 3/8" turn down. The pocket corners shall be reinforced with a bartack in each corner. There shall be a pencil opening on both the left and right flap. The two outside points of each pocket flap shall have concealed Velcro closures. The left breast pocket shall have a sewn pencil compartment approximately 1-5/8" wide. Each flap shall have a ligne 20 button sewn to a false buttonhole on the surface of the flap. (Pocket dimensions will vary with size)

- N. **Hidden Chest Pocket:** There shall be a #3 YKK 6-1/2" concealed zipper under the front placket on right side of shirt. The pocket height shall be 9" with the pocket width extending from the facing seam to the side seam. The center of the zippered opening shall be centered at the mid- point between the top of the chest flap and the bottom of the chest pocket. The top of the concealed pocket shall align with the top of the pocket flap. Concealed shirt pocket shall be made of shirting material.
- O. **Badge Tab:** The badge tab is to be reinforced on inside of the shirt by means of a strip of material 1" wide edge stitched and folded so that no raw edges show. The reinforcement strip is to extend from the flap setting stitch to the joining seam at the front of the yoke. There shall be two small (horizontal) buttonholes, 1-1/4" apart sewn through the left front and the reinforcement strip with the bottom buttonhole located 1-1/4" above the top of left flap.
- P. **Creasing:** Pockets and pocket flaps shall be uniform in shape and size. The front and back creases shall incorporate a permanent 1/16" pintuck stitched crease.
- Q. **Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- R. **Emblems:** There shall be an Agency Emblem attached to each sleeve 1" down from shoulder seam and centered on the epaulet.
- S. **Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

9.0 MALE LONG SLEEVE STRETCH POLICE UNIFORM SHIRT

- A. **Model:** Spiewak SU315ZS
- B. **Color:** Navy (011)

- C. **Style:** The Uniform Shirt shall be standard military style with shirttails and permanent front and back creases.
- D. **Shirt sizes:** 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 20, 21, 22
- E. **Fabric:** The primary shirt fabric shall be 100% Polyester Sorbtek poplin designed for moisture wicking and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarns. The weight shall be 5.2 oz./sq. yd. (8-8.5 oz. / per linear yard).
- F. **Tailoring:** This garment shall be constructed according to the principles set forth in the specifications. All stitches shall be of the proper tension and size so as to avoid puckering after the shirt has been laundered and to give best durable press performance. All sewing shall be with polyester core thread to match the shirt fabric. The collar shall be single stitched 1/4" from edge. The pockets, flaps and epaulets shall be edge stitched. The shirtsleeve bottom shall be finished with a 1" clean finished.
- G. **Collar:** The collar points shall be medium spread approximately 3" in length. The outside edge of the collar shall be stitched with an edge stitch. The collar width at the back of the neck shall be 1" with a 2" collar band extension. The back of the stand shall measure 1-1/2". The inside collar stand shall be made of 201T Polyester for comfort. There shall be a collar stay sewn inside the collar along the bottom edge of each collar to hold the collar shape and still allow the attachment of collar brass. There shall be hidden triangle collar button-down tabs sewn underneath each collar point approximately 1" wide (at the attachment point) and 7/8" long. These tabs shall attach to hidden durable ligne 14 buttons which to keep the collar secure.
- H. **Mesh Side Panels:** Mesh panels are sewn into side seam of sleeve and body with 1/16" topstitching around mesh panels. Sleeve mesh panels are sewn at the upper portion of the sleeve seam and measure 2-3/4" at widest part and tapers down 9" long to blend with sleeve seam. Side panels measures 2-3/4" wide top and 4-3/4" at bottom hem and sewn to the side seams of the front and back of shirt. Hem shall be clean finished using double bend back folder with 1/4" top stitching gauge.
- I. **Sleeves:** The sleeves shall be one piece sewn into the shoulder, tapering into the finished cuffs with pressed double pleats. The cuffs shall be attached to the sleeve with a 3/8" double needle stitch and shall be 2-5/8" in width; fastening with two durable ligne 20- 4 hole 100% polyester buttons. The cuffs shall be made of two pieces of base shirt material with an interlining. There shall be a shirt cuff opening with a facing of shirt material 7" X 1" tapering to a point with a closure stitch across the facing 1-1/2" from the point. There shall be a buttonhole approximately 4" from the point to attach a ligne 16 durable 100% polyester button. The button shall be attached to the inside facing which shall be bound with 5/8" bias cut shirt material for reinforcement. The sleeves and side closing seams shall be attached to the body of the shirt with a merrow and a safety stitch for reinforcement.

- J. Epaulets:** The epaulets shall be sewn onto the shoulder seam and shall extend to within 1/2" of the collar seam. The epaulet shall button at point 1" from the collar seam. The Epaulet shall be 2-1/8" wide at the shoulder seam and taper to 1-5/8", then to a point. The overall length of the epaulet shall be approximately 8". The epaulet shall be double thickness with a single edge stitch on the perimeter. . The epaulets shall be box stitched to shoulders with row of cross-stitching 2-1/2" from sleeve head seam. There shall be a hidden ligne 16 button attached 1-3/8" from the epaulet attachment button on each side under each epaulet to attach a unique microphone sling (patent applied for) to insure that the radio microphone is in the proper place to be deployed.
- K. Front:** The front shall have a center facing 1-1/2" wide placket extending from the collar stand to the bottom of shirt. The placket shall have an interlining for stability and a neat appearance and shall be 1" top stitched on each side. The center front shall contain six (6) vertical buttonholes placed 3/4" from edge and 3-1/2" apart. There shall be a button at the neck corresponding with the top buttonhole, which shall be set horizontally. There shall be a hidden zipper sewn under the front placket for ease of wear. There shall be an inside facing of self-material on the button side 3-1/4" wide extending from the collar stand to bottom of shirt. The buttons shall be securely attached shall correspond to the buttonholes on the center facing. There shall be a spare line 20 and line 16 button sewn into the inside button facing. There shall be 4 rubberized bands 3-1/8" X 9/16" sewn into the bottom of the shirt 2" from the bottom and 1" on the inside of the outer creases designed to work with the corresponding pant waistband for maximum shirt retention (SRS™ Shirt Retention System). . The shirt shall also have two permanent stitched 1/16" wide military creases down each side from the shoulder seam to the bottom of the shirt centered to the pocket and pocket flap. Creases shall not extend through the pocket and flap.
- L. Back:** The garment shall have a straight yoke back located approximately 4" below the collar seam. There shall be an inside yoke composed of 201T polyester for maximum comfort. The shirt shall have 3 permanent creases, 1/16" wide on the back panel. One crease shall be located at the center back and shall start at the center of the yoke and continue straight down to the bottom edge of the shirt. Each of the other two creases shall be located at the midway point between the center crease and the shoulder seam on both the left and right sides of the center crease.
- M. Pockets:** The shirt shall have two Military-styled box pleated, breast patch pockets with 3-point button down flaps. The breast pocket shall be 5 5/8" wide X 6-3/8" long. The center pleat shall be 1-1/2" wide. The bottom corners of the pocket shall be cut on a 40 degree angle and shall be 1" long. The pocket flaps shall be slightly tapered and shall be 6" wide at the top and 6" wide at the outside points on the bottom of the flap. (Pocket dimensions will vary with size). The flaps shall be attached to the shirt body 1/4" above the top of the pocket, resulting in a complete pocket measurement of 6-3/8" long. The pocket shall be edge stitched around the perimeter and shall finish with a 3/8" turn down. The pocket corners shall be reinforced with a triangle stitch in each corner. There shall be a pencil opening on both the left and right flap. The two outside points of each pocket flap shall have concealed Velcro closures. The left breast pocket shall have a sewn pencil

compartment approximately 1-5/8" wide. Each flap shall have a ligne 20 button sewn to a false buttonhole on the surface of the flap.

- N. **Hidden Chest Pocket:** There shall be a #3 YKK 6-1/2" concealed zipper under the front placket on right side of shirt. The pocket height shall be 9" with the pocket width extending from the facing seam to the side seam. The center of the zippered opening shall be centered at the mid- point between the top of the chest flap and the bottom of the chest pocket. The top of the concealed pocket shall align with the top of the pocket flap. Concealed shirt pocket shall be made of shirting material.
- O. **Badge Tab:** The badge tab is to be reinforced on inside of the shirt by means of a strip of material 1" wide edge stitched and folded so that no raw edges show. The reinforcement strip is to extend from the flap setting stitch to the joining seam at the front of the yoke. There shall be two small (horizontal) buttonholes, 1-1/4" apart sewn through the left front and the reinforcement strip with the bottom buttonhole located 1-1/4" above the top of left flap.
- P. **Creasing:** Pockets and pocket flaps shall be uniform in shape and size. The front and back creases shall incorporate a permanent 1/16" pintuck stitched crease.
- Q. **Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- R. **Pressing and Packing:** Shirts shall be carefully pressed by hand in first class manner and individually packed in polyethylene bags with an inside shirt wrap, collar plastic, a pin closure at the neck and clip closures at the back. The shirt shall be wrapped around cardboard with an extension into the collar. The microphone tab shall be centered on the.
- S. **Emblems:** There shall be an Agency Emblem attached to each sleeve 1" down from shoulder seam and centered on the epaulet.
- T. **Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

10.0 **FEMALE SHORT SLEEVE STRETCH POLICE UNIFORM SHIRT**

- A. **Model:** Spiewak SU311ZS
- B. **Color:** Navy (011)
- C. **Style:** The Uniform Shirt shall be standard military style with shirttails and permanent front and back creases.
- D. **Shirt sizes:** 30 – 48 (even sizes)

- E. Fabric:** The primary shirt fabric shall be 100% Polyester Sorbtek poplin designed for moisture wicking and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarns. The weight shall be 5.2 oz./sq. yd. (8-8.5 oz. / per linear yard).
- F. Tailoring:** This garment shall be constructed according to the principles set forth in the specifications. All stitches shall be of the proper tension and size so as to avoid puckering after the shirt has been laundered and to give best durable press performance. All sewing shall be with polyester core thread to match the shirt fabric. The collar shall be single stitched 1/4" from edge. The pockets, flaps and epaulets shall be edge stitched. The shirtsleeve bottom shall be finished with a 1" clean finished.
- G. Collar:** The collar points shall be medium spread approximately 3" in length. The outside edge of the collar shall be stitched with an edge stitch. The collar width at the back of the neck shall be 1" with a 2" collar band extension. The back of the stand shall measure 1-1/2". The inside collar stand shall be made of 210T polyester fabric for comfort. There shall be a collar stay sewn inside the collar along the bottom edge of each collar to hold the collar shape and still allow the attachment of collar brass. The collar shall be designed to wear with the collar points spread. The collar shall be single stitched 1/4" from edge. The pockets, flaps and epaulets shall be edge stitched. The shirtsleeve bottom shall be finished with a 1" clean finished.
- H. Mesh Side Panels:** Mesh panels are sewn into side seam of sleeve and body with 1/16" topstitching around mesh panels. Sleeve mesh panels are sewn at the upper portion of the sleeve seam and measure 2-3/4" at widest part and tapers down 9" long to blend with sleeve seam. Side panels measures 2-3/4" wide top and 4-3/4" at bottom hem and sewn to the side seams of the front and back of shirt. Hem shall be clean finished using double bend back folder with 1/4" top stitching gauge.
- I. Sleeves:** The sleeves shall be one piece sewn into the shoulder, and finished with a 1" clean turn-up with no loose threads. The sleeves and side closing seams shall be attached to the body of the shirt with a merrow and a safety stitch for reinforcement.
- J. Epaulets:** The epaulets shall be sewn onto the shoulder seam and shall extend to within 1/2" of the collar seam. The epaulet shall button at point 1" from the collar seam. The Epaulet shall be 2" wide at the shoulder seam and taper to 1-1/2", then to a point. The overall length of the epaulet shall be approximately 5 5/8". The epaulet shall be double thickness with a single edge stitch on the perimeter. The epaulets shall be box stitched to shoulders with row of cross-stitching 1-5/8" from sleeve head seam. There shall be a hidden button attached 1-3/8" from the epaulet attachment button on each side under each epaulet to attach a unique microphone sling (patent applied for) to insure that the radio microphone is in the proper place to be deployed.

- K. Front:** The front shall have a center facing 1-1/2" wide placket extending from the collar stand to the bottom of shirt. The placket shall have an interlining for stability and a neat appearance and shall be 1" top stitched on each side. The center front shall contain six (6) vertical buttonholes placed 3/4" from edge and 3-1/2" apart. There shall be a button at the neck corresponding with the top buttonhole, which shall be set horizontally. There shall be an 18-ligne snap between the third and fourth button from the top to keep the shirt from gapping. There shall be a hidden zipper sewn under the front placket for ease of wear. There shall be an inside facing of self-material on the button side 3-1/4" wide extending from the collar stand to bottom of shirt. The buttons shall be securely attached shall correspond to the buttonholes on the center facing. There shall be a spare ligne 20 button sewn into the inside button facing. There shall be 4 rubberized bands 3-1/8" X 9/16" sewn into the bottom of the shirt 2" from the bottom and 1" on the inside of the outer creases designed to work with the corresponding pant waistband for maximum shirt retention (SRS™ Shirt Retention System). . The shirt shall also have two permanent stitched 1/16" wide military creases down each side from the shoulder seam to the bottom of the shirt centered to the pocket and pocket flap. Creases shall not extend through the pocket and flap.
- L. Back:** The garment shall have a straight yoke back located approximately 4" below the collar seam. There shall be an inside yoke composed of 201T polyester for maximum comfort. The shirt shall have 3 permanent creases, 1/16" wide on the back panel. One crease shall be located at the center back and shall start at the center of the yoke and continue straight down to the bottom edge of the shirt. Each of the other two creases shall be located at the midway point between the center crease and the shoulder seam on both the left and right sides of the center crease.
- M. Pockets:** The shirt shall have two Military-styled box pleated, breast patch pockets with 3-point button down flaps. The breast pocket shall be 5" wide x 5-3/8" long. The center pleat shall be 1" wide. The bottom corners of the pocket shall be cut on a 40 degree angle and shall be 1" long. The pocket flaps shall be slightly tapered and shall be 5-3/8" wide at the top and 5" wide at the outside points on the bottom of the flap. (Pocket dimensions will be graded by shirt size). The flaps shall be attached to the shirt body 1/4" above the top of the pocket, resulting in a complete pocket measurement of 6" long. The pocket shall be edge stitched around the perimeter and shall finish with a 3/8" turn down. The pocket corners shall be reinforced with a triangle stitch in each corner. There shall be a pencil opening on both the left and right flap. The two outside points of each pocket flap shall have concealed power hook and loop closures. The left breast pocket shall have a sewn pencil compartment approximately 1-5/8" wide. Each flap shall have a ligne 20 button sewn to a false buttonhole on the surface of the flap. There shall be a #3 YKK invisible zipper approximately 6" long in the right side seam of the shirt to conceal a hidden pocket 6" long x 6-1/2" deep. The pocket shall start 2" down from the underarm joining seam (graded by size).
- N. Hidden Chest Pocket:** There shall be a #3 YKK 6-1/2" concealed zipper under the front placket on left side of shirt. The pocket height shall be 9" with the pocket width extending from the facing seam to the side seam. The center of the zippered opening shall be centered at the mid- point between the top of the chest flap and the bottom of the chest pocket. The

top of the concealed pocket shall align with the top of the pocket flap. Concealed shirt pocket shall be made of shirting material.

- O. Badge Tab:** The badge tab is to be reinforced on inside of the shirt by means of a strip of material 1" wide edge stitched and folded so that no raw edges show. The reinforcement strip is to extend from the flap setting stitch to the joining seam at the front of the yoke. There shall be two small (horizontal) buttonholes, 1-1/4" apart sewn through the left front and the reinforcement strip with the bottom buttonhole located 1-1/4" above the top of left flap.
- P. Creasing:** Pockets and pocket flaps shall be uniform in shape and size. The front and back creases shall incorporate a permanent 1/16" pintuck stitched crease.
- Q. Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- R. Emblems:** There shall be an Agency Emblem attached to each sleeve 1" down from shoulder seam and centered on the epaulet.
- S. Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

11.0 FEMALE LONG SLEEVE STRETCH POLICE UNIFORM SHIRT

- A. Model:** Spiewak SU316ZS
- B. Color:** Navy (011)
- C. Style:** The Uniform Shirt shall be standard military style with shirttails and permanent front and back creases.
- D. Shirt sizes:** 30 – 48 (even sizes)
- E. Fabric:** The primary shirt fabric shall be 100% Polyester Sorbtek poplin designed for moisture wicking and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarns. The weight shall be 5.2 oz. /sq. yd. (8-8.5 oz. / per linear yard).
- F. Tailoring:** This garment shall be constructed according to the principles set forth in the specifications. All stitches shall be of the proper tension and size so as to avoid puckering after the shirt has been laundered and to give best durable press performance. All sewing shall be with polyester core thread to match the shirt fabric. The collar shall be single stitched 1/4" from edge. The pockets, flaps and epaulets shall be edge stitched. The shirtsleeve bottom shall be finished with a 1" clean finished.

- G. Collar:** The collar points shall be medium spread approximately 3" in length. The outside edge of the collar shall be stitched with an edge stitch. The collar width at the back of the neck shall be 1" with a 2" collar band extension. The back of the stand shall measure 1-1/2". The inside collar stand shall be made of 201T Polyester for comfort. There shall be a collar stay sewn inside the collar along the bottom edge of each collar to hold the collar shape and still allow the attachment of collar brass. There shall be hidden triangle collar button-down tabs sewn underneath each collar point approximately 1" wide (at the attachment point) and 7/8" long. These tabs shall attach to hidden durable ligne 14 buttons which to keep the collar secure.
- H. Mesh Side Panels:** Mesh panels are sewn into side seam of sleeve and body with 1/16" topstitching around mesh panels. Sleeve mesh panels are sewn at the upper portion of the sleeve seam and measure 2-3/4" at widest part and tapers down 9" long to blend with sleeve seam. Side panels measures 2-3/4" wide top and 4-3/4" at bottom hem and sewn to the side seams of the front and back of shirt. Hem shall be clean finished using double bend back folder with 1/4" top stitching gauge.
- I. Sleeves:** The sleeves shall be one piece sewn into the shoulder, tapering into the finished cuffs with pressed double pleats. The cuffs shall be attached to the sleeve with a 3/8" double needle stitch and shall be 2-5/8" in width; fastening with two durable ligne 20- 4 hole 100% polyester buttons. The cuffs shall be made of two pieces of base shirt material with an interlining. There shall be a shirt cuff opening with a facing of shirt material 7" X 1" tapering to a point with a closure stitch across the facing 1-1/2" from the point. There shall be a buttonhole approximately 4" from the point to attach a ligne 16 durable 100% polyester button. The button shall be attached to the inside facing which shall be bound with 5/8" bias cut shirt material for reinforcement. The sleeves and side closing seams shall be attached to the body of the shirt with a merrow and a safety stitch for reinforcement.
- J. Epaulets:** The epaulets shall be sewn onto the shoulder seam and shall extend to within 1/2" of the collar seam. The epaulet shall button at point 1" from the collar seam. The epaulet shall be 2" wide at the shoulder seam and taper to 1-1/2", then to a point. The overall length of the epaulet shall be approximately 5 5/8". The epaulet shall be double thickness with a single edge stitch on the perimeter. The epaulets shall be box stitched to shoulders with row of cross-stitching 2-1/2" from sleeve head seam. There shall be a hidden ligne 16 button attached 1-3/8" from the epaulet attachment button on each side under each epaulet to attach a unique microphone sling (patent applied for) to insure that the radio microphone is in the proper place to be deployed.
- K. Front:** The front shall have a center facing 1-1/2" wide placket extending from the collar stand to the bottom of shirt. The placket shall have an interlining for stability and a neat appearance and shall be 1" top stitched on each side. The center front shall contain six (6) vertical buttonholes placed 3/4" from edge and 3-1/2" apart. There shall be a button at the neck corresponding with the top buttonhole, which shall be set horizontally. There shall be an 18-ligne snap between the third and fourth button from the top to keep the shirt from

gapping. There shall be an inside facing of self-material on the button side 3-1/4" wide extending from the collar stand to bottom of shirt. The buttons shall be securely attached shall correspond to the buttonholes on the center facing. There shall be a spare line 20 and line 16 button sewn into the inside button facing. There shall be a hidden zipper sewn under the front placket for ease of wear. There shall be 4 rubberized bands 3-1/8" X 9/16" sewn into the bottom of the shirt 2" from the bottom and 1" on the inside of the outer creases designed to work with the corresponding pant waistband for maximum shirt retention (SRS™ Shirt Retention System). The shirt shall also have two permanent stitched 1/16" wide military creases down each side from the shoulder seam to the bottom of the shirt centered to the pocket and pocket flap. The shirt shall also have two permanent stitched 1/16" wide military creases down each side from the shoulder seam to the bottom of the shirt centered to the pocket and pocket flap. Creases shall not extend through the pocket and flap.

- L. Back:** The garment shall have a straight yoke back located approximately 4" below the collar seam. There shall be an inside yoke composed of 201T polyester for maximum comfort. The shirt shall have 3 permanent creases, 1/16" wide on the back panel. One crease shall be located at the center back and shall start at the center of the yoke and continue straight down to the bottom edge of the shirt. Each of the other two creases shall be located at the midway point between the center crease and the shoulder seam on both the left and right sides of the center crease.
- M. Pockets:** The shirt shall have two Military-styled box pleated, breast patch pockets with 3-point button down flaps. The breast pocket shall be 5-1/4" wide X 5-3/8" long. The center pleat shall be 1-1/8" wide. The bottom corners of the pocket shall be cut on a 40 degree angle and shall be 1" long. The pocket flaps shall be slightly tapered and shall be 5-3/8" wide at the top and 5" wide at the outside points on the bottom of the flap. (Pocket dimensions will vary with size). The flaps shall be attached to the shirt body 1/4" above the top of the pocket, resulting in a complete pocket measurement of 6" long. The pocket shall be edge stitched around the perimeter and shall finish with a 3/8" turn down. The pocket corners shall be reinforced with a triangle stitch in each corner. There shall be a pencil opening on both the left and right flap. The two outside points of each pocket flap shall have concealed Velcro closures. The left breast pocket shall have a sewn pencil compartment approximately 1-5/8" wide. Each flap shall have a line 20 button sewn to a false buttonhole on the surface of the flap. There shall be a #3 YKK invisible zipper 6" long in the right side seam of the shirt to conceal a hidden pocket 6" long X 6-1/2" deep.
- N. Hidden Chest Pocket:** There shall be a #3 YKK 6-1/2" concealed zipper under the front placket on left side of shirt. The pocket height shall be 9" with the pocket width extending from the facing seam to the side seam. The center of the zippered opening shall be centered at the mid- point between the top of the chest flap and the bottom of the chest pocket. The top of the concealed pocket shall align with the top of the pocket flap. Concealed shirt pocket shall be made of shirting material.

- O. Badge Tab:** The badge tab is to be reinforced on inside of the shirt by means of a strip of material 1" wide edge stitched and folded so that no raw edges show. The reinforcement strip is to extend from the flap setting stitch to the joining seam at the front of the yoke. There shall be two small (horizontal) buttonholes, 1-1/4" apart sewn through the left front and the reinforcement strip with the bottom buttonhole located 1-1/4" above the top of left flap.
- P. Creasing:** Pockets and pocket flaps shall be uniform in shape and size. The front and back creases shall incorporate a permanent 1/16" pin tuck stitched crease.
- Q. Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- R. Pressing and Packing:** Shirts shall be carefully pressed by hand in first class manner and individually packed in polyethylene bags with an inside shirt wrap, collar plastic, a pin closure at the neck and clip closures at the back. The shirt shall be wrapped around cardboard with an extension into the collar. The microphone tab shall be centered on the shirtfront to keep it flat and pressed.
- S. Emblems:** There shall be an Agency Emblem attached to each sleeve 1" down from shoulder seam and centered on the epaulet.
- T. Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

12.0 SPIEWAK PROFESSIONAL POLY MEN'S 4 POCKET UNIFORM TROUSER

- A. Model:** Spiewak SU322
- B. Color:** Navy (011)
- C. Style:** The pant shall have a plain front with quarter top front pockets, 1" wide belt loops, two back pockets for a clean professional appearance. The pant cuff shall be of open construction to allow for custom finishing and shall have a 37-1/2" inch inseam (unfinished).
- D. Waist sizes:** 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, & 66
- E. Fabric:** The fabric shall be Sorbtek Polyester twill designed for moisture repellency and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarn. The weight shall be 7.0 oz. /sq. yd. (10.5-11 oz. / per linear yard).

- F. Striping:** There shall be a 1" black poly stripe sew down the out seam of the pant from the waistband seam to the bottom of the pant leg.
- G. Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- H. Pockets:** The front pocket opening shall be a minimum 6-1/2" long and be 6" deep from the bottom of the pocket opening. The inside front pocket facing shall be a separate piece of self-material finishing no less than 1" wide. The back pockets will have a minimum opening of 5-1/2" and be 7-1/2" deep. The left rear pocket shall have a 1-1/4" loop closure tab with a bar tack located 3/8" from point of attachment to secure the buttonhole. The loop tab shall attach to a ligne 20, durable button. Each pocket corner shall have a 3/8" bar tack for reinforcement. All pocketing shall be heavy duty Polyester/ Cotton twill. The waistband and inside seam binding shall be made with pocketing material cut on the bias.
- I. Waistband:** The waistband shall be designed to allow for 3" of mechanical expansion though two unique double waistband panels with 1" elastic built in. (Expand on demand™ waistband) The front waistband shall be held with a hidden 4" X 1-1/4" elastic attached to a tapered tab of self material. The inside waistband shall be held with 4" X 1" elastic sewn to the waistband inside fold back to a separate enclosed channel which is joined to the front waistband channel at the top of the front pocket opening. The elastic shall remain concealed even when the waistband is stretched to its maximum length. The curtain, shall be made of the Poly/ Cotton twill pocketing material listed above, bias-cut, and shall have a continuous parallel 7/16" wide rubberized band designed to work with the corresponding shirt tabs for maximum shirt retention (SRS™ Shirt Retention System). The finished waistband shall be 2-1/8" wide and shall be closed with two YKK Elite fasteners. The finished waistband shall be set on and shall be stitched below the lower edge through the outer fabric and the waistband curtain.
- J. Inner Fly/Crotch:** The right fly and front crotch linings shall be the same fabric and color as the waistband curtain. There shall be a TC #8000 interlining sewn between the fly and the fly lining to give additional stability and strength to the fly. The right fly lining shall be sewn to the left fly below the zipper and continue centered on the join seam across the inseam and end 1" onto the back seam. A separate French fly made of the outer fabric with a lining of reinforced pocketing shall be sewn to the inside right fly. The fly attachment button shall be a ligne 20, 100% polyester durable button. The button shall pass ASTM 5171-1191, using a .84 kg mass dropped from 67 mm. There shall be a diamond shaped reinforced crotch gusset measuring 9" wide X 4" sewn with a five needle safety stitch to prevent crotch seam failure.
- K. Zipper:** The trousers shall be closed with a #4 YKK brass memory lock zipper and have a brass bottom stop at the base of the zipper chain. A straight bar tack shall be sewn through from the outside of the garment to the inside at the bottom of the fly. The bar tack shall be sewn through the zipper tape; the right and left fly and the right fly lining. The right and left

fly shall be joined by an additional bar tack located at level of the bottom zipper stop on the inside of the trouser.

- L. **Belt Loops:** There should be a minimum of 5 lined belt loops on waist sizes 28, 29, 30, and a minimum of 7 lined loops on all sizes over 30. Each loop is to be 1" wide of double thickness, with stitching on the face side 3/8" from each edge. Except for the center back loop which shall be tacked on, all loops shall be sewn into the bottom of the waistband and into the rocap.
- M. **Creasing:** The front and back crease in the trouser legs shall incorporate a permanent resin bonded silicone crease produced by the Creaset™ System. The crease shall be properly cured to insure that the crease is permanent so that no amount of home laundering shall remove the crease
- N. **Seaming:** The entire trouser is to be seamed with Polyester core or 100% Polyester spun thread.
- O. **Pressing and Packing:** All loose threads shall be removed. Trousers must be pressed completely and properly with side seam, inseam, and seat seam pressed open. All garments shall be packaged individually in a clear poly bag.
- P. **Labels:** The trouser shall have a sewn-in label giving care instructions and an outside waistband label which shall be marked with lot number, size, fiber content, and cut number. A permanent size label shall be sewn inside on the hip pocket.
- Q. **Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

13.0 SPIEWAK PROFESSIONAL POLY LADIES' 4 POCKET UNIFORM PANT

- A. **Model:** Spiewak SU322
- B. **Color:** Navy (011)
- C. **Style:** The pant shall have a plain front with quarter top front pockets, 1" wide belt loops, two back pockets for a clean professional appearance. The pant cuff shall be of open construction to allow for custom finishing and shall have a 35 inch inseam (unfinished).
- D. **Sizes:** 2 through size 28 shall be available.
- E. **Fabric:** The fabric shall be Sorbtek Polyester twill designed for moisture repellency and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarn. The weight shall be 7.0 oz. /sq. yd. (10.5-11 oz. / per linear yard).

- F. Striping:** There shall be a 1" black poly stripe sew down the out seam of the pant from the waistband seam to the bottom of the pant leg.
- G. Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- H. Pockets:** The front pocket opening shall be a minimum 6-1/2" long and be 6" deep from the bottom of the pocket opening. The inside front pocket facing shall be a separate piece of self-material finishing no less than 1" wide. The back pockets will have a minimum opening of 5-1/2" and be 7-1/2" deep. Each back pocket shall have a 1-1/4" loop closure tab with a bar tack located 3/8" from point of attachment to secure the buttonhole. The loop tab shall attach to a ligne 20, durable button. Each pocket corner shall have a 3/8" bar tack for reinforcement. All pocketing shall be heavy duty black Polyester/Cotton twill fabric the waistband and inside seam binding shall be made with pocketing material cut on the bias.
- I. Waistband:** The waistband shall be designed to allow for 3" of mechanical expansion through two unique double waistband panels with 1" elastic built in. (Expand on demand™ waistband) The front waistband shall be held with a hidden 4" X 1-1/4" elastic attached to a tapered tab of self material. The inside waistband shall be held with 4" X 1" elastic sewn to the waistband inside fold back to a separate enclosed channel which is joined to the front waistband channel at the top of the front pocket opening. The elastic shall remain concealed even when the waistband is stretched to its maximum length. The curtain, shall be made of the Poly/ Cotton twill pocketing material listed above, bias-cut, and shall have a continuous parallel 7/16" wide rubberized band designed to work with the corresponding shirt tabs for maximum shirt retention (SRST™ Shirt Retention System). The finished waistband shall be 2-1/8" wide and shall be closed with two YKK Elite fasteners. The finished waistband shall be set on and shall be stitched below the lower edge through the outer fabric and the waistband curtain.
- J. Inner Fly/Crotch:** The right fly and front crotch linings shall be the same fabric and color as the waistband curtain. There shall be a TC #8000 interlining sewn between the fly and the fly lining to give additional stability and strength to the fly. The right fly lining shall be sewn to the left fly below the zipper and continue centered on the join seam across the inseam and end 1" onto the back seam. A separate French fly made of the outer fabric with a lining of reinforced pocketing shall be sewn to the inside right fly. The fly attachment button shall be a ligne 20, 100% polyester durable button. The button shall pass ASTM 5171-1191, using a .84 kg mass dropped from 67 mm.
- K. Zipper:** The trousers shall be closed with a #4 YKK brass memory lock zipper and have a brass bottom stop at the base of the zipper chain. A straight bar tack shall be sewn through from the outside of the garment to the inside at the bottom of the fly. The bar tack shall be sewn through the zipper tape; the right and left fly and the right fly lining. The right and left fly shall be joined by an additional bar tack located at level of the bottom zipper stop on the inside of the trouser.

- L. Belt Loops:** There should be a minimum of 5 lined belt loops on the waistband. Each loop is to be 1" wide of double thickness, with stitching on the face side 3/8" from each edge. All loops shall be sewn into the bottom of the waistband and into the rocap.
- M. Creasing:** The front and back crease in the trouser legs shall incorporate a permanent resin bonded silicone crease produced by the Creaset™ System. The crease shall be properly cured to insure that the crease is permanent so that no amount of home laundering shall remove the crease
- N. Seaming:** The entire trouser is to be seamed with Polyester core or 100% Polyester spun thread.
- O. Pressing and Packing:** All loose threads shall be removed. Trousers must be pressed completely and properly with side seam, inseam, and seat seam pressed open. All garments shall be packaged individually in a clear poly bag.
- P. Labels:** The trouser shall have a sewn-in label giving care instructions and an outside waistband label which shall be marked with lot number, size, fiber content, and cut number. A permanent size label shall be sewn inside on the hip pocket.
- Q. Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

14.0 MALE HIDDEN CARGO UNIFORM TROUSER

- A. Model:** Spiewak SU320
- B. Color:** Navy (011)
- C. Style:** The pant shall have a plain front with quarter top front pockets, 1" wide belt loops, two back pockets for a clean professional appearance. The pant cuff shall be of open construction to allow for custom finishing and shall have a 37-1/2" inch inseam (unfinished).
- D. Waist sizes:** 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, & 66
- E. Fabric:** The fabric shall be Sorbtek Polyester twill designed for moisture repellency and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarn. The weight shall be 7.0 oz. /sq. yd. (10.5-11 oz. / per linear yard).
- F. Striping:** There shall be a 1" black poly stripe sewn to the out seam of the pants from the bottom of the waistband seam to the bottom of the pant leg. Note, there shall be no visible

break in the striping, as the stripe is to be wrapped over leg pocket welt and continued on down from the lower leg pocket seam to the bottom of the pant leg.

- G. Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- H. Pockets:** The front pocket opening shall be a minimum 6-1/2" long and be 6" deep from the bottom of the pocket opening. The inside front pocket facing shall be a separate piece of self-material finishing no less than 1" wide. The back pockets will have a minimum opening of 5-1/2" and be 7-1/2" deep. The left rear pocket shall have a 1-1/4" loop closure tab with a bar tack located 3/8" from point of attachment to secure the buttonhole. The loop tab shall attach to a ligne 20, durable button. Each pocket corner shall have a 3/8" bar tack for reinforcement. There shall be two cut in cargo pockets centered on each outside side seam a minimum of 7" wide (the width increases with graded sizes) X 9-1/2" deep. There shall be a center tab on the outside seam attached by two bar tacks to secure a reinforced ligne 14, durable button centered along the bottom edge of the pocket bag. The pocket shall be closed with a #3 YKK nylon coil zipper with a 1" pocket welt. (Hidden & Secure (H&S cargo™) cargo pocket). All pocketing shall be heavy duty Polyester/ Cotton twill. The waistband and inside seam binding shall be made with pocketing material cut on the bias.
- I. Waistband:** The waistband shall be designed to allow for 3" of mechanical expansion through two unique double waistband panels with 1" elastic built in. (Expand on demand™ waistband) The front waistband shall be held with a hidden 4" X 1-1/4" elastic attached to a tapered tab of self material. The inside waistband shall be held with 4" X 1" elastic sewn to the waistband inside fold back to a separate enclosed channel which is joined to the front waistband channel at the top of the front pocket opening. The elastic shall remain concealed even when the waistband is stretched to its maximum length. The curtain, shall be made of the Poly/ Cotton twill pocketing material listed above, bias-cut, and shall have a continuous parallel 7/16" wide rubberized band designed to work with the corresponding shirt tabs for maximum shirt retention (SRST™ Shirt Retention System). The finished waistband shall be 2-1/8" wide and shall be closed with two YKK Elite fasteners. The finished waistband shall be set on and shall be stitched below the lower edge through the outer fabric and the waistband curtain.
- J. Inner Fly/Crotch:** The right fly and front crotch linings shall be the same fabric and color as the waistband curtain. There shall be a TC #8000 interlining sewn between the fly and the fly lining to give additional stability and strength to the fly. The right fly lining shall be sewn to the left fly below the zipper and continue centered on the join seam across the inseam and end 1" onto the back seam. A separate French fly made of the outer fabric with a lining of reinforced pocketing shall be sewn to the inside right fly. The fly attachment button shall be a ligne 20, 100% polyester durable button. The button shall pass ASTM 5171-1191, using a .84 kg mass dropped from 67 mm There shall be a diamond shaped reinforced crotch gusset measuring 9" wide X 4" sewn with a five needle safety stitch to prevent crotch seam failure.

- K. Zipper:** The trousers shall be closed with a #4 YKK brass memory lock zipper and have a brass bottom stop at the base of the zipper chain. A straight bar tack shall be sewn through from the outside of the garment to the inside at the bottom of the fly. The bar tack shall be sewn through the zipper tape; the right and left fly and the right fly lining. The right and left fly shall be joined by an additional bar tack located at level of the bottom zipper stop on the inside of the trouser.
- L. Belt Loops:** There should be a minimum of 5 lined belt loops on waist sizes 28, 29, 30, and a minimum of 7 lined loops on all sizes over 30. Each loop is to be 1" wide of double thickness, with stitching on the face side 3/8" from each edge. Except for the center back loop which shall be tacked on, all loops shall be sewn into the bottom of the waistband and into the rocap.
- M. Creasing:** The front and back crease in the trouser legs shall incorporate a permanent resin bonded silicone crease produced by the Creaset™ System. The crease shall be properly cured to insure that the crease is permanent so that no amount of home laundering shall remove the crease
- N. Seaming:** The entire trouser is to be seamed with Polyester core or 100% Polyester spun thread.
- O. Pressing and Packing:** All loose threads shall be removed. Trousers must be pressed completely and properly with side seam, inseam, and seat seam pressed open. All garments shall be packaged individually in a clear poly bag.
- P. Labels:** The trouser shall have a sewn-in label giving care instructions and an outside waistband label which shall be marked with lot number, size, fiber content, and cut number. A permanent size label shall be sewn inside on the hip pocket.
- Q. Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

15.0 FEMALE HIDDEN CARGO UNIFORM PANT

- A. Model:** Spiewak SU320
- B. Color:** Navy (011)
- C. Style:** The pant shall have a plain front with quarter top front pockets, 1" wide belt loops, two back pockets for a clean professional appearance. The pant cuff shall be of open construction to allow for custom finishing and shall have a 35 inch inseam (unfinished).
- D. Sizes:** 2 through size 28 shall be available.

- E. Fabric:** The fabric shall be Sorbtek Polyester twill designed for moisture repellency and soil resistance, excellent color retention and easy care. The fiber content shall be 100% texturized Polyester with Sorbtek yarn. The weight shall be 7.0 oz. /sq. yd. (10.5-11 oz. / per linear yard).
- F. Striping:** There shall be a 1" black poly stripe sewn to the out seam of the pants from the bottom of the waistband seam to the bottom of the pant leg. Note, there shall be no visible break in the striping, as the stripe is to be wrapped over leg pocket welt and continued on down from the lower leg pocket seam to the bottom of the pant leg.
- G. Button:** All buttons shall be 100% Polyester and shall pass ASTM 5171-1191.84 kg mass dropped from a height of 67mm.
- H. Pockets:** The front pocket opening shall be a minimum 6-1/2" long and be 6" deep from the bottom of the pocket opening. The inside front pocket facing shall be a separate piece of self-material finishing no less than 1" wide. The back pockets will have a minimum opening of 5-1/2" and be 7-1/2" deep. Each back pocket shall have a 1-1/4" loop closure tab with a bar tack located 3/8" from point of attachment to secure the buttonhole. The loop tab shall attach to a ligne 20, durable button. Each pocket corner shall have a 3/8" bar tack for reinforcement. There shall be two cut in cargo pockets centered on each outside side seam a minimum of 7" wide (the width increases with graded sizes) X 9-1/2" deep. There shall be a center tab on the outside seam attached by two bar tacks to secure a reinforced ligne 14, durable button centered along the bottom edge of the pocket bag. The pocket shall be closed with a #3 YKK nylon coil zipper with a 1" pocket welt. (Hidden & Secure (H&S cargo™) cargo pocket). All pocketing shall be heavy duty black Polyester/Cotton twill fabric the waistband and inside seam binding shall be made with pocketing material cut on the bias.
- I. Waistband:** The waistband shall be designed to allow for 3" of mechanical expansion through two unique double waistband panels with 1" elastic built in. (Expand on demand™ waistband) The front waistband shall be held with a hidden 4" X 1-1/4" elastic attached to a tapered tab of self material. The inside waistband shall be held with 4" X 1" elastic sewn to the waistband inside fold back to a separate enclosed channel which is joined to the front waistband channel at the top of the front pocket opening. The elastic shall remain concealed even when the waistband is stretched to its maximum length. The curtain, shall be made of the Poly/ Cotton twill pocketing material listed above, bias-cut, and shall have a continuous parallel 7/16" wide rubberized band designed to work with the corresponding shirt tabs for maximum shirt retention (SRS™ Shirt Retention System). The finished waistband shall be 2-1/8" wide and shall be closed with two YKK Elite fasteners. The finished waistband shall be set on and shall be stitched below the lower edge through the outer fabric and the waistband curtain.
- J. Inner Fly/Crotch:** The right fly and front crotch linings shall be the same fabric and color as the waistband curtain. There shall be a TC #8000 interlining sewn between the fly and the fly lining to give additional stability and strength to the fly. The right fly lining shall be

sewn to the left fly below the zipper and continue centered on the join seam across the inseam and end 1" onto the back seam. A separate French fly made of the outer fabric with a lining of reinforced pocketing shall be sewn to the inside right fly. The fly attachment button shall be a ligne 20, 100% polyester durable button. The button shall pass ASTM 5171-1191, using a .84 kg mass dropped from 67 mm.

- K. Zipper:** The trousers shall be closed with a #4 YKK brass memory lock zipper and have a brass bottom stop at the base of the zipper chain. A straight bar tack shall be sewn through from the outside of the garment to the inside at the bottom of the fly. The bar tack shall be sewn through the zipper tape; the right and left fly and the right fly lining. The right and left fly shall be joined by an additional bar tack located at level of the bottom zipper stop on the inside of the trouser.
- L. Belt Loops:** There should be a minimum of 5 lined belt loops on the waistband. Each loop is to be 1" wide of double thickness, with stitching on the face side 3/8" from each edge. All loops shall be sewn into the bottom of the waistband and into the rocap.
- M. Creasing:** The front and back crease in the trouser legs shall incorporate a permanent resin bonded silicone crease produced by the Creaset™ System. The crease shall be properly cured to insure that the crease is permanent so that no amount of home laundering shall remove the crease
- N. Seaming:** The entire trouser is to be seamed with Polyester core or 100% Polyester spun thread.
- O. Pressing and Packing:** All loose threads shall be removed. Trousers must be pressed completely and properly with side seam, inseam, and seat seam pressed open. All garments shall be packaged individually in a clear poly bag.
- P. Labels:** The trouser shall have a sewn-in label giving care instructions and an outside waistband label which shall be marked with lot number, size, fiber content, and cut number. A permanent size label shall be sewn inside on the hip pocket.
- Q. Care Instructions:** Machine wash – warm water. Wash dark colors separately and rinse thoroughly. Tumble-dry completely – Medium heat – remove promptly. For best performance, use steam iron, low setting and iron under a cotton towel.

16.0 PRICE ACCELERATION AND DECELERATION

The City could consider a price changes, after the initial period of the Contract, based on changes of the PPI indexes for Apparel Manufacturing. The City will also then have the right to decrease the pricing based on any deceleration of the PPI indexes for textiles. This will only be done 1 times per year at the anniversary of the contract start date and up to the discretion of the City or proposed by the Contractor. The indexes can be found at <https://www.bls.gov/PPI/#tables>, using Table 11, Apparel Manufacturing, Industry, Code 315.

SPECIAL CONDITION CLAUSES**Quantities**

The quantities for the items listed in this solicitation are estimated annual quantities for bid evaluation purposes only and should not be construed as representing actual quantities to be purchased. Moreover, it is understood by all Bidders that the City is not obligated to purchase any minimum or maximum amount during the life of a Contract resulting from this solicitation.

Favored Customer Clause:

Should the awarded Bidder (also referred to hereinafter as "Contractor"), of a Contract resulting from this solicitation sell the same or substantially the same products or services as listed in this solicitation to another Governmental Agency, within the State of Florida, at a lower price than the price listed in this solicitation, the awarded Contractor agrees to extend that same discounted price to the City of Orlando.

GENERAL CONDITIONS

Bidder should read and follow the following instructions.

1. **EXECUTION OF BID:** Bid must contain a manual signature of an authorized representative in the space provided on the Bidder's Certification Form.
2. **SEALED BIDS:** All bids must be submitted in a sealed envelope. The face of the envelope shall contain the date and time of the bid opening and the bid number. Bids not submitted on the City's bid forms may be rejected. All bids are subject to the conditions specified herein and on any attached sheets, specifications, standard terms and conditions and special conditions.
3. **NO BID FORM:** In the event you elect not to bid this requirement, respond by returning this form, marking it "NO BID" and the reason therefor. NOTE: To qualify as a respondent, Bidder must submit a "BID" or "NO BID" and it must be received no later than the stated bid opening date and time.
4. **BID OPENING:** Shall be public, on the date and at the time specified on the bid form, with the total bid amount being read aloud. It is the Bidders responsibility to assure that their bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered, will not be returned but will be retained in the "BID FILE" unopened. Telephone or telegraphic bids cannot be accepted.
5. **PRICES, TERMS, and PAYMENT:** All prices must be firm for the delivery schedule quoted herein. Bids stipulating "Price in effect at time of shipment" or other similar conditions will be considered not responsive to the bid invitation and will not be accepted. All prices shall be quoted F.O.B. delivered to any City of Orlando Department unless otherwise stipulated in the bid invitation. Bidder is requested to offer cash discount for prompt invoice payment. It is the policy of the City of Orlando to make payments of invoices in time to earn any offered cash discounts. Discount time will be computed from the date of satisfactory delivery at place of acceptance or from receipt of correct invoice at the Accounts Payable Office, whichever is later.
 - a) **TAXES:** The City of Orlando does not pay Federal excise and State sales taxes. Our tax exemption number is 85-8015427957C-9 and is also stipulated on all our Purchase Orders.
 - b) **POLITICAL SUBDIVISIONS:** Under Florida Law, prices contained in State Contracts shall be available to the City of Orlando, who might wish to purchase under a State Purchase Contract. The City of Orlando therefore reserves the right to purchase any commodities from a State Purchase Contract if in the best interest of the City.
 - c) **MISTAKES:** Bidders are expected to examine the specifications, delivery schedules, bid prices, and all instructions pertaining to supplies and services. Failure to do so will be a Bidder's risk.
 - d) **CONDITION and PACKAGING:** It is understood and agreed that any item offered or shipped as a result of this bid shall be new (current production model at the time of this bid). All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.
 - e) **SAFETY STANDARDS:** Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards thereunder.
 - f) **MARKING:** Each individual container shall be marked with the brand name of the product, quantity and the name and address of the manufacturer. Each shipping container shall include the name of the Contractor and must also clearly indicate the City of Orlando Purchase Order Number.
 - g) **INVOICING and PAYMENT:** The Contractor shall be paid in accordance with Florida Statutes, upon submission of invoices to: The Accounts Payable Section, City of Orlando, 400 South Orange Avenue, Orlando, Florida 32801. Invoices are to be billed at the prices stipulated on the purchase order and as outlined in this bid. All invoices must show the City of Orlando Purchase Order Number.
6. **CONFLICT OF INTEREST:** The award hereunder is subject to Chapter 112, Florida Statutes. All Bidders must disclose with their bid the name of any officer, director, or agent who is also an employee of the City of Orlando. Further, all Bidders must disclose the name of any City of Orlando employee who owns, directly or indirectly, an interest of ten percent (10%) or more of the Bidders firm or any of its branches.
7. **AWARDS:** As the best interest of the City of Orlando may require, the right is reserved to make award(s) by individual items, group of items, all or none, or a combination thereof, with one or more Contractors; to reject any all bids or waive any informality or technicality in bids received.
8. **INSPECTION, ACCEPTANCE, and TITLE:** Inspection and acceptance will be at destination unless otherwise stipulated. Title and risk of loss or damage to all items shall be the responsibility of the shipper (Contractor) until accepted by the using department of the City of Orlando, unless loss of damage results from negligence by the City of Orlando or its Departments.
9. **DISPUTES:** In case of any doubt or differences of opinion as to the items to be furnished hereunder, the decision of the City of Orlando's Chief Procurement Officer shall be final and binding on both parties. All disputes between the parties shall be resolved in accordance with the City Procurement Code, (Chapter 7 of the City Code).
10. **LEGAL REQUIREMENTS:** Federal, State, County and local laws, ordinances, rules and regulations that in any manner affect the item(s) covered herein apply. Lack of knowledge by the Bidder will in no way be cause for relief from responsibility.
11. **LIABILITY:** The Contractor shall hold and save the City of Orlando, its officers, agents and employees harmless from liability of any kind in the performance of or fulfilling the requirements of the purchase order or Contract which may result from this bid.

NOTE: ANY AND ALL STANDARD OR SPECIAL CONDITIONS ATTACHED HERETO WHICH VARY FROM THESE GENERAL CONDITIONS SHALL HAVE PRECEDENCE.

STANDARD TERMS AND CONDITIONS

1. RECEIPT OF BIDS:

- a. **Sealed bids, one (1) original, one (1) copy, and one (1) electronic copy**, shall be submitted to the Procurement and Contracts Division prior to the date and time specified herein. Bids will not be accepted after the designated time and date. It is solely the responsibility of the Bidder to ensure timely delivery of their bid submittal.
- b. Each bid shall be submitted in a sealed envelope and marked with the bid number, title of the bid, and bid opening date and time.
- c. If submitted by mail, the bid submittal shall be enclosed in a sealed envelope addressed to the City's Chief Procurement Officer (CPO), at the address listed below. Bids submitted by mail must be received in the office of the Procurement and Contracts Division by the time specified herein for the opening thereof.

Please be advised that United States Postal Service (USPS) Express and Priority service classes, are delivered to the City once daily. Accordingly, in order for a submission to be received by the office of the Procurement and Contracts Division when the services of the USPS are used, the Bidder is responsible for ensuring that their submittal is transmitted in such manner as necessary for the USPS to receive, sort, and deliver to the City by the submittal due date and time.

The City only collects other USPS mail one (1) time per day upon opening of the local Post Office branch, which is then sorted by the City for delivery to the Procurement and Contracts Division and other City departments. Submissions arriving at the USPS after the initial pick-up by the City will be placed in the City's call-box for pick-up and will not be delivered to or received by the Procurement and Contracts Division until the next business day.

When using the USPS or any other mail delivery services, it is the sole responsibility of the Bidder to ensure that bids or proposals are received in the office of the Procurement and Contracts Division by the due date and time. **The City shall not be responsible for delays caused by any occurrence.**

- d. All bids shall be mailed or delivered to the office of the Procurement and Contracts Division at the address listed below. Sealed bids are to be addressed as follows:

City of Orlando
Procurement and Contracts Division
Attention: David Billingsley, CPSM, C.P.M.
Chief Procurement Officer
C/O Purchasing Agent: **Angela L. Thomas, MBA, and CPPB**
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

2. COMMUNICATIONS; QUESTIONS REGARDING SPECIFICATIONS OR BIDDING PROCESS:

- a. To protect the integrity of the solicitation process and ensure fair consideration of all respondents, a prohibited communication period is hereby established commencing as of the time of the issuance of this solicitation and terminating upon execution of a contract (or, if the solicitation is cancelled, upon cancellation of the solicitation). Except for communication with the City's designated point of contact set forth in this solicitation or as otherwise authorized by the City's Chief Procurement Officer, during the prohibited communication period, the City prohibits communication regarding the solicitation by a respondent or potential respondent (or on a respondent or potential respondent's behalf) to or with any officer, elected official (including the Mayor and City Council), department, division, office, or employee of the City, or any other person or entity providing advice to the City related to this solicitation. During the prohibited communication period, all contacts and communications regarding the solicitation by a respondent, or potential respondent, including their agents, representatives and others on their behalf, shall be directed to the City's Procurement and Contract Services Division in the manner provided below in this solicitation, unless otherwise authorized by the City's Chief Procurement Officer. Prohibited contact or communications during the prohibited communication period may result in disqualification from the solicitation process, rejection of the solicitation, or termination of any resulting Contract as determined by the Chief Procurement Officer. In addition, prohibited contact or communications may also be grounds for suspension and debarment of a respondent or potential respondent under the City's Procurement Code.
- b. Any questions by a Bidder relative to the interpretation of specifications or the bid process shall be addressed in writing as indicated below. In order to be answered prior to the submittal deadline, questions must be received by the Procurement and Contracts Division ten (10) days prior to the date set for the receipt of bids. Please see the "Written Question(s) Form" under Forms and Submittals Section of this solicitation. Any interpretation made to prospective Bidders with respect to questions submitted prior to the cut-off date for questions to be answered prior to the submittal deadline will be expressed in the form of an Addendum to the specifications which, if issued, will be conveyed to all prospective Bidders no later than five (5) days before the date set for receipt of bids. Oral answers will not be authoritative.
- c. It will be the responsibility of the Bidder to contact the Procurement and Contracts Division prior to submitting a bid to ascertain if any addenda have been issued, to obtain all such addenda, and return executed addenda with the bid.
- d. All communication and contact regarding this solicitation shall be directed to the Purchasing Agent referenced on the cover page of this Invitation for Bids:

Angela L. Thomas, MBA, CPPB, Purchasing Agent III

Angela.Thomas@cityoforlando.net

City of Orlando

Procurement and Contracts Division

City Hall at One City Commons

400 South Orange Avenue, Fourth Floor

Orlando, Florida 32801

(407) 246-2291

Fax (407) 246-2869

Website: <http://www.cityoforlando.net/procurement/>

3. TERM OF THE CONTRACT:

The term of the Contract resulting from the solicitation, shall be for an initial sixty (60) months period. The Contract may, by mutual assent of the parties, be extended for five (5) additional twelve (12) month periods or portions thereof, up to a cumulative total of (120) months.

4. BIDDER'S CERTIFICATION FORM:

Each Bidder shall complete the "Bidder's Certification Form" included with this Invitation for Bids. The form must be acknowledged before a Notary Public with notary seal affixed on the document. The failure of a Bidder to include this document with their bid submittal will be cause for rejection of the bid.

5. SUBMITTAL OF BIDS:

Bids shall be submitted utilizing the bid form(s) provided herein. All bids shall be properly executed with all blank spaces filled in. The signatures of all persons signing shall be in longhand. Erasures, interlineations, or other corrections shall be authenticated by affixing in the margin immediately opposite the correction the initials of a person signing the bid. If the unit price and the total amount provided by a Bidder for any item are not in Contract, the unit price alone shall be considered as representing the Bidder's intention, and the totals shall be corrected to conform thereto.

6. BID INFORMATION:

It is incumbent on the Bidder to check the City of Orlando's website at <https://vendorlink.cityoforlando.net/common/default.aspx> or contact the Procurement and Contracts Division for current bid and award information, prior to and after the scheduled opening date of a solicitation, in accordance with the instructions provided herein, in section entitled, "Invitation for Bids Award Information".

7. EXCEPTIONS TO TERMS AND CONDITIONS:

When completing your bid, do not attach any forms which may contain terms and conditions that conflict with those listed in the City's bid document(s). Inclusion of additional terms and conditions, such as those which may be on your company's standard forms, may result in your bid being declared non-responsive.

8. SPECIFICATIONS:

- a. The Specifications shown in the Invitation for Bids are intended to represent items of a quality level known to meet City's requirements. While the City endeavors to promulgate written Specifications that are accurate and nonrestrictive for bidding purposes, they may also reference an item by manufacturer's name and model number. Bidders are cautioned that in the event of a discrepancy therein, such difference must be timely questioned in writing. Any written question must be received by the Procurement and Contracts Division at the address on the cover of this solicitation no later than ten (10) days prior to the bid opening.

- b. If any proprietary, trade, brand, or manufacturers' name or part number is used herein in describing the required equipment or materials, it shall be understood to indicate the minimum standard of composition and quality desired, and shall not be construed to exclude equipment or goods that equals or exceeds the functional capability and quality of the named equipment. The City, in its sole discretion, shall determine whether equipment or goods are equivalent in capability and quality.

Bidders are strongly encouraged to submit equivalent equipment or materials for consideration during the question and answer period. If equivalent equipment or materials are proposed, indicate the manufacturer's name and model number for the equipment and include any literature or other explanation of the equipment's quality or performance with your bid.

- c. The equipment bid herein shall be new and shall be of the current production model. If applicable, detailed equipment specifications for make and model offered shall be provided with bid.
- d. Bidders may be required, at no expense or liability to the City, to make available for test/demonstration, equipment equal in all aspects to the equipment bid, and/or equal equipment that may be seen under operating conditions in the Central Florida area.

9. SILENCE OF SPECIFICATIONS:

The apparent silence of these specifications or any supplemental specifications as to details or the omission from same of any detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size, and design are to be used. All Workmanship shall be first quality. All interpretations of specifications shall be made upon the basis of this statement.

10. DISCOUNTS:

Bidders may offer a cash discount for prompt payment; however, such discounts shall not be considered in determining the lowest net cost for bid evaluation purposes. Discounts will be computed from the date of satisfactory delivery at place of acceptance or from receipt of correct invoice at the office specified, whichever is later.

11. ALTERATIONS/CHANGES TO BID PRICE FORM(S):

Bidder shall not change or otherwise alter the quantity or unit designations on the Bid Price Form(s). The unit price bid and total extensions must correspond to these designations. Each line item will be extended as indicated (quantity x unit price). The unit price shall prevail.

12. ADDENDA:

It is the Bidder's responsibility to contact the Procurement and Contracts Division prior to submitting a Bid to ascertain if any Addenda have been issued, to obtain all such Addenda, and return executed Addenda with the Bid. If you have downloaded this Bid from the Internet, please ensure that you also download all such Addenda. The failure of a Bidder to submit acknowledgment of any Addenda that affects the bid price(s) is considered a major irregularity and will be cause for rejection of the Bid.

13. "NO BID" RESPONSE FORM:

In the event you elect not to bid on this requirement, please complete and return the "No Bid" form included in this solicitation.

14. OPENING OF BIDS:

Sealed bids will be received in the Procurement and Contracts Division until the due date and time as specified in this Invitation for Bids. Bids will be opened and the total bid amount shall be publicly read aloud immediately following the published due date and time. No responsibility will attach to the City for the premature opening of a bid not properly addressed and identified. Bidders or their authorized agents are invited to be present at the bid opening.

15. BIDDER QUALIFICATION:

Bids will be considered from firms who have adequate personnel and equipment and who are so situated as to perform prompt service. The City reserves the right to request information or conduct an inspection of the Bidder's facility and equipment prior to the award of the Contract.

Bids will be considered only from firms which are regularly engaged in the business as described in this bid package; with a record of performance for a reasonable period of time, which have sufficient financial support, equipment, and organization to ensure that they can satisfactorily execute the service if awarded a Contract under the terms and conditions herein stated.

The terms "equipment and organization" as used herein shall be construed to mean a fully equipped and well established company in line with the best business practice in the industry and as determined by the City.

Failure to comply with the established deadline for submittal of required documents may be grounds for disqualification.

16. INSPECTION OF PUBLIC RECORDS:

Bidders may request copies of the solicitation records in person or by written request to the City Records and Archive Management Services located at 400 South Orange Avenue, 2nd Floor, Orlando, Florida, 32801 or by calling (407) 246- 2148. You may also email your request to records@cityoforlando.net. Pursuant to Florida State Statute Chapter 119.07, sealed bids are exempt from public inspection until such time as the City provides Notice of Intended Action or until thirty (30) days after bid opening, whichever is earlier.

17. IRREGULAR BIDS:

Bids made on other than the documents furnished by the Procurement and Contracts Division may not be considered. Changes in phraseology, additions, or limiting provisions made on the Invitation for Bids may render the bid irregular and may cause rejection. The City's Chief Procurement Officer, however shall have the authority to waive minor irregularities.

18. UNBALANCED BIDS:

At determined by the City's Chief Procurement Officer in the CPO's discretion, the City may consider a solicitation response irregular and reject it if any of the prices are excessively unbalanced

(either above or below the amount of a reasonable response) to the potential detriment of the City. The City further reserves the right to require backup documentation from the respondent if, in the Chief Procurement Officer's opinion, the prices are, or appear to be, excessively unbalanced.

19. WITHDRAWAL OF BIDS:

After bid opening, no changes in bid prices or other provisions shall be permitted. Bidders may withdraw or correct a bid prior to the stipulated date and time for the opening of bids upon a written request to the City's Chief Procurement Officer.

20. EVALUATION OF BID AWARD:

The City reserves the right to award the bid to the responsive and responsible Bidder who submits the lowest bid meeting specifications. For purposes of this solicitation, the determination of the responsive and responsible Bidder submitting the lowest bid shall be made after the application of all applicable programs and preferences established by the City, including but not limited to the City's MBE/WBE program and VBE preference. In determining whether a Bidder is responsible, the City reserves the right to consider matters such as, but not be limited to, quality offered, delivery terms, and service reputation of the Bidder.

21. AWARD OR REJECTION OF BIDS:

The City's Chief Procurement Officer reserves the right to accept any, all or part of any bids, to waive minor irregularities, or to reject any, all or part of any bids, and to advertise for new bids, as the interest of the City may require. The City's Chief Procurement Officer also reserves the right to reject the bid of a Bidder who has previously failed to perform properly or complete on time Contracts of a similar nature, or a bid of a Bidder who investigation shows is not in a position to perform the Contract. In determining responsibility, the following other qualifications, in addition to price, may be considered by the City's Chief Procurement Officer:

- a. The ability, capacity and skill of the Bidder to perform the service required.
- b. Whether the Bidder can perform the Contract or provide the service promptly, or within the time specified, without delay or interference.
- c. The character, integrity, reputation, judgment, experience and efficiency of the Bidder.
- d. The quality of performance of previous Contracts or services.
- e. The previous and existing compliance by the Bidder with laws and ordinances relating to the Contract or service.
- f. The sufficiency of the financial resources and ability of the Bidder to perform the Contract or provide the service.
- g. The quality, availability and adaptability of the supplies, or services, to the particular use required.
- h. The ability of the Bidder to provide future maintenance and service for the use of the subject of the Contract.

- i. Whether the Bidder is in arrears to the City on a debt or Contract or is a defaulter on surety to the City, or whether the Bidder's taxes or assessments are delinquent.
- j. Such other information as may be relevant or secured.

22. SELECTION/REJECTION OF OPTIONS:

The City of Orlando reserves the right to select/reject options which are bid, based on price and other considerations as deemed to be in the best interests of the City.

23. MULTIPLE AWARDS:

The City reserves the right in its sole discretion after evaluation of all responsive bids, to award the Work described herein to more than one responsive and responsible Bidder. In such cases where an award is made to more than one responsive and responsible Bidder, the City shall apportion the Work among the various primary, secondary and alternate providers in such manner and at such time as it deems appropriate under the circumstances in its sole discretion and no minimum amount or proportion of Work is guaranteed to any single provider or class of providers irrespective of such provider's designation as primary, secondary or alternate.

24. CONTINGENT FEES:

The Bidder warrants that no City official or employee was paid a fee, commission, gift, or other consideration contingent upon receipt of an award for the services and/or supplies specified herein.

25. IRREVOCABLE OFFER:

The submission of a bid shall constitute an irrevocable offer to the City by the Bidder for a period of ninety (90) days from the date of bid opening to provide the goods and services set forth in this solicitation upon the terms, conditions, and provisions of this solicitation, at the pricing set forth in the bid.

26. PRICING AND ORDERING:

The City will issue purchase orders directly to the awarded Bidder for the purchase of supplies and materials. The awarded Bidder shall honor these orders in accordance with the terms and conditions of the solicitation and their pricing and discounts terms as listed in their bid submittal.

Unless otherwise specified, the awarded Bidder shall stock sufficient quantities of supplies to meet the requirements of the City on an "as-needed" basis within seventy-two (72) hours after being notified of such requirements by the City.

27. RETURN OF MERCHANDISE:

All items delivered must meet the Specifications herein. Items delivered not as specified will be returned at no expense by the City of Orlando. The City may return, for full credit, any unused items received which fail to meet the city's performance standards. Replacement items meeting Specifications must be submitted within a reasonable time after rejection of the non-conforming items. The Contractor is to accept for full credit, any merchandise returned by the City within ninety (90) days from the delivery or pick up date. All merchandise to be acceptable for full credit is to be returned in a condition to allow for resale by the Contractor and include reference to an

applicable Contractor Invoice or Packing List. Full credit is to include all costs paid by the City related to the subject merchandise as determined by the appropriate Contractor Invoice or Packing List.

28. CONTRACT SALES REPORT

The Contractor shall report sales and usage data to the City on an annual basis in Excel spreadsheet format. The following data at a minimum must be reported for each item included on the Price Form that is procured during the reporting period:

- Contract name and number
- Contractor name
- Reporting period
- Department/Division/Location name
- Order date
- Item description
- Manufacturer name
- Manufacturer part number
- Unit of measure
- Quantity
- Contractor's list price
- Unit price
- Extended price
- Total purchase amount for the quarter

Submission of Contract Sales Reports is the responsibility of the Contractor, without prompting or notification by the City. The Contractor will submit by email the completed Contract Sales Reports to the Purchasing Agent identified in the Contract. The City shall Work with the Contractor to develop the approved electronic format and content of the Contract Sales Reports to be used by the Contractor.

Failure to provide Contract Sales Reports, including no sales status, may be grounds for default and /or cancellation of the Contract.

29. FAMILIARITY WITH SITE WORK AND CONDITIONS:

The responsibility for the determination of accurate measurements, the extent of Work to be performed, and the conditions surrounding the performance thereof shall be the Bidder's. Submission of a bid shall constitute acknowledgment by the Bidder that it is familiar with all such conditions. The failure or neglect of a Bidder to familiarize itself with the site of the proposed Work shall in no way relieve it from any obligations with respect to its bid.

30. RIGHT TO AUDIT RECORDS:

The City shall be entitled to audit the books and records of a Contractor or any subcontractor to the extent that such books and records relate to the performance of the Contract or any subcontract. The Contractor and its subcontractors shall retain and maintain financial records and other records relating to the Contract for a period of five (5) years from the date of final payment under the Contract and by the subcontractor for a period of five (5) years from the date of final payment under the subcontract unless a shorter period is otherwise authorized in writing by the City. If any litigation, claim, negotiation, audit or other action involving the records has been started before the

expiration of the 5-year period, the records must be retained until completion of the action and resolution of all issues which arise from it, or until the end of the regular 5-year period, whichever is later.

31. ASSIGNMENT:

The Contractor shall not sell, assign, or transfer any of its rights, duties, or obligations under the Contract or under any purchase order issued pursuant to the Contract, without the prior written consent of the City. The Contractor shall give full attention to the Contract, to the faithful execution of the Contract, and shall keep the same under its control.

32. FISCAL YEAR FUNDING APPROPRIATION:

a. Specified Period

Unless otherwise provided by law, a Contract for supplies or services may be entered into for any period of time deemed to be in the best interest of the City provided funds are available for the first fiscal period at the time of Contract. Payment and performance obligations for succeeding fiscal periods shall be subject to appropriation by City Council of funds therefor.

b. Cancellation Due to Unavailability of Funds in Succeeding Fiscal Periods

When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the Contract shall be cancelled and the Contractor shall be entitled to reimbursement for the reasonable value of any nonrecurring cost incurred but not amortized in the price of the supplies or services delivered under the Contract or otherwise recoverable.

33. APPLICABLE LAW AND APPEALS:

This solicitation is issued in accordance with and shall be governed by the provisions and procedures of Chapter 7 of the City of Orlando's Code which can be accessed online at: https://www.municode.com/library/fl/orlando/codes/code_of_ordinances?nodeId=TITIICICO_C_H7PRCO or by contacting the Procurement and Contracts Division. Any appeal of matters relating to this solicitation must be filed in accordance with the requirements of Chapter 7 of the City Code.

34. WARRANTY:

Bidder warrants that all equipment, materials and Workmanship, whether furnished by Bidder or its subcontractor(s), will comply with the City's specifications, drawings and other requirements. The Contractor warrants that the Work including equipment and materials provided shall conform to professional standards of care and practice in effect at the time the Work is performed, be of the highest quality, and be free from all faults, defects or errors. Whenever required by the specifications of the Invitation to Bid, the Contractor warrants that all equipment and materials provided shall be new. If the Contractor is notified in writing of a fault, deficiency or error in the Work provided within one (1) year from completion of the Work, the Contractor shall, at the City's option, either reperform such portions of the Work to correct such fault, defect or error, at no additional cost to the City, or refund to the City, the charge paid by the City, which is attributable to such portions of the faulty, defective or erroneous Work, including the costs for reperformance of the Work provided by other Contractors.

35. CONTRACT AND ACCEPTANCE FORM:

In order to expedite the Contracting process after bid opening and preclude delays occasioned by subsequent Contract execution, Bidders are requested to sign the Contract and Acceptance Form included with this solicitation and return the form with their bid. In the event that a successful Bidder fails to properly execute the Contract and Acceptance Form or return said form (or, if necessary, a letter of authorization) with their bid, the City shall notify the Bidder of the City's intent to make an award and the Bidder shall submit such form properly executed (together with a letter of authorization, if necessary, as set forth below) within fifteen (15) calendar days of receipt of notice from the City. Unless such time is extended by the City, the failure of a Bidder to submit a properly executed form (and, where necessary, a letter of authorization) within said time period shall be cause for cancellation of the intended award by the City in its sole discretion. In the event that an intended award is cancelled, the award may then be made to the next lowest responsive and responsible Bidder or the City's Chief Procurement Officer may decline to make an award. Successful Bidders who default in properly executing the Contract and Acceptance Form after notification of the City's intent to make an award shall forfeit any bid security to the City and are subject to suspension and/or debarment by the City. Unless otherwise agreed by the City in its sole discretion, the Contract and Acceptance form shall be executed and notarized as follows:

- a. If the Bidder is a corporation, the Contract and Acceptance Form shall be signed by an authorized corporate officer (i.e., President, Vice President, C.E.O, or C.O.O.).
- b. If Bidder is a Partnership, the Contract and Acceptance Form shall be signed by a general or managing partner.
- c. If the Bidder is a limited liability company, the Contract and Acceptance Form shall be signed by a Manager or Managing Member having authority to bind the company.
- d. If Bidder is a sole proprietorship, the owner shall sign the Contract and Acceptance Form.

If an aforementioned signatory is not available and a different authorized signatory executes the form, a letter of authorization reflecting the signatory's authority shall be submitted on the Bidder's stationery stating that the person who signed the form is duly authorized to enter into such Contract on behalf of the Bidder. Such letter of authorization shall be signed by one of the designated signatories above or such other representative as may be acceptable to the City. If you have any questions regarding the execution of the Contract and Acceptance Form, please contact the Procurement and Contracts Division at (407) 246-2291 for further clarification.

If a bid is accepted by the City of Orlando, the Contract and Acceptance Form will be executed by the City with respect to the items awarded and returned to the Bidder evidencing the City's acceptance of the bid. No award shall be final, and no Bidder shall have any entitlement to a Contract or award, until such time as the City has executed the Contract and Acceptance Form. Upon execution by both parties, the Contract and Acceptance Form will constitute the formal written Contract between the City of Orlando and the Bidder. Any such resulting Contract shall be non-exclusive, and the City may procure the goods and services listed in said Contract from other sources. Within one (1) week of receipt of the fully executed Contract and Acceptance Form, an awarded Bidder shall provide to the City with any required bonds, indemnities, and insurance certificate(s).

36. ACCEPTANCE OF MATERIALS/SERVICES:

The City will be deemed to have accepted the Work after the City's Chief Procurement Officer is notified by the using Department of its satisfaction that the Work is completed, in accordance with solicitation specifications. The Work under this Contract shall remain the property of the Contractor until the City accepts such Work. In the event the Work furnished under this Contract is found to be defective or does not conform to the specifications, the City reserves the right to cancel the Contract upon written notice to the Contractor.

37. CONTRACT ALTERATIONS:

No waiver, alterations, consent or modification of any of the provisions of the Contract shall be binding unless in writing and signed by the City's Chief Procurement Officer or the CPO's designee.

38. INDEMNIFICATION:

The awarded Bidder agrees to indemnify and hold harmless the City, its elected officials, officers, agents, and employees, from and against any and all liability, claims, damages, demands, expenses, fees, fines, penalties, suits, proceedings, actions, and cost of actions, including attorneys' fees for trial and on appeal, and for the preparation of same arising out of the Contractor's, its officers', agents', and employees' acts, or omissions associated with the Contract.

39. INSURANCE:

- a. General Insurance Requirements. Within seven (7) days of receipt of a notification of intended award from the City, the Contractor shall provide the City with the required Certificate(s) of Insurance in a form(s) acceptable to the City. The Certificate(s) of Insurance shall demonstrate that the awarded Bidder has coverage in accordance with the requirements set forth herein. Insurance coverage must be in force throughout the Contract term. Should a Contractor fail to maintain insurance as required or to provide acceptable evidence of insurance within seven (7) days prior to the expiration date of an insurance policy, the City shall have the absolute right to terminate the Contract without any further obligation to the Contractor. In such event the Contractor shall be liable for the entire additional cost of procuring performance plus the cost of performing the incomplete portion of the Contract at the time of termination.
- b. Subcontractor. Unless expressly specified otherwise in this solicitation, a Contractor and its subcontractors of any tier will be required at their own expense to maintain in effect at all times during the performance of the Work insurance coverages with limits not less than those set forth below with insurers and under forms of policies satisfactory to the City. It shall be the responsibility of the Contractor to maintain the required insurance coverages and to assure that subcontractors maintain required insurance coverages at all times. Failure of a Contractor to maintain adequate coverage shall not relieve it of any Contractual responsibility or obligation. The requirements specified herein as to types, limits, and City's approval of insurance coverage to be maintained by a Contractor and its subcontractors are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor and its subcontractors under a Contract. Any insurance carried by the City that may be applicable shall be deemed to be excess insurance and the

Contractor's insurance primary for all purposes despite any conflicting provision in the Contractor's policies to the contrary.

- c. Certificates of Insurance. Prior to commencing Work at the jobsite, and as a condition precedent to the Contractor's and subcontractors' initiation of performance, the Contractor and its subcontractors shall furnish the City with certificates of insurance as evidence that policies providing the required coverage and limits of insurance are in full force and effect. The certificates shall provide that any company issuing an insurance policy for the Work under a Contract shall provide not less than 30 days advance notice in writing to the City prior to cancellation, termination, or material change of any policy of insurance (except for notice of non-payment of premium for which not less than 10 days advance notice in writing shall be required). In addition, the Contractor shall immediately provide written notice to the City upon receipt of notice of cancellation of an insurance policy or a decision to terminate an insurance policy. All certificates of insurance shall clearly state that all applicable requirements have been satisfied, including certification that the policies are of the "occurrence" type. Certificates of insurance for a Contractor and subcontractor-furnished insurance and notices of any cancellations, terminations, or alterations of such policies shall be mailed to the Procurement and Contracts Division at the address set forth for delivery of the bid.
- d. Additional Insureds. All insurance coverages furnished under a Contract except Workers' Compensation and Employers' Liability shall include the City and its officers, elected officials, and employees as additional insureds with respect to the activities of the Contractor and its subcontractors. The City shall not by reason of their inclusion under these policies incur liability to the insurance carrier for payment of premium for these policies.
- e. Waiver of Subrogation. The Contractor and its subcontractors shall require their insurance carriers, with respect to all insurance policies, to waive all rights of subrogation against the City, its officers, elected officials, agents and employees and against other Contractors and subcontractors.
- f. Types of Coverage to be Provided. The awarded Contractor (and its subcontractors to the same extent and on the same terms as set forth below for Contractor) shall maintain the following coverages and furnish the certificate(s) of insurance on the policies and renewals thereof which indicate that insurance coverage has been obtained meeting the requirements of the Contract.
- (i) Workers' Compensation and Employer's Liability. This insurance shall protect the Contractor against all claims under applicable state Workmen's compensation laws. The Contractor shall also be protected against claims for injury, disease, or death of employees that, for any reason, may not fall within the provisions of a Workmen's compensation law. This policy shall include an "all states" or "other states" endorsement. Exemption certificates shall be accepted if valid during the term of the Contract, but only for those eligible corporate officers pursuant to Chapter 440 of the Florida Statutes. Proof of Workers' compensation coverage must still be provided for all employees, sub-Contractors not eligible for exemption. The liability limits shall not be less than:

Workers' compensation

Statutory

Employer's Liability \$100,000 each occurrence

- (ii) Comprehensive Automobile Liability. This insurance shall be written in comprehensive form and shall protect the Contractor and the additional insureds against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicle, and shall cover operation on or off the site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired. The liability limits shall not be less than:

Bodily injury and \$1,000,000 combined single
Property damage limit each occurrence

- (iii) Commercial General Liability. This insurance shall be an "occurrence" type policy (excluding automobile liability) written in comprehensive form and shall protect the Contractor and the additional insureds against all claims arising from bodily injury, sickness, disease, or death of any person or damage to property of the City or others arising out of any act or omission of the Contractor or its agents, employees, or subcontractors. This policy shall also include protection against claims insured by usual bodily injury liability coverage, a "Contractual liability" endorsement to insure the Contractual liability assumed by the Contractor under its Contract with the City, and "completed Operations and Products Liability" coverage (to remain in force for 2 years after final payment and subsequent to project completion). If the Contractor's Work, or Work under its direction, requires blasting, explosive conditions, or underground operations, the comprehensive general liability coverage shall contain no exclusion relative to blasting, explosion, collapse of structures, or damage to underground property. The liability limits shall not be less than:

Bodily injury and \$1,000,000 combined single
Property damage limit each occurrence

- (vi) Pollution/Environmental Liability Insurance

The Contract shall obtain and keep in effect during the term of the Contract Pollution Liability Insurance, including Environmental Liability Insurance, covering the subcontractor's liability for bodily injury, property damage, and environmental damage resulting from "sudden accidental" or "gradual" pollution and related cleanup costs incurred by the Contractor, all arising out of the Work or services (including the transportation risk, when applicable) to be performed under this Contract. Combined single limit per occurrence shall not be less than \$500,000 or the equivalent. Annual aggregate limit shall not be less than \$1,000,000.

40. LICENSES:

Unless otherwise extended by the City, the awarded Bidder will be required within fifteen (15) calendar days of award date, to provide any and all local, state, and federal licenses, approvals, permits, authorizations and/or certifications which would be applicable for all services to be rendered during the term of the Contract.

41. AUTHORITY:

The City's Chief Procurement Officer or the CPO's written designee shall have authority to act on behalf of the City in matters related to the Contract, including but not limited to the sending and receiving of any notices required hereunder.

42. PUBLIC ENTITY CRIMES:

A person or affiliate, as defined in §287.133 of the Florida Statutes, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid to provide any goods or services to a public entity, may not submit a bid with a public entity for the construction or repair of a public building or a public Work, may not submit a bid on leases of real property to a public entity, may not be awarded or perform Work as a Contractor, supplier, subcontractor, or consultant under an Contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in §287.017 of the Florida Statutes for Category Two, for a period of 36 months from the date of being placed on the convicted vendor list.

43. PROMPT PAYMENT ACT:

Payment by the City shall be made in accordance with Sections 218.70. et sq. Florida Statutes, Local Government Prompt Payment Act.

1. Proper Invoice

For purposes of billing submission and payment procedures, a "proper invoice" by a Contractor, vendor or other invoicing party shall consist of at least all of the following:

- a. a description (including quantity) of the goods and/or services provided to the City (or a party on behalf of the City) reasonably sufficient to identify it (or them);
- b. the amount due, applicable discount(s), and the terms thereof;
- c. the full name of the vendor, Contractor or other party who is supplying the goods and/or services including a mailing address in case of a dispute and a mailing address for payment purposes (if they are different) and a telephone number;
- d. the Purchase Order or Contract number as supplied by the City; and
- e. an identification by Division, Office or Department of the party(ies) to whom the goods were delivered or services provided.

All invoices, in order to be classified as a proper invoice, shall be delivered to Accounts Payable, Business and Financial Services Department, City of Orlando, 400 South Orange Avenue, P.O. Box 4990, Orlando, Florida, 32802-4990.

Finally, in addition to all of the above, in order to be considered a proper invoice, it must be based on a proper delivery, installation, or provision of the goods and/or services to and acceptance by the City (or party on behalf of the City); the vendor, Contractor or other party who is supplying the goods and/or services has otherwise complied with all of the Contract's terms and conditions and is not in default of any of them; and if the Contract requires any subcontractors or other parties to be bound by similar other "flow-down" requirements that those requirements have been complied with.

2. Dispute Resolution

In the event a dispute occurs between a Contractor, vendor or other invoicing party ("invoicing party") and the City concerning payment of an invoice, the City Department, Office or Division which has the dispute along with a representative of the City's Procurement and Contracts Division and the invoicing party shall meet to consider the disputed issues. The invoicing party shall provide to the City such material and information as the City may reasonably require. Any such procedure shall be initiated by either party notifying the other in writing of a dispute and stating with specificity its nature. This procedure shall commence not later than forty-five (45) days, and be resolved not later than sixty (60) days, after the date on which the proper invoice was received by the City. Any decision by the City's Chief Procurement Officer shall constitute the final decision of the City regarding these matters and shall be communicated in writing to the invoicing party within three business days after such decision. If no decision is rendered within the time period as set out above, then a decision against the invoicing party shall be deemed to have been issued.

44. PURCHASING AGREEMENTS WITH OTHER GOVERNMENT AGENCIES:

At the option of the awarded Contractor, the submission of any bid in response to this Invitation for Bid constitutes a bid made under the same terms and conditions, for the same Contract price, to other governmental agencies including the State of Florida and its agencies, political subdivisions, counties and cities. Each governmental agency desiring to accept these bids, and make an award thereof, shall do so independently of any other governmental agency. Each agency shall be responsible for its own purchases and each shall be liable only for materials ordered and received by it and no agency assumes any liability by virtue of this bid.

45. EQUIPMENT:

The Contractor is responsible for all damage or loss by fire, theft or otherwise, to materials, tools, equipment, and consumables, left on City property by the Contractor.

46. TERMINATION FOR CONVENIENCE:

The City's Chief Procurement Officer may terminate any Contract resulting from this solicitation for convenience with advance written notice to the Contractor. In the event of such a termination by the City, the City shall be liable for the payment of all Work properly performed or materials provided prior to the effective date of termination and for all portions of materials, supplies, services, and facility orders which cannot be cancelled and were placed prior to the effective date of termination.

47. DRUG-FREE WORKPLACE CERTIFICATION:

By submitting a bid in response to this Invitation for Bids, you are certifying that your company is a drug-free Workplace in accordance with Florida Statute §287.087.

48. AMERICANS WITH DISABILITIES ACT:

Persons with disabilities needing a special accommodation to participate in this proceeding should contact the Procurement and Contracts Division, City Hall at One City Commons, 400 South Orange Avenue, Orlando, Florida 32801 telephone (407) 246-2291, not later than seven (7) days

prior to the date on which the accommodation is requested.

49. PURCHASING CARD PROGRAM:

The City of Orlando uses the VISA Purchasing Card Program to streamline our procurement process. In order to expedite payments to Contractors, The Bank of America VISA Purchasing Card and ePayable solution has been implemented to more effectively control our procurement activities and to achieve a significant cost savings over the traditional paper, purchasing and payment system. As one of the City of Orlando's valued Contractors, your business may also achieve cost savings results by accepting the ePayables solution. Identified Contractor benefits of this Program may include:

- Reduction of payment time
- Direct electronic deposit to your primary banking account
- Increase in Working capital
- Elimination of invoicing
- Reduced collection efforts
- Enhanced corporate relationships
- Reduced billing costs
- Enhanced reporting
- Increased sales as a "Preferred Contractor"

Additionally, you will be able to grow your customer base by accepting purchasing cards from other corporate customers as well as all major credit cards, therefore, The City encourages all Contractors to accept the VISA ePayable solution.

50. RECIPROCAL LOCAL PREFERENCE:

In the event the lowest responsive and responsible response to any Invitation for Bids or Request for Proposal is by a Contractor whose principal place of business is in a city, county, or state which grants a preference for the procurement of such goods or services to a Contractor whose principal place of business is in such area, then the City may award a preference to the (next) most responsive and responsible Contractor having a principal place of business in the Metropolitan Statistical Area, (i.e., Orange, Seminole, Lake and Osceola Counties). Such preference shall be equal to the preference granted by the area in which the lowest responsive and responsible Contractor has its principal place of business.

51. EMERGENCY SUPPORT:

It is hereby made a part of this Invitation for Bids that before, during and after a public emergency, disaster, hurricane, flood, or other acts of God, that the City of Orlando shall be provided goods and services on a first priority basis. It is vital and imperative that the citizens of the City are protected from any emergency situation which threatens public health and safety, as determined by the City. Contractor agrees to provide, rent, sell, or lease all goods and services required by the City on a first priority basis. The City expects to pay a fair and reasonable price for all goods and services acquired before, during and after a disaster, emergency or hurricane. Contractor shall furnish a twenty-four (24) hour phone number in the event of such an emergency.

52. SUBCONTRACTORS:

The Contractor shall perform all of its obligations and functions under the Contract by means of its own employees, or by a duly qualified subcontractor, which is approved in advance by the City. In the event a subcontractor is employed, the Contractor shall continuously monitor the Subcontractor's performance, shall remain fully responsible to insure that the subcontractor performs as required and itself perform or remedy any obligations or functions, which the subcontractor fails to perform properly.

53. BID PRICES:

Unless otherwise specified, Bid Prices must include all costs (labor, overhead, materials) and profit to perform the Work specified in this Invitation for Bids. Bid prices shall remain firm for the entire Contract period unless otherwise specified or changed by an Amendment. At each renewal period, price increases or decreases may be considered, provided they are reasonable and acceptable to the City. Any Amendment must be in writing and signed by both parties.

54. GOVERNING LAW / VENUE

Any Contract entered into as a result of this solicitation shall be deemed to be under and shall be governed by, and construed according to, the laws of the State of Florida. Any litigation arising out of this Contract shall be commenced in the State and Federal Courts of Orange County, Florida. Contractor shall comply with all applicable federal, state, and local laws in the performance of Work under the Contract. To the extent applicable, Contractor shall comply with Florida public records laws, including Sections 119.0701(2) (b) 1 through 4 of the Florida Statutes.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF THE PUBLIC RECORDS AT C/O DEPUTY CITY CLERK, RECORDS@CITYOFORLANDO.NET, TELEPHONE NUMBER (407) 246-3538, 400 S. ORANGE AVE., ORLANDO, FL 32801.

55. RECYCLED CONTENT:

In support of the Florida Waste Management Law, Bidders are encouraged to supply with their bid, any information available regarding recycled material content in the products bid. The City is particularly interested in the type of recycled material used (such as paper, plastic, glass, metal, etc.); the percentage of recycled material contained in the product and the cost and product performance impact of increasing the percentage of recycled content. The City is requesting that Bidders provide detailed information regarding any known or potential recycled material content in the product that may be extracted and recycled after the product has served its intended purpose, on the Bidder's Questionnaire as provided in this solicitation.

If the specifications contained herein require the use of recovered materials, by submitting a bid or response to this solicitation, a respondent agrees and certifies that it will meet such requirement. Upon the conclusion of any Contract resulting from this solicitation requiring the use of recovered materials, the Contractor shall submit to the City's project manager for the Work a statement regarding the actual percentage of recovered materials utilized in the completion of the Contract.

56. LIVING WAGE POLICY:

As set forth in City Policy and Procedure 161.3 (for a copy, contact Procurement at 407.246.2291). Covered Service Contractors, as well as their subcontractors (first tier only), shall pay to all of their employees providing Covered Services pursuant to a Contract with the City, a living wage for the time spent providing services to the City. (This provision does not include general administrative personnel unless they are assigned to a City project). "Living wage" means compensation for employment of not less than \$10.71 per hour for straight time, exclusive of FICA, unemployment taxes, and Workers compensation insurance and employee benefits. Necessary payroll documentation shall be provided to confirm compliance with this provision or the service Contractor shall allow the City to audit (at service Contractor's place of business) its payroll records to determine if compliance has been achieved. Failure to comply with the provision may result in termination of the Contract and/or preclusion from future City Contracts at the sole option of the City. This provision shall apply to all bid and Proposal awards for Covered Services, which involve City expenditures that exceed \$100,000.00 cycles.

More particularly, this provision shall apply to single and multiple award Contracts for Covered Services regardless of the initial value of the award whenever City expenditures exceed \$100,000.00 in any one Contract year.

As for multiple award Contracts (Contract award which will be divided among several Contractors), at the point when the City has expended \$100,000.00 on that Contract in any one-Contract year, regardless of whether such expenditure was to one Contractor or several Contractors, then the living wage provision shall apply to all Contractors who are a party to that award. For those Contracts whose initial value was less than \$100,000.00 but exceeded \$100,000.00 prior to the end of the Contract term, this provision will be applicable to that Contract in the next quarter.

57. ORDER OF PRECEDENCE:

This solicitation shall be included and incorporated in the purchase order or Contract resulting from this solicitation. The purchase order or Contract, including any exhibits attached thereto, contains all the terms and conditions agreed upon by the parties. No other Contract, oral or otherwise, regarding the subject matter of the Contract, shall be deemed to exist or to bind either party hereto. Unless otherwise expressly provided in the purchase order or Contract, in the event of any conflict between the terms of the Contract or purchase order, the City's solicitation, and the Contractor's response, the order of precedence shall be the Contract or purchase order, followed by the solicitation, and then the response to the solicitation.

58. PATENTS AND COPYRIGHTS:

The Contractor shall pay all royalties and assume all costs arising from the use of any invention, design, process, materials, equipment, product or device in performance of the Work, which is the subject of patent rights or copyrights. Contractor shall, at its own expense, hold harmless and defend the City against any claim, suit or proceeding brought against the City which is based upon a claim, whether rightful or otherwise, that the Work, or any part thereof, furnished under the Contract, constitutes an infringement of any patent or copyright of the United States. The Contractor shall pay all damages and costs awarded against the City.

59. TERMINATION FOR DEFAULT:

The performance of Work under the Contract may be terminated by the City's Chief Procurement Officer, in whole or in part, in writing, whenever the Chief Procurement Officer shall determine that the Contractor has failed to meet the performance requirements of the Contract. The Chief Procurement Officer has a right to terminate for default if the Contractor fails to make delivery of the supplies or perform the Work, or if the Contractor fails to perform the Work within the time specified in the Contract, or if the Contractor fails to perform any other provisions of the Contract. Notwithstanding the preceding, nothing herein shall be deemed to preclude the Chief Procurement Officer in the CPO's sole discretion on a case by case basis from providing the Contractor with written notice and a reasonable opportunity to cure the default prior to termination.

Failure of a Contractor to deliver or perform the required Work within the time specified, or within a reasonable time as determined by the Chief Procurement Officer or failure to make replacements of rejected articles or Work when so requested, immediately or as directed by the Chief Procurement Officer, shall constitute authority for the Chief Procurement Officer to purchase in the open market articles or Work of comparable grade to replace the articles or Work rejected, not delivered, or not completed. On all such purchases, the Contractor or surety, shall reimburse the City, within a reasonable time specified by the Chief Procurement Officer, for any expense incurred in excess of the Contract prices.

Such purchases shall be deducted from Contract quantities or Work. Should public necessity demand it, the City reserves the right to utilize services or use and/or consume articles delivered which are substandard in quality, subject to an adjustment in price to be determined by the Chief Procurement Officer. The Contractor shall not be liable for any excess costs if acceptable evidence has been submitted to the Chief Procurement Officer that failure to perform the Work was due to causes beyond the control and without the fault or negligence of the Contractor. Nothing herein shall be deemed to preclude the City's exercise of any other rights or the City's pursuit of any other remedies that it may have herein or under law or in equity, including but not limited to any right of the City to terminate the Contract for convenience.

60. TIME OF COMPLETION:

The parties understand and agree that time is of the essence in the performance of the Contract. The Contractor or City, respectively, shall not be liable for any loss or damage, resulting from any delay or failure to perform its Contractual obligations within the time specified, due to acts of God, actions or regulations by any governmental entity or representative, strikes or other labor trouble, fire, embargoes, or other transportation delays, damage to or destruction in whole or in part, of equipment or manufacturing plant, lack of or ability to obtain raw materials, labor, fuel or supplies for any reason including default of Contractors, or any other causes, contingencies or circumstances not subject to the Contractor's or City's control, respectively, whether of a similar or dissimilar nature, which prevent or hinder the performance of the Contractor's or City's Contractual obligations, respectively. Any such causes of delay, even though existing on the date of the Contract or on the date of the start of Work, shall extend the time of the Contractor's or City's performance respectively, by the length of the delays occasioned thereby, including delays reasonably incident to the resumption of normal Work Schedules. However, under such circumstances as described herein, the City's Chief Procurement Officer may at the CPO's discretion, cancel the Contract for the convenience of the City. The Contractor agrees that all Work shall be executed regularly, diligently, and uninterrupted at such a rate of progress as will ensure full completion thereof within the time specified.

61. CORRECTION OF WORK:

The Contractor shall promptly correct all Work rejected by the City as faulty, defective, or failing to conform to the Contract whether observed before or after substantial completion of the Work, and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work.

62. INFORMATION:

All information, data, designs, plans, drawings, and specifications furnished to or developed for the City by the Contractor or its employees, pursuant to the Contract, shall be the sole property of the City and all rights therein are reserved by the City, except that the Contractor may disclose any such information to its corporate affiliates and their agents as necessary to perform the Work.

63. SAFETY MEASURES:

The Contractor shall take all necessary precautions for the safety of the City's and Contractor's employees and the general public and shall erect and properly maintain at all times all necessary vehicular and facility safeguards for the protection of the Workmen and public. If necessary, the Contractor shall post signs warning against hazards in and around the Work site.

64. EXTRA WORK:

The City, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract price and time being adjusted accordingly. All such changes in the Work shall be authorized by a written amendment to the Contract, and shall be executed under the applicable conditions of the Contract. If the Contractor plans to make a claim for an increase in the Contract price or an extension in the Contract schedule/term, it shall first give the City written notice within ten (10) calendar days after the occurrence of the event giving rise to such a claim. This written notice shall be given by the Contractor to the City, and a written approval secured from the using Department and the City's Chief Procurement Officer, before proceeding to execute the Work, except in an emergency endangering life or property, in which case the Contractor shall immediately proceed. No claim for extra Work will be considered valid by the City unless first submitted in writing.

65. FAMILIARITY WITH THE WORK:

The Contractor acknowledges full understanding of the extent and character of the Work required and the conditions surrounding the performance thereof. The City will not be responsible for any alleged misunderstanding of the Work to be furnished or completed, or any misunderstanding of conditions surrounding the performance thereof. It is understood that the execution of the Contract by the Contractor serves as stated commitment to fulfill all the conditions referred to in the Contract.

66. TITLE AND RISK OF LOSS:

The title and risk of loss to the Work shall pass from the Contractor to the City upon the City's final acceptance of the Work.

67. TRADE NAMES:

In cases where an item is identified by a manufacturer's name, trade name, catalog number, or reference, it is understood that the Bidder proposes to furnish the item so identified and does not propose to furnish an "EQUAL" unless the proposed "EQUAL" is definitely indicated therein by the Bidder. The reference to a name brand is intended to be descriptive but not restrictive and only to indicate to the prospective Bidder articles that will be satisfactory. Bids on other makes and catalogs will be considered provided each Bidder clearly states in bid or proposal exactly what he proposes to furnish and forwards with bid a cut illustration or other descriptive matter which will clearly indicate the character of the article covered by bid. The City hereby reserves the right to approve as an equal, or to reject as not being equal, any article the Bidder proposes to furnish which contains major or minor variations from the specification requirements but may comply substantially therewith.

If no particular brand, model, or make is specified and if no data is required to be submitted with the bid, the successful Contractor after award and before manufacturer or shipment may be required to submit Working drawings or detailed descriptive data sufficient to enable the City to judge if such requirement of the specification is being complied with.

68. FEDERAL, STATE, AND LOCAL RULES / APPROVALS:

The Contractor shall comply with all applicable federal, state and local laws, ordinances, rules and regulations pertaining to the performance of Work under this Contract. The Contractor is to procure all permits, licenses, and certificates, or any such approvals of plans or specifications as may be required by federal, state and local laws, ordinances, rules, and regulations, for the proper execution and completion of the Work under this Contract.

69. CLEAN WORK AREA:

The Contractor shall at all times, keep the Work area free from accumulation of waste materials or rubbish caused by operations, and promptly remove any such materials to an approved disposal location.

70. MISCELLANEOUS PROVISIONS:

By submitting a bid, the Bidder shall be deemed to have certified that the Contract is made without prior understanding, agreement or connection with any corporation, firm or person who submitted bids for the Work covered by the Contract and is in all respects fair and without collusion or fraud. Bidder further warrants and certifies that they are authorized to enter into the Contract and to execute same on behalf of the Contractor as the act of the said Contractor.

The Contract, including any Exhibits thereto, contains all the terms and conditions agreed upon by the parties. No other contracts, oral or otherwise, regarding the subject matter of the Contract shall be deemed to exist or to bind either party thereto. If any section, sentence, clause, phrase, provision, or other portion of the Contract is, for any reason, held invalid or unconstitutional by a court or other body of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of the Contract. The Contract is solely for the benefit of the parties to the Contract and no causes of action shall accrue upon or by reason thereof to or for the benefit of any third parties.

The City's Chief Procurement Officer or written designee shall have authority to act on behalf of the City in matters related to the Contract, including but not limited to the sending and receiving of any notices required hereunder.

71. PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES:

In accordance with Section 287.135(2) of the Florida Statutes, "[a] company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of:

- (a) Any amount if, at the time of bidding on, submitting a proposal for, or entering into or renewing a contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, or is engaged in a boycott of Israel; or
- (b) One million dollars or more if, at the time of bidding on, or submitting a proposal for, or entering into or renewing such contract, the company:
 - 1. Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473, or
 - 2. Is engaged in business operations in Cuba or Syria."

Section 215.473 of the Florida Statutes defines a company to include "all wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit."

By submitting a response to this solicitation, a respondent certifies that it and those related entities of respondent as defined above by Florida law above are not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 of the Florida Statutes, and are not engaged in a boycott of Israel. In addition, if this solicitation is for a contract for goods or services of one million dollars or more, by submitting a response to this solicitation, a respondent certifies that it and those related entities of respondent as defined above by Florida law are not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473 of the Florida Statutes and are not engaged in business operations in Cuba or Syria. Any respondent awarded a Contract as a result of this solicitation shall be required to recertify the aforementioned certifications at each renewal of the Contract. The City may terminate any contract resulting from this solicitation if respondent or any of those related entities of respondent as defined above by Florida law are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria. Notwithstanding the preceding, the City reserves the right and may, in its sole discretion, on a case by case basis, permit a company on such lists or engaged in business operations in Cuba or Syria to be eligible for, bid on, submit a proposal for, or enter into or renew a contract for goods or services of one million



FORMS AND SUBMITTAL DOCUMENTS

**ELECTRONIC BID PRICING FORM(S) INSTRUCTIONS**

This Solicitation uses an Electronic Bid Price Form. You may download the Microsoft Excel spreadsheet from eSupplier, or you may receive a disc from the Procurement and Contracts Division at no cost to you.

Complete the Electronic Bid Price Form using Microsoft Excel. Insert your **Contractor Name, City, State and Zip** in the fields located at the top of the form (in yellow). The Electronic Bid Price Form has been designed to allow the Contractor to insert data into the appropriate unlocked fields. These fields are labeled Part No., Manufacturer, and Firm Unit Price. For convenience, the Electronic Bid Price Form will automatically calculate and total. If you are submitting a "no bid" item or have an item that is "no charge" to the City, put a **zero (0)** in that field. Do not put "no bid", "no charge" or N/A in that field.

Once complete, "save as" the Electronic Bid Price Form on a blank CD or flash drive (that you provide). **Return Electronic Bid Price Form and one (1) hard copy of your completed Bid Price Form together with your completed Invitation for Bids submittal** in a sealed envelope, by the due date and time specified herein. Again, ensure your **Contractor Name, City, State and Zip** are included on both the Microsoft Excel spreadsheet and on the front of the envelope that you submit to the City. Be sure to save a copy for yourself as well.

If you need further assistance in obtaining the Electronic Bid Price Form, you may contact the Procurement and Contracts Division at (407) 246-2291 and we would be more than happy to assist you.

1. FOB Point Destination
2. Discount Payment Terms (if any): N/A %, if paid within N/A days after receipt of invoice.
3. Is your company willing to accept the VISA ePayable solution for payment of all invoices?
X Yes No
4. Is your company willing to serve as a secondary Contractor in the event your company is not selected for primary award? X Yes No

Recheck your quotations prior to submission. Bids may not be changed after being opened.

BID PRICE FORM

ALL ITEMS IN EACH GROUP MUST BE BID TO BE AWARDED THE GROUP

IFB19-0280 – UNIFORMS ORLANDO POLICE DEPARTMENT

Item No.	Estimated Quantities	Unit	Item #	Description	Unit Price	Total
GROUP 1 - Spiewak Brand Items						
1	600	Each	SU310ZS	Spiewak Pro W/Sorbtek 365 Mens Short SleeveUniform Shirt, Side Stretch Mesh Navy	41.75	\$25,050.00
2	300	Each	SU315ZS	Spiewak Pro W/Sorbtek 365 Mens Long SleeveUniform Shirt, Side Stretch Mesh Navy	46	\$13,800.00
3	400	Each	SU311ZS	Spiewak Pro W/Sorbtek 365 Ladies Short SleeveUniform Shirt, Side Stretch Mesh Navy	41.75	\$16,700.00
4	150	Each	SU316ZS	Spiewak Pro W/Sorbtek 365 Ladies Long SleeveUniform Shirt, Side Stretch Mesh Navy	46	\$6,900.00
5	250	Each	SU320	Spiewak Pro W/Sorbtek 365 Mens 6-Pocket Internal Cargo Pant Navy W/1" Black Stripe Wrapped Over Leg Pocket Welt.	50	\$12,500.00
6	100	Each	SU322	Spiewak Pro W/Sorbtek 365 Mens 4-Pocket Pant W/1" Black Stripe, Navy	44.5	\$4,450.00
7	150	Each	SU320	Spiewak Pro W/Sorbtek 365 Ladies 6-Pocket Internal Cargo Pant, Navy W/1" Black Stripe Wrapped Over Leg Pocket Welt.	50	\$7,500.00
8	50	Each	SU322	Spiewak Pro W/Sorbtek 365 Ladies 4-Pocket Pant W/1" Black Stripe, Navy	44.5	\$2,225.00
9	200	Each	S3818/S318Z	Spiewak Public Safety Jacket, Dark Navy/Outer(S3818) & Inner (S3818Z)	275	\$55,000.00
10	80	Each	S309VR	Spiewak Vizgaurd Full Length Reversible Rain Coat, Ansi Standard	116	\$9,280.00
11	100	Each	S912P	Spiewak Traffic Vest, Yellow/Black 062. Ansi Standard W/Opd Patch On Left Breast & W/Police, Cso, Or Csi On Reflective Stripe, Front & Back	42.75	\$4,275.00
GROUP 2 - Propper Ice Performance Items						
12	80	Each	F5341	Propper Ice Performance Polo Short Sleeve, Mens, Cobalt Blue	50	\$4,000.00
13	40	Each	F5327	Propper Ice Performance Polo Short Sleeve, Womens, Cobalt Blue	50	\$2,000.00
14	80	Each	F5315	Propper Ice Performance Polo Long Sleeve, Mens, Cobalt Blue	52	\$4,160.00
15	600	Each	F5341	Propper Ice Performance Polo Short Sleeve, Mens, Lapd Navy	50	\$30,000.00
16	300	Each	F531572	Propper Ice Performance Polo Long Sleeve, Mens, Lapd Navy	52	\$15,600.00

17	200	Each	F5327	Propper Ice Performance Polo Short Sleeve, Womens Lapd Navy	50	\$10,000.00
18	100	Each	F5357	Propper Ice Performance Polo Long Sleeve, Womens Lapd Navy	52	\$5,200.00
19	250	Each	F5252	Propper Lightweight Tactical Pant, Mens - Lapd Navy	32.5	\$8,125.00
20	125	Each	F5295	Propper Lightweight Tactical Pant, Womens - Lapd Navy	32.5	\$4,062.50
GROUP 3 - Deputy Deluxe Items						
21	30	Each	HS1221	Deputy Deluxe Short Sleeve Shirt, Light Blue, Male	53	\$1,590.00
22	15	Each	HS1123	Deputy Deluxe Long Sleeve Shirt, Light Blue, Male	57	\$855.00
23	15	Each	HS1276	Deputy Deluxe Short Sleeve Shirt, Light Blue, Womens	53	\$795.00
24	10	Each	HS1175	Deputy Deluxe Long Sleeve Shirt, Light Blue, Womens	57	\$570.00
GROUP 4 - Sentry Plus Items						
25	30	Each	HX1149	Sentry Plus Specs Mens Long Sleeve Shirt Zipper Front, White (Motors)	41	\$1,230.00
26	60	Each	HX1249	Sentry Plus Specs Mens Short Sleeve Shirt Zipper Front, White (Motors)	39	\$2,340.00
27	25	Each	HX1190	Sentry Plus Specs Womens Long Sleeve Shirt Zipper Front, White (Motors)	41	\$1,025.00
28	50	Each	HX1292	Sentry Plus Specs Womens Short Sleeve Shirt Zipper Front, White (Motors)	39	\$1,950.00
29	30	Each	HS2558	Sentry Plus Hidden Cargo Pocket, Mens (No Stripe)	42	\$1,260.00
30	15	Each	HS2559	Sentry Plus Hidden Cargo Pocket, Womens (No Stripe)	42	\$630.00
GROUP 5 - Flying Cross Items						
31	500	Each	FX57400	Flying Cross /Cross FX By Fechheimer Mens Trouser, No Stripe	37	\$18,500.00
32	300	Each	FX57400W	Flying Cross /Cross FX By Fechheimer Womens Trouser, No Stripe	37	\$11,100.00
GROUP 6 - 5.11 Items						
33	150	Each	74407-750	5.11 Motor Breeches, Midnight Navy, W/Yellow Stripe	93	\$13,950.00
34	50	Each	73287	5.11 Men'S TacLite Pro Short - Dark Navy (724) - Marine Patrol	36.5	\$1,825.00
35	30	Each	63071	5.11 Women's TacLite Pro Short - Dark Navy (724) - Marine Patrol	36.5	\$1,095.00
GROUP 7 - Blauer Items						
36	50	Each	4650	Blauer Fleece Jacket - Dark Navy	59.5	\$2,975.00
37	50	Each	9970	Blauer Supershell Jacket W/ Gore-Tex - Dark Navy	313	\$15,650.00
38	50	Each	134	Blauer B.Dry Rain Pants - Black	50.5	\$2,525.00
GROUP 8 - Tru-Spec Items						
39	75	Each	1062	Tru-Spec BDU Black	35.5	\$2,662.50
40	150	Each	1060	Tru-Spec BDU Khaki	35.5	\$5,325.00

41	150	Each	4265	Tru-Spec Shorts Male (Esu/Ert)	29.5	\$4,425.00
42	50	Each	1265	Tru-Spec Tactical Response Uniform (Tru) Shirt - Multicam SWAT	74	\$3,700.00
43	75	Each	2534	Tru-Spec Tru Combat Shirt 50/50 Nylon/Cotton Rip-Stop - Multicam SWAT	69	\$5,175.00
44	100	Each	1248	Tru-Spec "Tru Xtreme Pants" - Multicam SWAT	87.5	\$8,750.00
GROUP 9 - Ultra Club Items						
45	150	Each	UC8420	Ultra Club Short Sleeve (Price Should Include All Screen Printing)	13	\$1,950.00
46	75	Each	UC8422	Ultra Club Long Sleeve (Price Should Include All Screen Printing)	25	\$1,875.00
GROUP 10 - Other Uniform Items						
47	250	Each	MAX575	Olympic Cool Max Shorts, Dark Navy	85	\$21,250.00
48	150	Each	SH1135	Elbeco UFX Uniform Short Sleeve Polo Shirt, Mens, W/ Pockets - White	62	\$9,300.00
GROUP 11 - Miscellaneous Uniforms ALL BIDDERS						
49	250	Each	N/A	ADDITION PER ITEM COST FOR SIZES LARGER THAN PREVIOUS SPECIFIED SIZES.	5	\$1,250.00
50	200	Hours	N/A	ALTERATIONS	15	\$3,000.00
GROUP 12 - Miscellaneous Other Than Uniforms						
51	100	Each	6277	Flexfit Ball Cap By Yapoong, 63% Polyester/34% Cotton/3% P.U. Spandex/W Opd Logo	21	\$2,100.00
52	50	Each	R-10	Keystone Dress Hat, Lapd Blue W/Gold Or Silver Band	67.5	\$3,375.00
53	100	Each	1501KC	Yupoong Cuffed Beanie Hat Knit 100% Turbo Acrylic, Black	4	\$400.00
54	1500	Each	N/A	OPD Badge Emblem - Silver (Officer)	0.95	\$1,425.00
55	750	Each	N/A	OPD Badge Emblem - Gold (Supervisor)	1.05	\$787.50
56	150	Each	N/A	Sergeant Chevron	1.25	\$187.50
57	50	Each	N/A	Master Sergeant Chevron	2.35	\$117.50
58	100	Each	N/A	Corporal Chevron	1.3	\$130.00
59	4000	Each	N/A	OPD Shoulder Patch	0.9	\$3,600.00
60	60	Each	N/A	Subdued Shoulder Emblem, Gray, Blk	2.25	\$135.00
61	60	Each	N/A	Name Tab, K-9, Officer, Etc.	2.25	\$135.00
62	60	Each	N/A	OPD Subdued Badge Patch, Gray And Black	2.25	\$135.00
63	60	Each	N/A	OPD Multi-Cam Shoulder Patch, Green/Brown	2.25	\$135.00
64	60	Each	N/A	OPD Multi-Cam Badge Patch, Od Green/Brown	2.35	\$141.00
65	500	Each	N/A	Longevity Stripes	1.05	\$525.00
66	150	Each	N/A	Arc Rockers (Volunteer, Civilian, Cadet, Honor Guard, Chaplin)	1.3	\$195.00
67	150	Each	N/A	Motor Wheels	1.3	\$195.00
68	150	Each	N/A	Dress Tie, Navy Blue, Clip On	3.5	\$525.00
GRAND TOTAL					\$403,598.50	

BIDDER'S CERTIFICATION FORM:

I have carefully examined the Invitation for Bids, Instructions to Bidders, General, Standard and Special Conditions, Specifications, Contract and Acceptance Form and any other documents accompanying or made a part of this Invitation for Bids.

I hereby propose to furnish the goods or services specified in the Invitation for Bids at the prices or rates quoted in my bid. I agree that my bid will remain firm for a period of up to ninety (90) days in order to allow the City adequate time to evaluate the bids.

I agree to abide by all conditions of this bid and understand that a background investigation may be conducted by the OPD prior to award.

I certify that all information contained in this bid is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this bid on behalf of the Bidder as its act and deed and that the vendor/Contractor is ready, willing and able to perform if awarded the bid.

I certify, under oath, that this bid is made without prior understanding, agreement, connection, discussion, or collusion with any other person, firm or corporation submitting a bid for the same product or service. I further certify that no officer, employee or agent of the City of Orlando or of any other Bidder has a financial interest in this bid. I further certify that the undersigned executed this Bidder's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

Galls, LLC
NAME OF BUSINESS

BY: [Signature]
SIGNATURE

Michael Weissner, CEO
NAME & TITLE, TYPED OR PRINTED

1340 Russell Cave Road
MAILING ADDRESS

Lexington, KY 40505
CITY, STATE, ZIP CODE

(800) 876-4242
TELEPHONE NUMBER

(877) 914-2557
FAX NUMBER

Rose.Lindsay@galls.com
E-MAILADDRESS

State of Kentucky
County of Fayette

Sworn to (or affirmed) and subscribed before me
this 18 day of April, 2019, by
Michael Weissner

Nancy Faulstich
Signature of Notary

Notary Public, State of Kentucky

Personally Known
-OR-

Produced Identification _____

Type: _____

Company Tax ID # 20-3545989
The City only requires Company Tax ID numbers. The City is not requesting individual social security numbers.)

CONFLICT OF INTEREST DISCLOSURE FORM

The award of this Contract is subject to the provisions of Chapter 112, Florida Statutes. All Respondents must disclose within their Bid the name of any officer, director, employee or agent (or their spouse or child) who is also an employee or officer of the City of Orlando. Furthermore, all Respondents must disclose the name of any City employee or officer (or their spouse or child) who owns, directly or indirectly, an interest of more than five percent (5%) in the Respondents firm or any of its affiliates or subsidiaries.

By submission of this Bid, the undersigned certifies, under penalty of perjury, that to the best of their knowledge and belief, except as disclosed pursuant to the instructions above, that no officer or employee of the City (or their spouse or child), directly or indirectly, owns an interest of more than five percent (5%) in the Respondents firm or any of its affiliates or subsidiaries; nor does the Respondent know of any City officer or employee having any financial interest in assisting the Respondent to obtain, or in any other way effecting, the award of the Contract to this Respondent.

Comments:

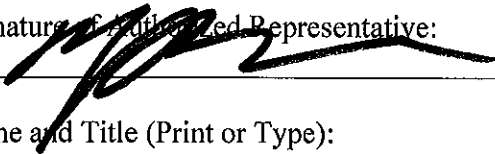
N/A

Acknowledged by:

Firm Name:

Galls, LLC

Signature of Authorized Representative:



Name and Title (Print or Type):

Michael Wessner, CEO

Date:

4/18/19

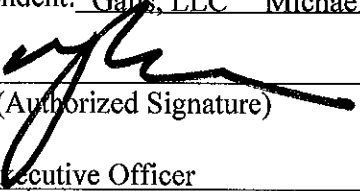
**CERTIFICATION REGARDING PROHIBITION AGAINST CONTRACTING WITH
SCRUTINIZED COMPANIES**

I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit have been placed on the Scrutinized Companies that Boycott Israel List created pursuant to s. 215.4725 of the Florida Statutes, or are engaged in a boycott of Israel.

In addition, if this solicitation is for a contract for goods or services of one million dollars or more, I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit are on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473 of the Florida Statutes, or are engaged in business operations in Cuba or Syria as defined in said statute.

I understand and agree that the City may immediately terminate any contract resulting from this solicitation upon written notice if the undersigned entity (or any of those related entities of respondent as defined above by Florida law) are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Name of Respondent: Galls, LLC Michael Wessner

By: 
(Authorized Signature)

Title: Chief Executive Officer

Date: 4/18/19

CONTRACT AND ACCEPTANCE FORM FOR SOLICITATION NO. IFB19-0280:

Upon execution of this Contract below by the City of Orlando ("City"), the undersigned hereby agrees to provide all goods and services set forth in its bid in response to the above referenced solicitation ("Solicitation") in accordance with, and subject to, all terms, conditions, and provisions of the Solicitation at the prices set forth in the undersigned's bid for the items and Work awarded to it by the City. This Contract and Acceptance Form together with the (i) Solicitation, including all addenda, and (ii) the undersigned's bid in response to the Solicitation, including all schedules and forms submitted with the bid, all of which are hereby incorporated herein by this reference, shall constitute the formal written Contract between the City and the undersigned.

SIGNATURE

Michael Wessner, CEO
NAME & TITLE, TYPED OR PRINTED

Galls, LLC
NAME OF BUSINESS

1340 Russell Cave Road
MAILING ADDRESS

Lexington, KY 40505
CITY, STATE, ZIP CODE

PHONE: (800) 876-4242

FAX: (877) 914-2557

E-MAIL: Rose-Lindsay@galls.com

State of Kentucky
County of Fayette

Sworn to (or affirmed) and subscribed before me
this 18 day of April, 2019, by

Michael Wessner

Nancy Faulstich
Signature of Notary

Notary Public, State of Kentucky

Personally Known (circle if applicable)

-OR-

Produced Identification: _____

Type of Identification: _____

FOR USE BY THE CITY OF ORLANDO ONLY

This Contract is awarded to the party listed above as a: Primary Contractor: X Secondary Contractor: _____

This Contract is for: All Item Numbers: _____ or Item Numbers: GROUPS 1,4,5,7,11,12

INITIAL CONTRACT TERM: 6/10/19 to 6/9/24

ACCEPTANCE:

CITY OF ORLANDO, FLORIDA

By: [Signature]
Chief Procurement Officer

DAVID BILLINGSLEY, CPSM, C.P.M.

Date: June 12, 2019

APPROVED AS TO FORM AND LEGALITY
for the use and reliance of the
City of Orlando, Florida, only.

[Signature]
Assistant City Attorney
ORLANDO, FLORIDA

Date: June 10, 2018 2019

BIDDER'S QUESTIONNAIRE:

The following questionnaire is to be completed by the Bidder and provided with its bid submittal. If a question is not applicable, so indicate by writing "N/A".

1. COMPANY NAME: Galls, LLCAddress of Principal Place of Business: 1340 Russell Cave RoadCity/State/Zip: Lexington, Kentucky 40505Phone: 859-800-1402Fax: 877-914-2557Name of primary Contact: Nathan BrowningEmail: Browning-Nathan@galls.com**2. TYPE OF ORGANIZATION:**☐ Sole Proprietorship☐ Partnership☐ Non-Profit☐ Joint Venture☐ Corporation☐ Other: LLCState of Formation: DelawareFederal ID # 20-3545989DUNS # 04-259-8482

(The City only requires a Federal Tax ID Number, not a Social Security number.)

3. EMERGENCY CONTACT PERSON: Kevin BrownPhone: 859-800-1266Fax: 877-914-2557Cell: N/A**4. INSURANCE COMPANY NAME:** See attached

Agent Contact: _____

Phone: _____

5. EXPERIENCE:A. Years in business: 51+B. Years in business under this name: 51+C. Years performing this type of Work: 51+**6. SUBCONTRACTORS - for informational purposes only:** If Bidder intends to use subcontractors, please provide the information below. All subcontractors listed remain subject to approval by the City.

Name of subcontractors to be utilized and type of Work:

Name	Type of Work	M/WBE	VBE Certified? (Y or N)	City Certified? (Y or N)
<u>Fann Emblems</u>	<u>Embroidery</u>	<u>WBE</u>	<u>N</u>	<u>Y</u>
	<u>Emblems, Silk</u>			
	<u>Screen etc.</u>			

Please see attached letter and certification

7. LOCAL SERVICE FACILITY NO MORE THAN 15 MILES FROM OPD HQ:A. Name of local service center: Galls, LLCB. Address of local service center: 11602 Lake Underhill Road Suite 121 Orlando, FL 32825C. County local service center is located in: Orange CountyD. Contact: Nathan Browning Telephone number: 859-800-1061

8. RECYCLED CONTENT:

- A. Percentage of recycled material contained in the product: N/A %
B. Is your product packaged/shipped in material containing recycled content? Yes _____ No X
C. Is your product recyclable after it has reached its intended end use? Yes _____ No X

9. REFERENCES:

Bidder shall submit as a part of their Bid submittal, a minimum of three (3) customer references for similar size and scope for which your firm has provided within the last three (3) years.

Reference #1:

Name: Miami Police Department
Address: 444 SW 2nd Avenue, 6th floor, Miami, FL 33130
Telephone No.: 305-416-1958 Fax No.: _____
Contact: Kia Burrows
E-mail: _____
Project Size: _____ Annual Amount: _____

Reference #2:

Name: Orange County Sheriffs Office
Address: 2500 West Colonial Drive Orlando, FL 32804
Telephone No.: 407-254-7060 Fax No.: _____
Contact: Ken Lewis
E-mail: Ken.Lewis@ocfl.net
Project Size: _____ Annual Amount: _____

Reference #3:

Name: Sumter County Sheriff
Address: 1010 North Main Street, Bushnell, FL 33513
Telephone No.: 352-569-1624 Fax No.: _____
Contact: Tandy Eveleth
E-mail: _____
Project Size: _____ Annual Amount: _____

Reference #4:

Name: Orlando Fire Department
Address: 78 West Central Blvd. Orlando, FL 32801
Telephone No.: 407-246-2147 Fax No.: _____
Contact: aArthur Zachery
E-mail: _____
Project Size: _____ Annual Amount: _____

WRITTEN QUESTION(S) FORM:

Any questions relative to interpretation of specifications or the solicitation process must be addressed to the City in writing. For uniformity, the City requests that you use the following format. No verbal inquiries will be accepted. Written questions must be received at least ten (10) days prior to the solicitation due date. Written questions received within ten (10) days of the solicitation due date will not be responded to. Please submit all questions to the Purchasing Agent as identified in this Invitation for Bids. This form is provided for your convenience; however, emails to the Purchasing Agent are acceptable.

Only written answers and clarifications in the form of a written Addendum to the solicitation will be binding. Oral answers will not be authoritative. **ELECTRONIC SUBMISSION PREFERRED**

SOLICITATION NUMBER: IFB19-0280 **DATE DUE:** April 15, 2019 by 5:00 p.m.

SOLICITATION TITLE: UNIFORMS FOR ORLANDO POLICE DEPARTMENT

COMPANY NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

CONTACT NAME: _____ **PHONE:** _____

1. _____

2. _____

3. _____

4. _____

5. _____

N/A

MINORITY/WOMEN OWNED BUSINESS ENTERPRISE PARTICIPATION FORM:

Chapter 57, Article II, Minority Business Enterprise (MBE), and Article III, Women-Owned Business Enterprise (WBE) of the Orlando City Code, establishes goals of 18% (MBE) and 6% (WBE), respectively, of the City's annual monetary value of Contracts and subcontracts for supplies, services and construction to be awarded to Minority and Women-Owned Business Enterprises (MWBE).

For further information regarding this program, please refer to Chapter 57 of the Code of the City of Orlando or contact:

Minority Business Enterprise
City Hall at One City Commons
400 South Orange Avenue - 5th Floor
Orlando, Florida 32801
(407) 246-2623

If your company is currently certified, please enter the certification number and the expiration date in spaces provided below or submit a copy of the certificate received from the City stating that your company is certified by the City as a Minority/Women-owned Business Enterprise:

Business Name: _____

Certification Number: _____

Expiration Date: _____

There shall be no third party beneficiaries of the Minority Business Enterprise or Women-Owned Business Enterprise provisions of this Contract. The City of Orlando shall have the exclusive means of enforcement of the MBE/WBE Ordinance and Contract terms. No right of action for non-signatories of the Contract is intended or implied. The City of Orlando is the sole judge of compliance. All solicitations and submittals awarded will be evaluated in accordance with Chapter 7 and Chapter 57, Articles II and III.

In order for a Bidder to receive credit for MBE/WBE certification, the firm must be certified with the City of Orlando MBE/WBE Office on or before the date set for submittal of bids.

City Code Chapter 57, Articles II and III, govern the City's Minority and Women Business Enterprise Programs. The awarded Bidder may be asked to meet with the City's M/WBE Department after the Notice of Intended Action-Award of Bid has been posted to discuss any potential subcontracting opportunities with City certified M/WBE.

VETERAN BUSINESS ENTERPRISE PARTICIPATION FORM

In order to foster economic development and business opportunities, promote the growth and development of local businesses, and rectify the economic disadvantages of service-disabled veterans and wartime veterans who have made extraordinary sacrifices on behalf of the nation, the City of Orlando has adopted a Veteran Business Enterprise ("VBE") Preference. For further information regarding this program, please refer to Chapter 7 of the Code of the City of Orlando.

In order for a Bidder to receive credit for VBE certification for this solicitation, the Bidder must have its principal place of business in the Metropolitan Statistical Area (i.e. Orange, Lake, Seminole or Osceola Counties) and be a certified veteran business enterprise by the State of Florida Department of Management Services as set forth in Section 295.187 of the Florida Statutes as of the date set for submittal of bids.

If your company is currently certified, please enter the certification number and the expiration date in spaces provided below or submit a copy of the certificate received from the State of Florida Department of Management Services stating that your company is certified as a veteran business enterprise:

Business Name: _____

Certification Number: _____

Expiration Date: _____

There shall be no third party beneficiaries of the Veteran Business Enterprise Preference provisions of this solicitation or resulting Contract. The City of Orlando shall have the exclusive means of enforcement of the Veteran Business Enterprise Preference Ordinance and any Contract terms. No right of action for non-signatories of the Contract is intended or implied. The City of Orlando is the sole judge of compliance. All solicitations and submittals awarded will be evaluated in accordance with Chapter 7 of the Code of the City of Orlando.

ADDENDUM ACKNOWLEDGMENT FORM:

The undersigned acknowledges receipt of the following addenda to the Documents (Give number and date of each):

Addendum No. <u>#1</u>	Dated <u>4/19/19</u>
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____

Failure to submit acknowledgment of any Addendum that affects the Bid prices is considered a major irregularity and will be cause for rejection of the bid.

Galls, LLC
Company


Signature

Chief Executive Officer
Title



CITY OF ORLANDO

April 19, 2019

TO: All Bidders

FROM: Angela Thomas, Purchasing Agent III
Procurement and Contracts Division

SUBJECT: UNIFORMS FOR ORLANDO POLICE DEPARTMENT

LOCATIONS Transmittal of Addendum No. One (1)
IFB19-0280

Please be advised of the following changes/clarifications to subject solicitation. The solicitation is hereby changed accordingly.

A. REVISED BID PRICE FORM:

Replace Bid Price Form with the uploaded **REVISED ELECTRONIC BID PRICE FORM** at vendorlink.cityoforlando.net

B. MODIFICATIONS TO THE SOLICITATION::

1. OPD Patches with Civilian rockers should be sewn on both sleeves.
2. "Community Service Officer" should be screen printed on back.
3. The Community Service Officer badge on front/left with, and name on the right. "Supervisor" should be under the name of supervisors.
4. Supervisors print should be Gold and Officers should be Silver.

C. WRITTEN QUESTIONS RECEIVED:

Question No. One (1):

Lines 12-19 in conjunction with page 84 is a little confusing. It shows customization options but nothing that clearly specifies what customization and location will be needed for the Proper ICE polos. Can we get a clear color photo of a current shirt, front and back to show placement and back/front options?

Answer No. One (1):



Question No. Two (2):

Should we go by what is shown on pg. 84 in Exhibit 1 or is it the customization listed on page 81? The header in exhibit 1 says Propper ice polo but the item appears to be a t shirt.

Answer No. Two (2):

Pages 69 – 86 - **EXHIBIT "1" - DEPARTMENT ART FOR EMBROIDERY** is for reference only. The exact required item numbers are given on the Bid Price Form.

Question No. Three (3):

Lines 11 and 15 are identical, was this a duplicate, and does one need to be removed?

Answer No. Three (3):

See the uploaded **REVISED ELECTRONIC BID PRICE FORM** at vendorlink.cityoforlando.net

Question No. Four (4):

What customization will be needed for the Deputy Deluxe items? Lines 22-25 on Bid Price Form?

Answer No. Four (4):

Customization includes shoulder patches w/volunteer rocker, circle badge with Citizen Observer Program on left breast area.



Question No. Five (5):

What customization will be needed for the Sentry Plus items Lines 26 -29. Will this be the customization listed in Exhibit 1 on pages 79 and 80?

Answer No. Five (5):

Customization includes shoulder patches w/Motor Wings are on the left sleeve.

Question No. Six (6):

On page 9, section 7.0 (b) refers to Volunteer shirts customization, which items will require this on the bid price form?

Answer No. Six (6):

Customization includes shoulder patches w/volunteer rocker, circle badge with Citizen Observer Program on left breast area.

Question No. Seven (7):

Will the department accept the Gildan Performance short sleeve 42000 and long-sleeve 42400, in lieu of the Ultra Club UC8420 and UC8422? Lines 46 and 47 on bid price form. A sample can be provided. Also, please confirm the customization that goes on the T shirts line 46 & 47?

Answer No. Five (7):

Please refer to **SECTION 5 – SUBSTITUTION OF ITEMS**, on Page 10.

Question No. Eight (8):

If we are going to partner with an WMB to sub some of our customization needs, do we fill out the WMB section with their information or is there something else needed that we have not seen?

Answer No. Eight (8):

No, the MWBE section is for your information or N/A if not applicable to your company. Subcontractors are listed in the Questionnaire Section 6, Page 61.

Question No. Nine (9):

Do you have a projected list either annual quantities or annual spend based on the items listed on this solicitation?

Answer No. Nine (9):

The Electronic Bid Form represents the estimated annual amounts based on previous years.

- D. FINAL COMMENT:** Only written questions answered in writing by formal Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Questions received within 10 days of the Bid Opening date will not be given any consideration. **Question period is now closed.**

Firms are reminded to review the original solicitation and all subsequent Addenda issued.

THE ATTACHED SIGNATURE PAGE MUST BE COMPLETED AND RETURNED WITH YOUR SUBMITTAL.

In other respects, except as specifically stated above, all other terms and conditions of the solicitation remain unchanged.

SIGNATURE PAGE

Bidders are asked to acknowledge receipt of this Addendum No. One (1), by completing the information requested below and submitting this information with their Bid. Failure to do so may subject the Bidder to disqualification.

ALL OTHER SPECIFICATIONS AND CONDITIONS REMAIN UNCHANGED.

RECEIPT OF THIS ADDENDUM IS HEREBY ACKNOWLEDGED

Galls, LLC

NAME OF BUSINESS

BY: 

SIGNATURE/DATE

Michael Wessner, Chief Executive Officer

NAME & TITLE, TYPED OR PRINTED

1340 Russell Cave Road

MAILING ADDRESS

Lexington, KY 40505

CITIES, STATE, ZIP CODE

() 800-876-4242 877-914-2557

AREA CODE WITH TELEPHONE and FAX NUMBERS

**"NO BID" RESPONSE
TO
INVITATION FOR BIDS**

Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

If your firm is unable to submit a bid at this time, would you please provide the information requested in the space provided below and return to:

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

We have received Invitation for Bids No. **IFB19-0280**, opening at **2:00 p.m., Local Time, City of Orlando, FL**, on **April 25, 2019**.

Reason for not bidding: _____

BY:

Signature

Name & Title, Typed or Printed

Company Name

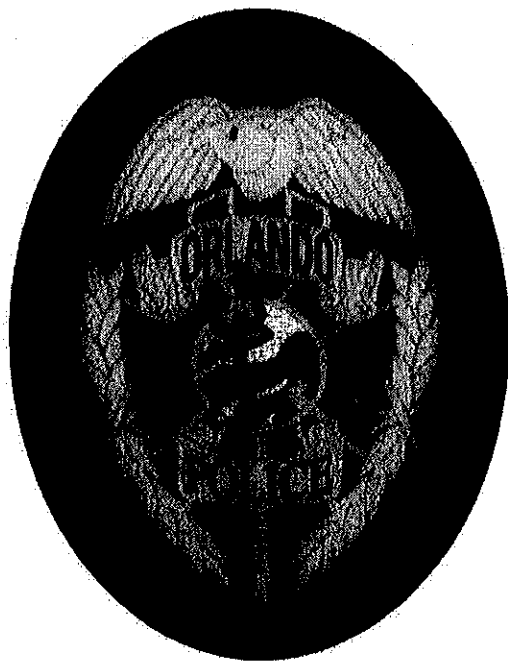
EXHIBIT "1"



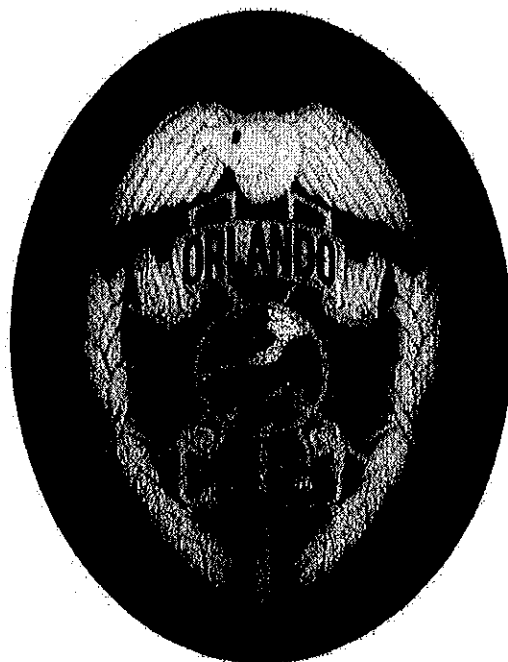
DEPARTMENT ART FOR EMBROIDERY

THESE ARE ONLY EXAMPLES.
THE ACUTAL REQUIREMENTS ARE INDICATED IN THE SPECIFICATIONS AND
ON THE ELECTRONIC BID FORM

Officer Patch



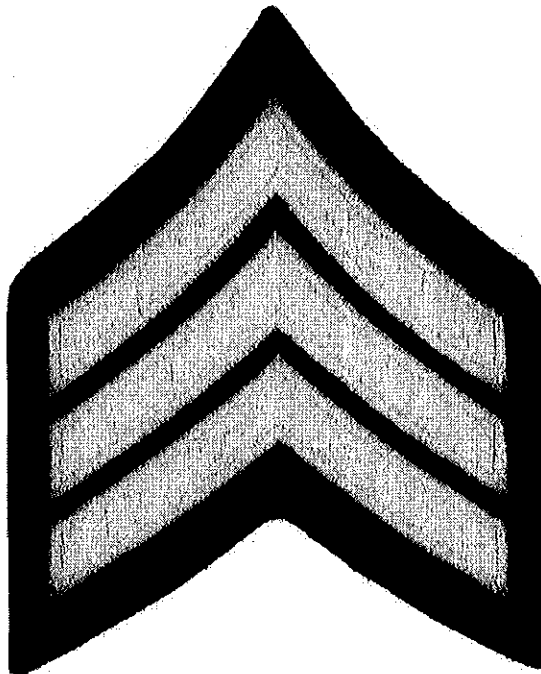
Officer Patch Silver



CPL – CHEVRONS



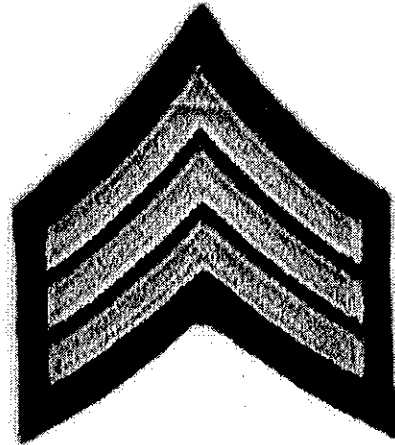
SGT – CHEVRONS



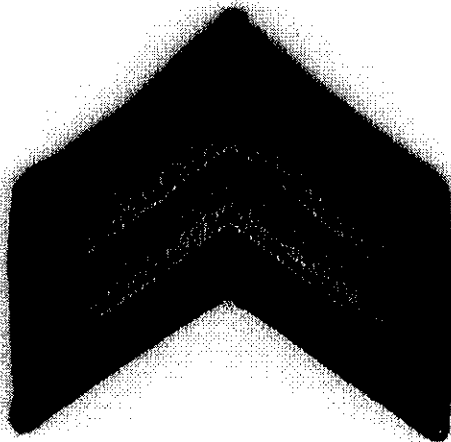
MINI FOR PROPPER ICE POLO SHIRTS



2" x 3"



2" x 2 1/4"



2 1/4" x 2"

FOR NAVY BDU

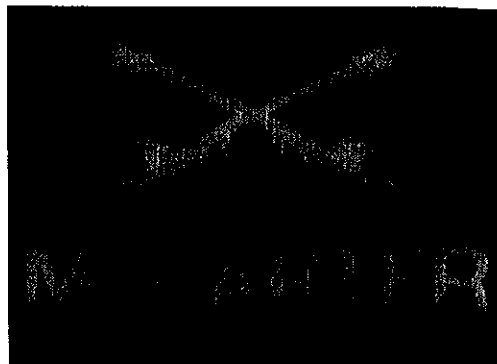
LEFT CHEST: Embroidered Orlando Police Gold Badge with MOUNTED UNIT below (2.5"W x 3.5"H)

RIGHT CHEST: Name embroidered in GOLD--example shown below. (3/8" tall letters)

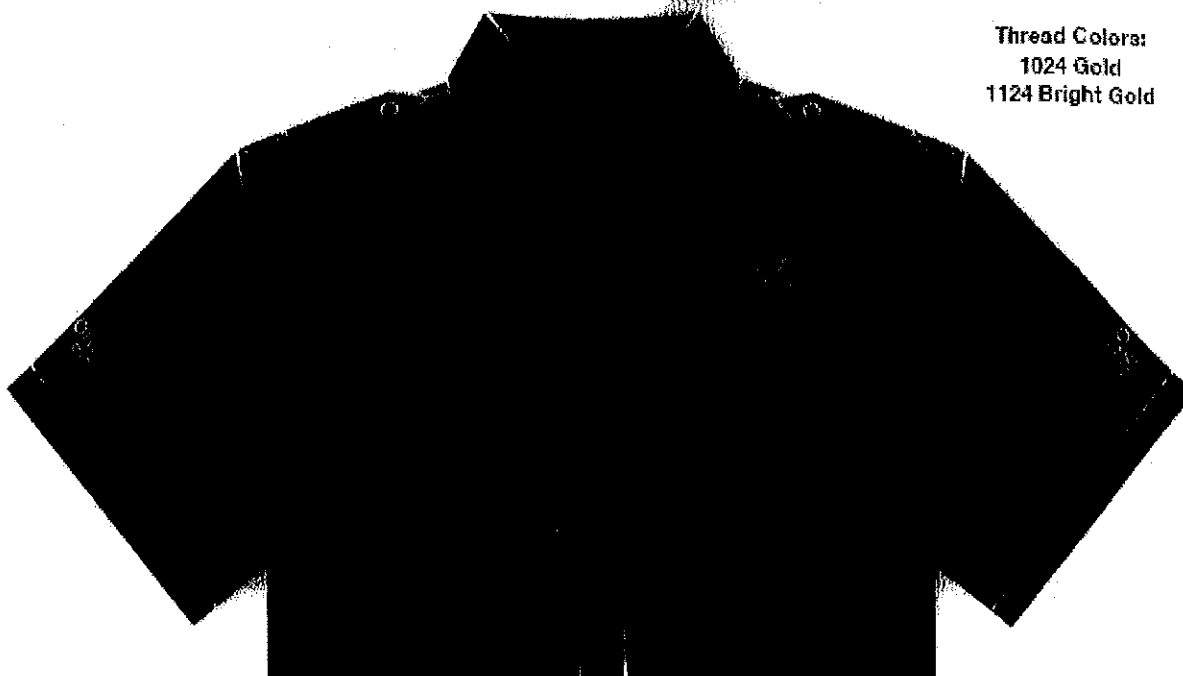
Both Sleeves: ORLANDO POLICE embroidery in gold (2.6"W x 0.9"H)



Example of right chest name...

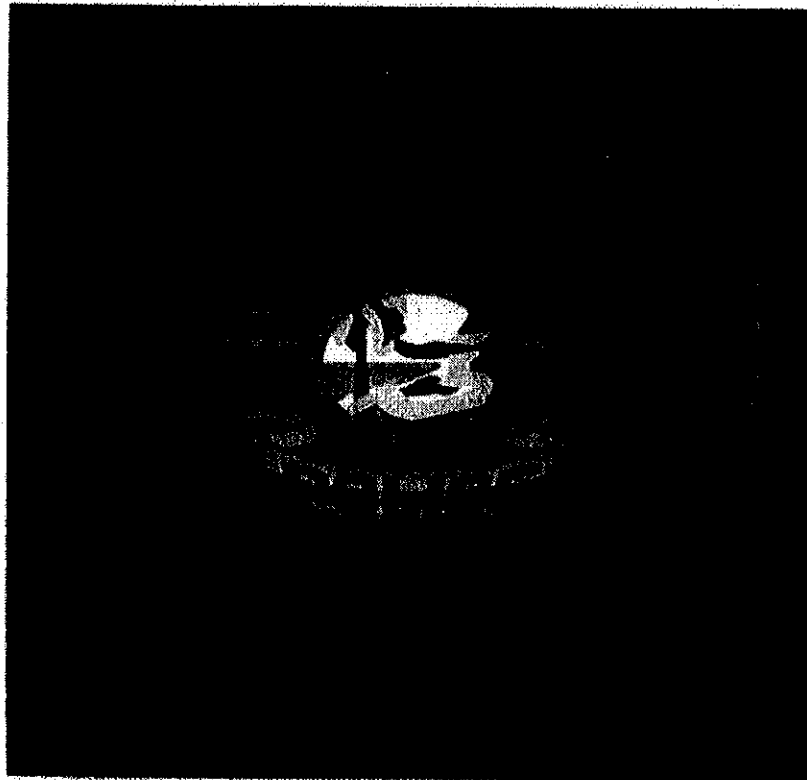


Thread Colors:
1024 Gold
1124 Bright Gold



**FOR EMBROIDERY ON LEFT CHEST FOR ORLANDO POLICE
SPECIAL OPERATIONS DIVISION (V.F.H. ENFORCEMENT)**

SIZE—3.5"W x 4"H



RIGHT CHEST EMBROIDERY: The Following Names for Spelling Approval (.38" Gold or White Block Letters)

G NIEVES
D. MONN

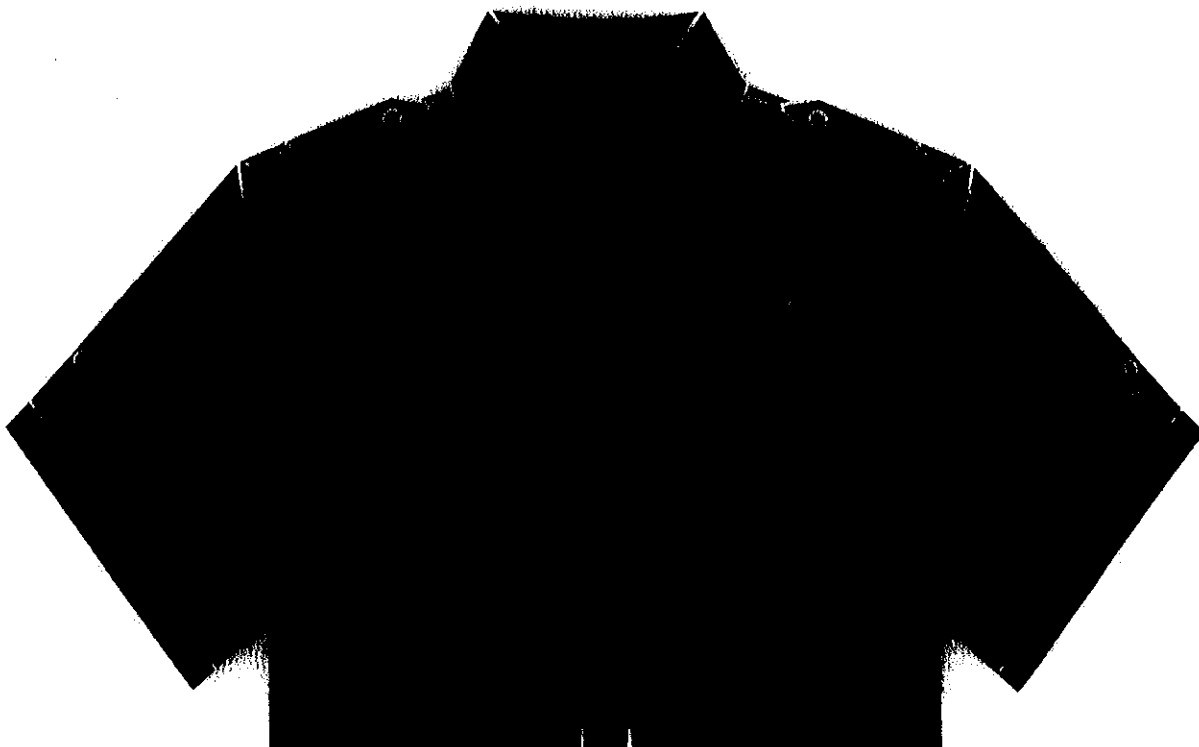
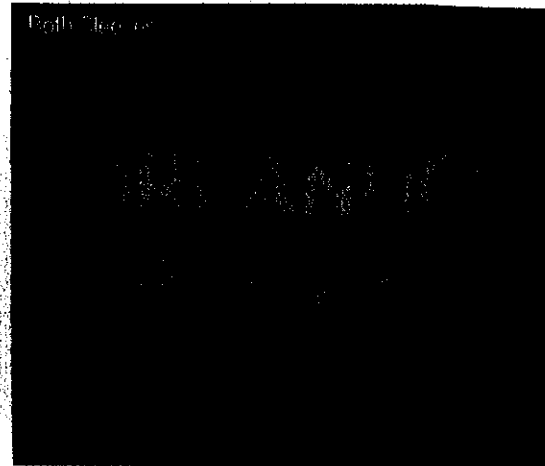
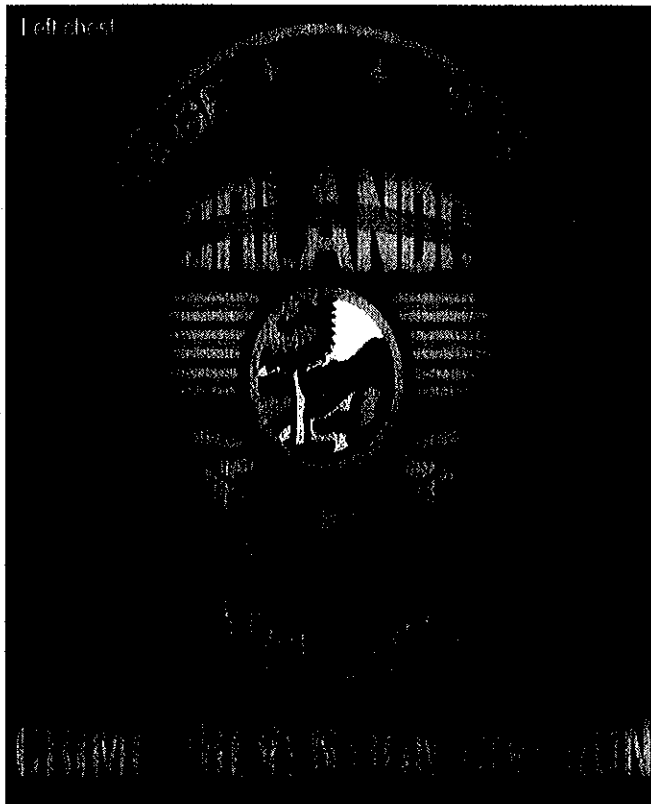
H. FELSHAW
C. ROSADO

ART FOR EMBROIDERY

FOR PROPPER TACTICAL SHIRTS—OPD CRIME PREVENTION DIVISION

Left Chest Embroidery: Orlando Police round seal in full color with CRIME PREVENTION DIVISION below (4"W x 4"H)

Both Sleeves: ORLANDO POLICE embroidery in gold (2.6"W x 0.9"H)



MOCK TURTLENECKS AND DICKIES FOR ORLANDO POLICE DEPT.

OPD

THREAD COLOR:
LIGHT SILVER #3971
on black mock turtlenecks

CENTER OF NECK (FRONT)



OPD

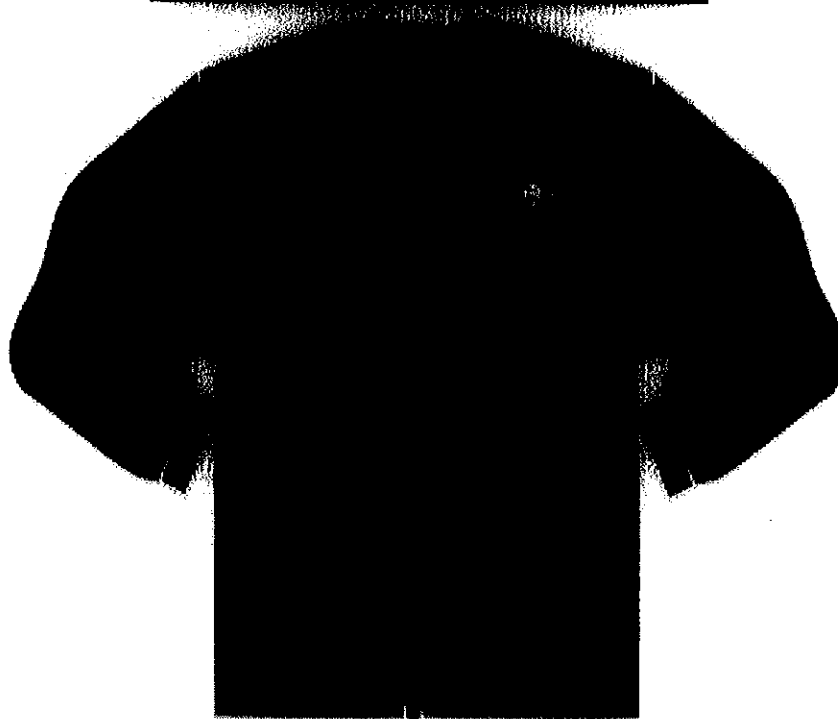
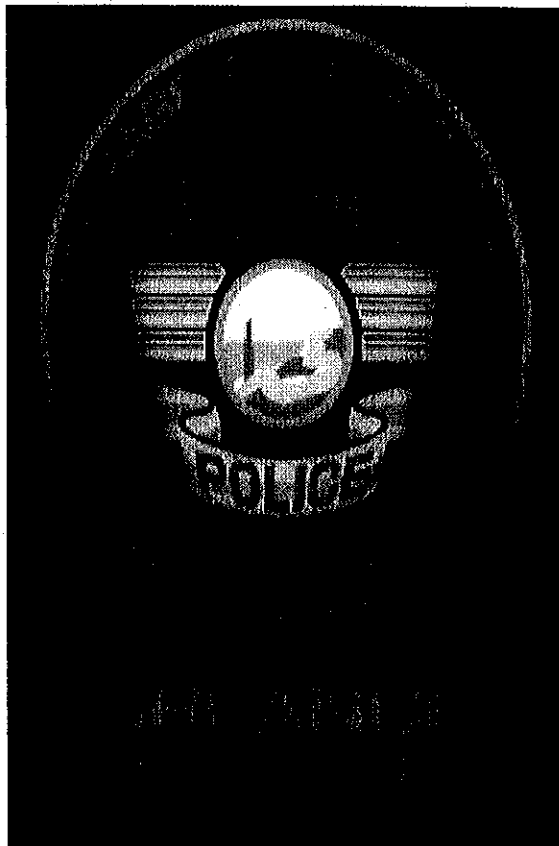
THREAD COLOR:
GOLD #1124
on black mock turtlenecks

CENTER OF NECK (FRONT)



FOR EMBROIDERY ON LEFT CHEST OF NAVY CARDIGAN SWEATERS

SIZE—3.45"W x 4.65"H



ON BLACK POLOS FOR ORLANDO POLICE INSTRUCTOR

Left Chest Embroidery: Orlando Police Badge in gold (2"W x 2.7"H)
with "GANG UNIT" below in 3/8" gold letters

Right Chest Embroidery: Rank/Name in 3/8" gold letters

Sleeve Embroidery: ORLANDO POLICE in 3/8" letters

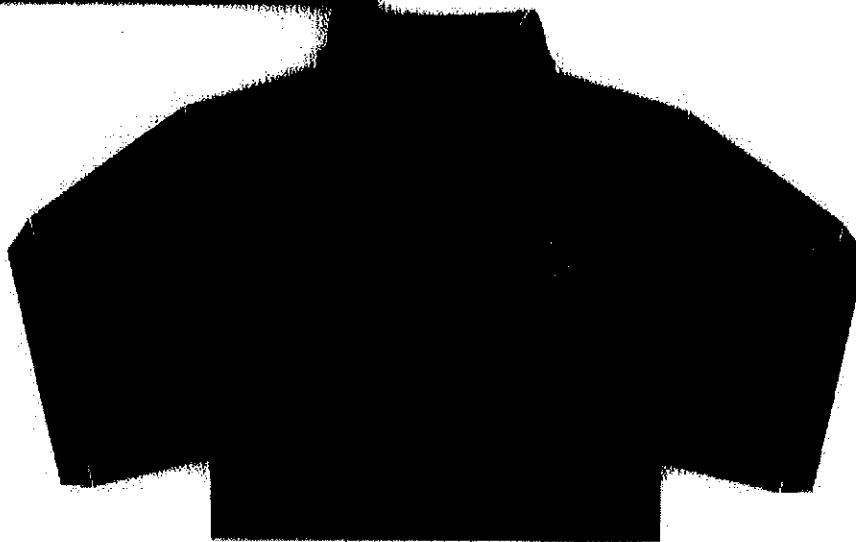
left chest



right chest



sleeve



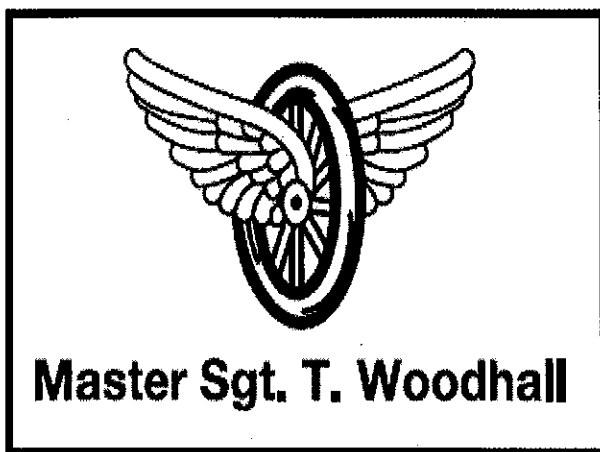


For White Uniform Shirts

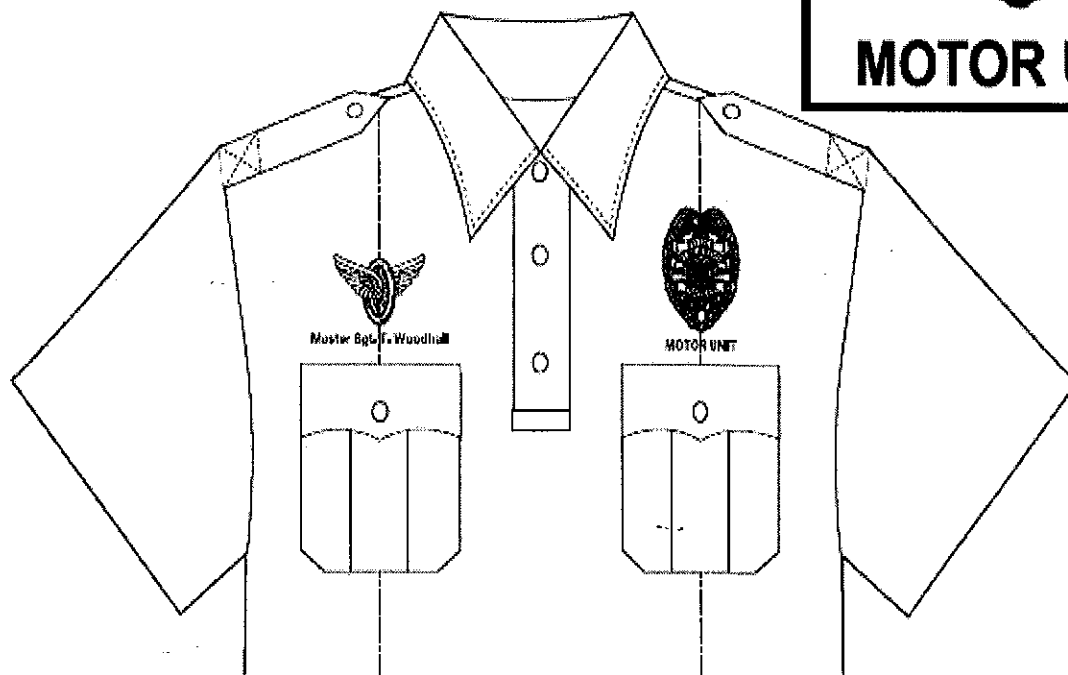
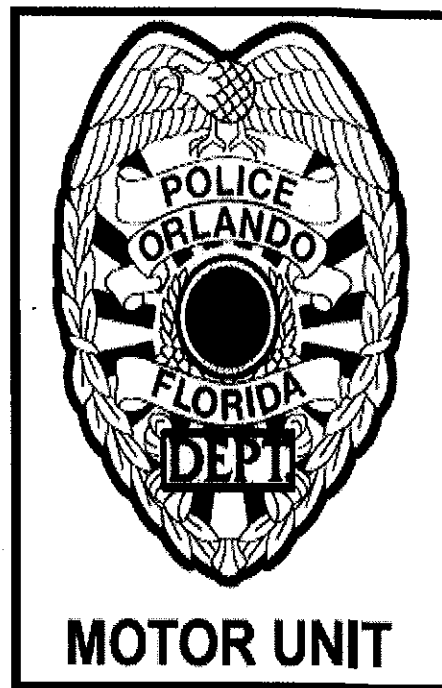
Left Chest Embroidery: Orlando Police Department Badge (2.22"W X 3.48"H)

Right Chest Embroidery: Motor Wing Above Last Name

Example of Right
Chest Actual Size
3/8" Standard Block Letters



Left Chest Embroidery
Actual Size



ART FOR EMBROIDERY APPROVAL

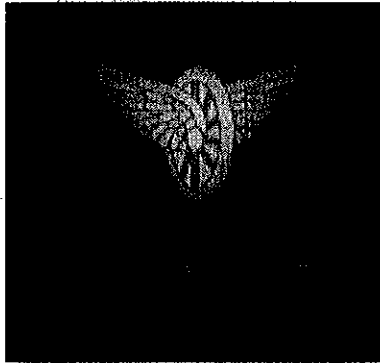
For Dark Navy Uniform Shirts

Left Chest Embroidery: Orlando Police Department Badge (2.15"W X 2.9"H)

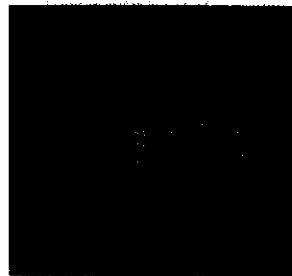
Right Chest Embroidery: Motor Wing Above Last Name

Optional Collar Embroidery: OPD

Example of Right
Chest Actual Size
3/8" Standard Block Letters



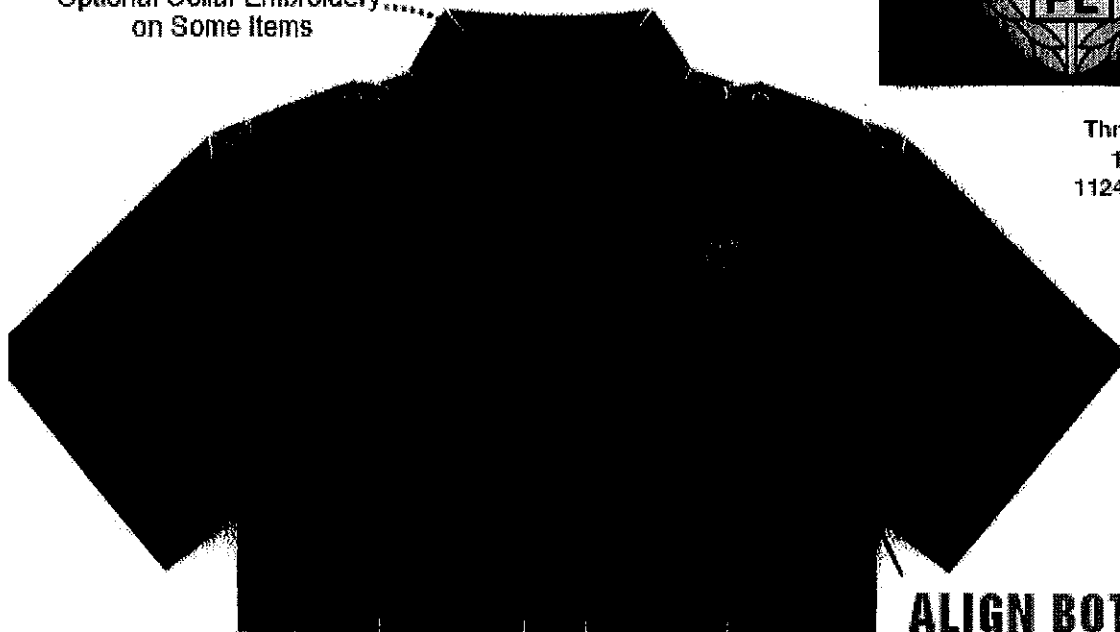
Collar Embroidery Actual Size
3/8" Standard Block Letters



Left Chest Embroidery
Actual Size



Optional Collar Embroidery.....
on Some Items



Thread Colors:
1024 Gold
1124 Bright Gold

**ALIGN BOTTOM
OF LEFT AND
RIGHT CHEST
EMBROIDERY**

ART FOR EMBROIDERY

ON PROPPER POLOS AND TACTICAL SHIRTS FOR ORLANDO PD

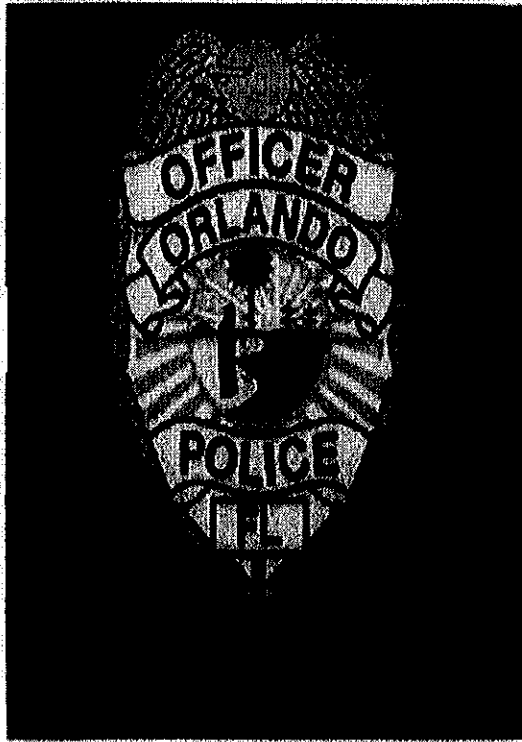
Left Chest Embroidery: Orlando PD Badge (2"W x 2.7"H) with "Training Staff" below

Right Chest Embroidery: Rank, 1st Initial, Last Name

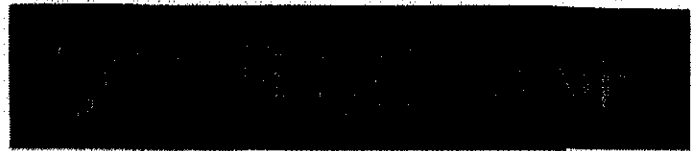
Both Sleeves Embroidered with ORLANDO POLICE in gold

Shown below at actual embroidery size.

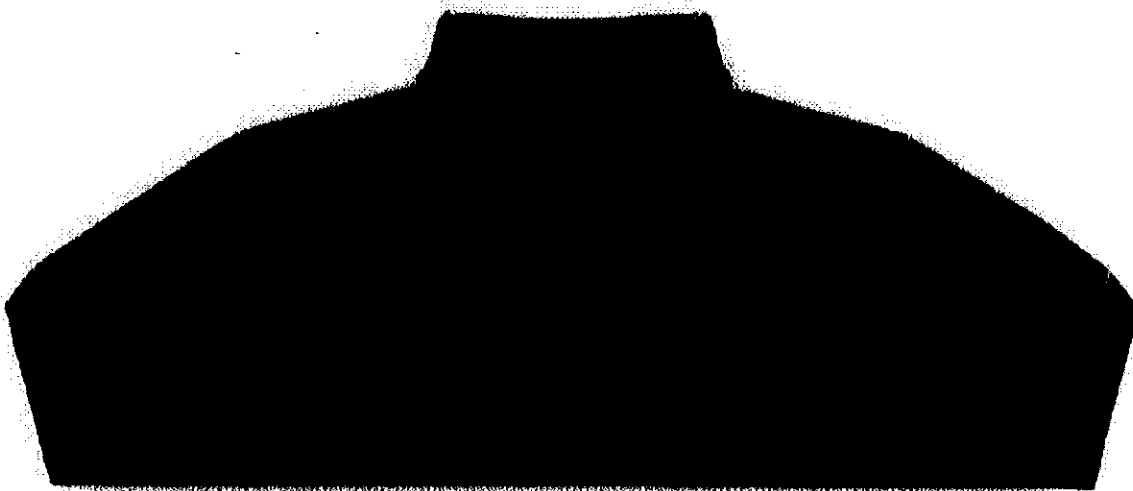
Left chest



EXAMPLE of right chest



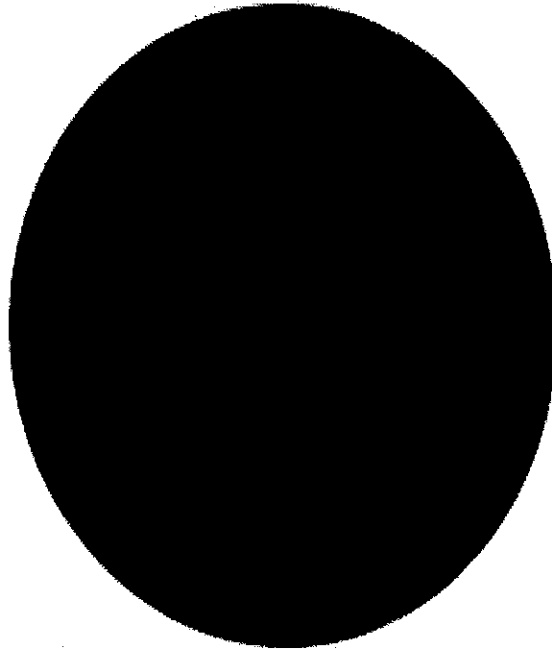
Both sleeves



For Orlando Swat Team Patch

(3.5"W X 3.5"H)

Actual Size Shown Below



ART FOR EMBROIDERY

Hat embroidery

2.7"W x 2.8"H



PROPPER ICE POLO

FRONT PRINT SIZE: (13"W X 8.4"H)

BACK PRINT SIZE: (13"W X 7"H)

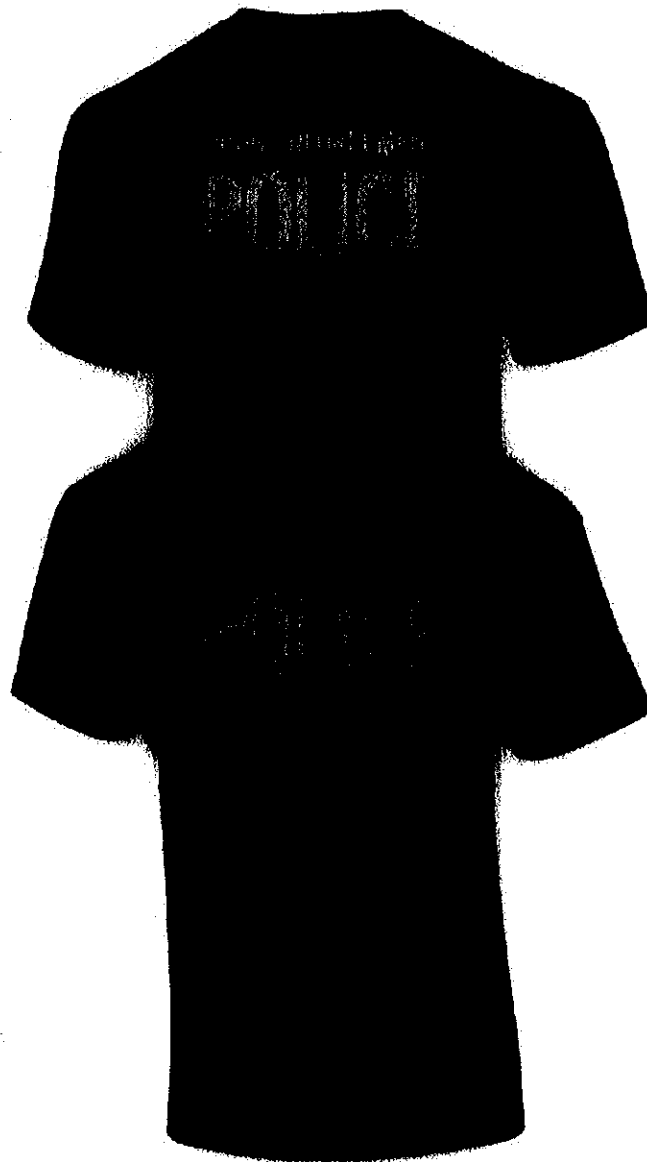
FRONT PRINT: 13"W X 8.4"H



YELLOW
2X

MESH

BACK PRINT: 13"W X 7"H



COMMUNITY SERVICE OFFICER (CIVILIAN)

LEFT CHEST: ORLANDO CSO BADGE
RIGHT CHEST: CSO / First Initial. Last Name



PRINT FULL BACK: COMMUNITY SERVICE OFFICER



SLEEVES: OPD PATCHES (BOTH)

PROPPER I.C.E. TACTICAL POLO SHIRTS



1340 Russell Cave Road
Lexington, KY 40505

Galls, LLC Standard Warranty

All products will fall under the manufacturer's standard warranties. In addition, Galls offers a "No Hassle Guarantee" on returned merchandise. This means that if you are unhappy for any reason with your purchase, you may return it to Galls for an exchange or refund within 1 year from purchase date.

All ballistic and stab resistant material will have a five-year warranty from the purchase date. Upon timely notice, Manufacturer will repair or replace any vest/plate in which, after examination by Manufacturer, Manufacturer determines there is a manufacturing defect.

The outer shell carriers are warranted to be free from manufacturing defects for 24 months from the date of purchase.



CERTIFICATE OF LIABILITY INSURANCE

Page 1 of 1

DATE (MM/DD/YYYY)
02/28/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Willis of New York, Inc. c/o 26 Century Blvd P.O. Box 305191 Nashville, TN 37205191 USA	CONTACT NAME: PHONE (A/C No. Ext): 1-877-945-7378 FAX (A/C No.): 1-888-467-2378 E-MAIL ADDRESS: certificates@willis.com														
INSURED Galls, LLC 1340 Russell Cave Rd. Lexington, KY 405053114	<table border="1"><thead><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr></thead><tbody><tr><td>INSURER A: QBE Insurance Corporation</td><td>39217</td></tr><tr><td>INSURER B: General Casualty Company of Wisconsin</td><td>24414</td></tr><tr><td>INSURER C: Praetorian Insurance Company</td><td>37257</td></tr><tr><td>INSURER D:</td><td></td></tr><tr><td>INSURER E:</td><td></td></tr><tr><td>INSURER F:</td><td></td></tr></tbody></table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: QBE Insurance Corporation	39217	INSURER B: General Casualty Company of Wisconsin	24414	INSURER C: Praetorian Insurance Company	37257	INSURER D:		INSURER E:		INSURER F:	
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INSURER C: Praetorian Insurance Company	37257														
INSURER D:															
INSURER E:															
INSURER F:															

COVERAGES	CERTIFICATE NUMBER: W10269587	REVISION NUMBER:
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.		

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PROJECT ☐ LOC OTHER:	Y	CGA1331044	03/01/2019	03/01/2020	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY	Y	CBA1331044	03/01/2019	03/01/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	☒ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE ☒ DED ☐ RETENTIONS 10,000	Y	CCU1331044	03/01/2019	03/01/2020	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N ☐ N/A	CWC1331044	03/01/2019	03/01/2020	☒ PER STATUTE ☐ OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Certificate holder is included as an Additional Insured as respects to General Liability, Auto Liability and Umbrella/Excess Liability as required by written contract.

CERTIFICATE HOLDER**CANCELLATION**

Proof of Insurance	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

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ACORD 25 (2016/03)

The ACORD name and logo are registered marks of ACORD

SR ID: 17590923

BATCH: 1088926

Galls, LLC Response Clarifications

Regarding the revised pricing form:

Items #36-37: Blauer Fleece Jacket and Blauer Super shell Jacket w/ Gore-Tex. Pricing does not include customization, this will be provided when customization details are given.

Item #52: Keystone Dress Hat, LAPD Blue w/ Gold or Silver Band. Pricing includes gold or silver band. Pricing does not include leaf embellishments.

Item #53: Yupoong Cuffed Beanie Hat Knit 100% Turbo Acrylic. Pricing does not include customization, this will be provided when customization details are given.

Women Owned Business/Subcontractor

Galls, LLC will be utilizing Fann Emblem, a small-women owned business, as a subcontractor, if awarded this contract. Based on the quantities from the bid, \$52,662.00 will be allotted to Fann Emblem annually. Certification and W-9 for the subcontracted company is attached.



CITY OF ORLANDO M/WBE CERTIFICATION AWARD LETTER

EXPIRATION DATE: 10/31/2019

CERTIFICATION NUMBER: 20074550

CERTIFICATION TYPE: WBE

COMPANY NAME: Fann Emblem & Embroidery Company, Inc.
1330 W. Central Blvd.
Orlando, FL 32805

OWNER NAME: CONNIE PREBENDA

CERTIFIED LINE(S) OF BUSINESS/SPECIALTY AREA(S):

Monogramming, Embroidery, Emblems, Decals; Custom Flags,
Banners, and Silk Screening; Shirts and Promotional Products

EXECUTIVE OFFICES • MINORITY BUSINESS ENTERPRISE AND BLUEPRINT DIVISION
Orlando City Hall • 400 South Orange Avenue • Eighth Floor
PO Box 4990 • Orlando, FL 32802-4990
P 407.246.2623 • F 407.246.0000 • cityoforlando.net

Request for Taxpayer Identification Number and Certification

► Go to www.irs.gov/FormW9 for instructions and the latest information.

Give Form to the
requester. Do not
send to the IRS.

Print or type.
See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

Fann Emblem & Embroidery Co., Inc.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☒ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

1330 West Central Blvd

6 City, state, and ZIP code

Orlando, FL 32805

Requester's name and address (optional)

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

____ - ____ - ____

or

Employer identification number

5 9 - 3 1 6 8 3 2 4

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign
Here

Signature of
U.S. person ►

Date ►

1/23/19

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What Is Backup Withholding*, later.

Request for Taxpayer Identification Number and Certification

► Go to www.irs.gov/FormW9 for instructions and the latest information.

Give Form to the
requester. Do not
send to the IRS.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Galls Parent Holdings, LLC

2 Business name/disregarded entity name, if different from above
Galls LLC (FEIN 20-3545989)

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► **P**

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
P.O. Box 71628

6 City, state, and ZIP code
Chicago, IL 60694-1628

7 List account number(s) here (optional)

8 Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

or

Employer identification number

8 2 - 4 0 9 9 4 6 9

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ► *Paul J. Galls* Date ► *12-5-18*

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.



Meeting Date: August 20, 2024
Item #: 14

Contact Name: Milen Womack
Contact Number: Ext. 6013

Department Director: Stephen Krug
City Manager: Craig Shadrix

**Subject: Approval of Stormwater Improvement Projects for 2024-2025 with Inliner Solutions.
(Public Works Director Krug)**

Background Summary:

The Stormwater Division was approved at the January 17, 2023, City Commission meeting to work with American In-line Inspection, Inc. to repair 540 feet of failing stormwater pipelines on Flewelling Ave and Ocoee Hills Road for a total of \$182,175.00. The approved contractor was unable to complete the repairs within a year of the proposal. City staff has since coordinated with a new contractor in our area, Inliner Solutions LLC, to complete the repairs for \$99,570.00.

Public Works is requesting City Commission approval to utilize Inliner Solutions LLC to complete the project as incorporated in the Stormwater Operating Budget.

Issue:

Should the Honorable Mayor and City Commissioners approve a contract with Inliner Solutions LLC, to complete the pipe lining project included in the Stormwater Operating Budget?

Recommendations:

Staff recommends the Honorable Mayor and City Commissioners approve to issue a purchase order to Inliner Solutions LLC, for the pipe lining of Flewelling Ave. and Ocoee Hills Rd. for \$99,570.00, and authorize the City Manager and staff to approve and execute change orders to the work in accordance with the limits established in the Purchasing Code.

Attachments:

1. Ocoee 30 Inch Proposal

Financial Impacts:

The work is adequately funded in the Stormwater Division Operating Budget.

Type of Item: Consent



PROPOSAL

DATE: April 2, 2024

SUBMITTED TO: City of Ocoee
301 Maguire Rd
Ocoee, FL 34761

Attention: Russel Oliver

JOB LOCATION: 30" lines Ocoee Hills Rd and Fleweling Ave

We propose hereby to furnish material and labor-complete in accordance with specifications below, for the sum of
Ninety-Nine Thousand Five Hundred Seventy Dollars and No Cents (\$99,570.00)

Payment terms - 100% within thirty (30) days upon completion and acceptance.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from specifications below involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation insurance. Note: This proposal may be withdrawn by us if not accepted within thirty (30) days.

We hereby submit specifications and estimates as follows:

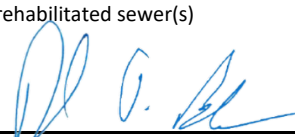
Inliner Solutions, LLC shall supply all equipment, materials and labor to perform the work as follows:

DESCRIPTION	QTY	UNIT	PRICE	TOTAL
A-4. 27" - 42" Diameter Light Cleaning and CCTV Inspection	540	LF	\$ 10.00	\$ 5,400.00
A-69. 30" Diameter CIPP Liner 12.0 MM Thickness	540	LF	\$ 157.00	\$ 84,780.00
C-9. 30" Diameter By-Pass Pumping & Dewatering	540	LF	\$ 16.00	\$ 8,640.00
C-11. Traffic Control MOT Index 601 or 602	3	DAY	\$ 250.00	\$ 750.00
				\$ -
				\$ -
				\$ -
			TOTAL	\$99,570.00

NOTES:

- 1 Pricing based on pricing contained in contract between Inliner and St. Augustine Beach 23-07-MCA-ILS
- 2 Inliner to be installed as per ASTM & manufacturer's specifications.
- 3 Payment shall be based on actual field measurements from center of inlet to center of outlet.
- 4 This proposal is subject to Pre-TV inspection indicating the line conditions is acceptable in installation of Inliner
- 5 Price quoted does not include point repairs if required prior to installing Inliner.
- 6 Contractor shall furnish Owner with a Final Inspection (Digital) of the rehabilitated sewer(s)

Signature


Daniel Banken, Area Director

Acceptance of Proposal - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance _____

Authorized Signature _____

STAFF REPORT

Meeting Date: August 20, 2024
Item #: 15

Contact Name: Carolina Vaca
Contact Number: Ext. 1027

Department Director: Ginger Corless
City Manager: Craig Shadrix

Subject: Approval of a Resolution Adopting the Vision Zero Philosophy and Action Plan. (Redevelopment Program Manager Vaca)

Background Summary:

In August 2022, the City submitted a letter of support to Pete Buttigieg, US Secretary of Transportation, for MetroPlan Orlando's bid for the "Safe Streets and Roads for All" (SS4A) discretionary grant and, in 2023, MetroPlan was awarded a \$3.79 million federal grant to make our region's streets and roads safer. MetroPlan is using this award to not only create a regional comprehensive Vision Zero Safety Action Plan, but also to help the 22 municipalities within their jurisdiction develop their own safety Vision Zero Safety Action Plans. Vision Zero is a data-driven strategy that aims to eliminate traffic fatalities and serious injuries on the transportation system.

Over the past year, staff has been working with MetroPlan Orlando and Kittelson & Associates to draft Ocoee's Vision Zero Safety Action Plan. Through analysis of crash data and stakeholder input, the Action Plan provides policy recommendations and short, mid, and long-term safety improvements that the City can implement to help work towards a goal of zero traffic fatalities and serious injuries.

Adoption of the Action Plan is not only an important step towards creating a safer transportation system, but would also allow Ocoee's safety projects to be incorporated into MetroPlan Orlando's *2050 Metropolitan Transportation Plan* for prioritization and regional funding allocations, as well as make the City eligible to receive supplemental SS4A and other federal and state funding.

Issue:

Should the Honorable Mayor and City Commissioners approve the resolution to adopt the Vision Zero philosophy and Ocoee Vision Zero Safety Action Plan?

Recommendations:

Staff recommends the Honorable Mayor and City Commissioners approve the resolution to adopt the Vision Zero philosophy and Ocoee Vision Zero Safety Action Plan.

Attachments:

1. Resolution and Action Plan

Financial Impacts:

None.

Type of Item: Consent

RESOLUTION NO. 2024-

**A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF
OCOE, FLORIDA, ADOPTING THE VISION ZERO
PHILOSOPHY AND ACTION PLAN; PROVIDING FOR
SEVERABILITY; PROVIDING AN EFFECTIVE DATE.**

WHEREAS, the State of Florida is one of the most dangerous states for pedestrians, consistently ranking high on the Pedestrian Danger Index by Smart Growth America, with the metro area of Orlando-Kissimmee-Sanford, Florida ranking as one of the most dangerous metropolitan areas for pedestrians in the country; and

WHEREAS, fatal and severe crashes are preventable, and death and severe injury are not an acceptable cost for using our public roadway system; and

WHEREAS, The Ocoee City Commission recognizes the need to ensure pedestrian and bicycle safety and provide facilities to meet the travel needs of all mode users within the City, regardless of age or ability; and

WHEREAS, the City of Ocoee is responsible for the operation and maintenance of the continuing transportation planning systems and adoption of transportation plans and programs; and

WHEREAS, the City of Ocoee will hereby commit to decreasing these crash statistics by endorsing Vision Zero which is a data-driven strategy focused on eliminating traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all; and

WHEREAS, Vision Zero is founded on a Safe System approach that recognizes that people will make mistakes and roadway systems and policies should be designed to protect them through human-centered safety redundancies and shared responsibilities; and

WHEREAS, key elements of the Vision Zero strategy include: reframing traffic fatalities as preventable, focusing on system failures, reducing the impact of collisions, adopting a safe system approach for vehicles, bicycles, and pedestrians, making data-driven decisions, prioritizing safety improvements in areas that have historically been underserved, and building robust engagement strategies to reach those who are most vulnerable on the roadways; and

WHEREAS, the United States Department of Transportation has adopted the Safe System approach; and

WHEREAS, the Florida Department of Transportation has adopted a Target Zero Initiative; and

WHEREAS, there are over 50 Vision Zero jurisdictions in the United States, including Orange County, and this is expected to increase significantly in the coming years; and

WHEREAS, it is anticipated that implementation of Vision Zero methodologies will make City of Ocoee streets safer for all road users, particularly those who are most physically vulnerable, such as seniors, youth, and people with disabilities, and will further encourage people of all ages and abilities to walk, bike and take transit;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF OCOEE, FLORIDA:

SECTION 1. The City Commission hereby establishes the elimination of traffic fatality and severe injury due to traffic crashes as a goal of the City of Ocoee.

SECTION 2. The City of Ocoee hereby adopts the Vision Zero philosophy and commits to working towards a goal of zero traffic deaths and severe injuries on City streets by the year 2045.

SECTION 3. The City of Ocoee hereby adopts the City of Ocoee Vision Zero Action Plan, attached hereto as Exhibit A, as a key strategy for achieving this goal.

SECTION 4. RATIFICATION. Any act consistent with the authority and prior to the effective date of this Resolution is hereby ratified and affirmed.

SECTION 5. SEVERABILITY. If any clause, section, or other part of this Resolution shall be held by any court of competent jurisdiction to be unconstitutional or invalid, such unconstitutional or invalid part shall be considered as eliminated and in no way affecting the validity of other provisions of this Resolution.

SECTION 6. EFFECTIVE DATE. This Resolution shall take effect immediately upon its passage and adoption.

PASSED AND ADOPTED this ____ day of _____, 2024.

ATTEST:

APPROVED:

CITY OF OCOEE, FLORIDA

Melanie Sibbitt, City Clerk

(SEAL)

Rusty Johnson, Mayor

FOR USE AND RELIANCE ONLY BY THE CITY OF OCOEE FLORIDA; APPROVED AS TO FORM AND LEGALITY THIS ____ DAY OF _____, 2024.

APPROVED BY THE OCOEE CITY COMMISSION AT A MEETING HELD ON _____, 2024, UNDER AGENDA ITEM NO. ____

FISHBACK DOMINICK LLP

By: _____
City Attorney

EXHIBIT A
CITY OF OCOEE VISION ZERO SAFETY ACTION PLAN



City of Ocoee Vision Zero Safety Action Plan

AUGUST 2024



Oakland
 Vision Zero

Higher Speed Risks and Countermeasures

Speed Influences Drivers' Cone of Vision

40 MPH | 30 MPH | 20 MPH | 15 MPH

Pedestrian's Risk of Death or Serious Injury

40 MPH **85%** | 30 MPH **45%**

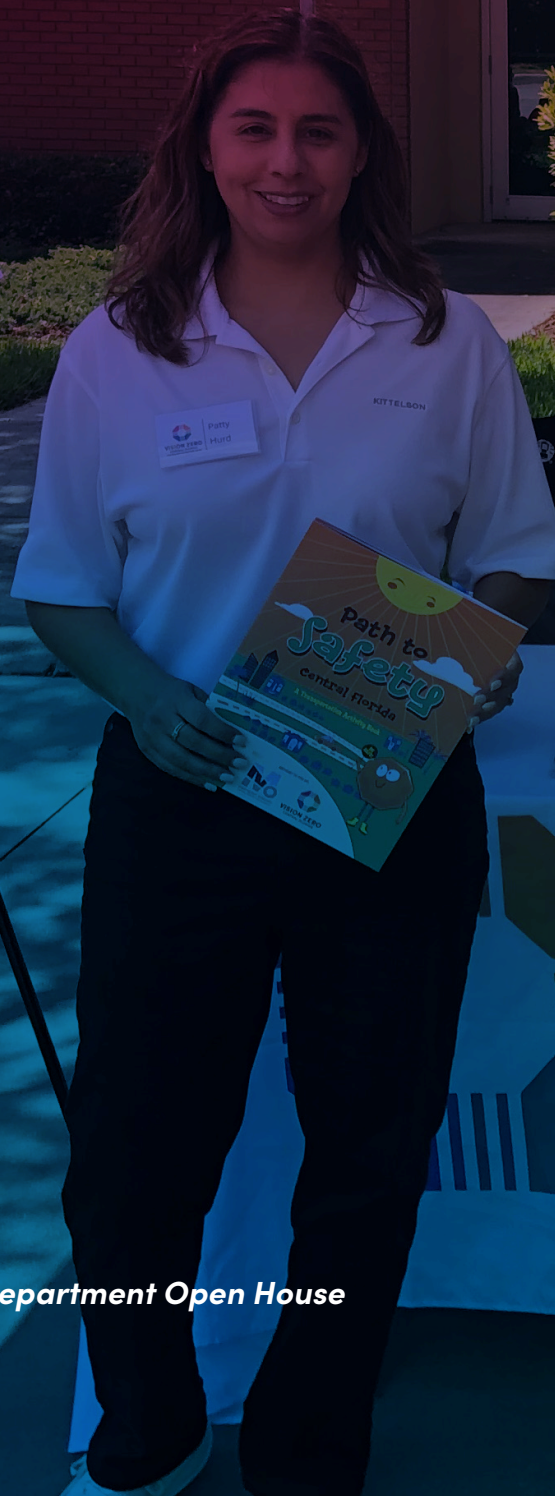
Countermeasures you would like to see

Vote for Intersection and Corridor Potential Countermeasures

- Flashing Yellow Arrow
- Protected Intersection
- Traffic calming
- Speed enforcement
- Roundabouts
- Delineators
- Protected Only Left Turns

Vote for Pedestrian/Bicycle Potential Countermeasures

- Separate Bicycle Lanes
- Pedestrian safety improvements
- Add/Widen Sidewalk
- Midblock Pedestrian Crossing
- Shorter signal cycle lengths



VISION
CENTRA
 Counting do

Public engagement at Ocoee Fire Department Open House



Public engagement at Ocoee Fire Department Open House

Preparation of this Safety Action Plan was funded by a \$3.79 million Safe Streets and Roads for All Federal Grant that was awarded to MetroPlan Orlando.

Statement of Protection of Data from Discovery and Admissions

SECTION 148 OF TITLE 23, UNITED STATES CODE REPORTS DISCOVERY AND ADMISSION INTO EVIDENCE OF CERTAIN REPORTS, SURVEYS, AND INFORMATION – Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this Vision Zero Safety Action Plan, shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at the location identified or addressed in the reports, surveys, schedules, lists, or other data.

Key Terms

Crash/Collision – An occurrence where a road user collides with another road user or a moving or stationary obstruction. It may result in injury or loss of life, trauma, and/or property damage and can involve a single party or multiple parties.

High Injury Network – The mapping of corridors where high numbers of people have been killed or seriously injured in traffic crashes.

KSI Crash – A crash that results in someone being Killed or Seriously Injured.

Safe System Approach – A guiding safety approach that builds and reinforces multiple layers of protection to both prevent crashes from occurring and minimize the harm caused to those involved when a crash does occur.

Serious Injury – Serious injuries may include broken bones, severed limbs, burns, traumatic brain injuries, and other major injuries. These injuries usually require hospitalization and transport to a medical facility. May also be referred to as an incapacitating injury.

Transportation Underserved Communities – Communities where people experience greater transportation inequities to access jobs, housing, food, health care, education, and other destinations due to overlapping factors, including demographics, features of the built environment, and in some instances a lack of prior investment in the transportation system.

Vision Zero – A road safety philosophy which states that no loss of life or incapacitating injury due to traffic crashes is acceptable.

Vision Zero Safety Action Plan – A comprehensive plan focusing on reducing and eliminating traffic-related injuries and fatalities. For the purposes of this document, Ocoee will refer to its Vision Zero Safety Action Plan as “Safety Action Plan.”

Vulnerable Road User – For the purposes of this Safety Action Plan, a person outside of a car or truck, which includes pedestrians, bicyclists, or motorcyclists. This also includes people in wheelchairs and on e-mobility devices, like scooters and golf carts.

List of Abbreviations

AASHTO – American Association of State Highway Transportation Officials

ADA – Americans with Disabilities Act

BIL – Bipartisan Infrastructure Law

DUI – Driving Under the Influence

ETC – Equitable Transportation Community

FDOT – Florida Department of Transportation

FHWA – Federal Highway Administration

HIN – High Injury Network

HSIP – Highway Safety Improvement Plan

KSI – Killed or Seriously Injured

MTP – Metropolitan Transportation Plan

NACTO – National Association of City Transportation Officials

PPL – Prioritized Project List

PROWAG – Public Right-of-Way Accessibility Guidelines

SRTS – Safe Routes to School

SS4A – Safe Streets and Roads for All

SSA – Safe System Approach

TIP – Transportation Improvement Plan

USDOT – United States Department of Transportation

City of Ocoee

Vision Zero Safety Action Plan

●●●●●●●●

PAGE 08

Chapter 1: Executive summary

High-level overview of the plan components, actions, next steps, and key takeaways from the Safety Action Plan.

●●●●●●●●

PAGE 14

Chapter 2: Ocoee Has a Vision of Zero Fatal and Serious Injury Crashes

Call to action and overview of Vision Zero and the Safe System Approach.

●●●●●●●●

PAGE 20

Chapter 3: Ocoee Vision Zero Statement and Plan Framework

The City's commitment to zero fatalities and serious injuries and an outline of the Safety Action Plan.

McKey Street in the City of Ocoee



PAGE **24**

Chapter 4: Crash Analysis and Trends

Summary of key findings and trends from the crash analysis.



PAGE **36**

Chapter 5: Listening to the Community

How regional and local community engagement activities informed the Safety Action Plan.



PAGE **42**

Chapter 6: Recommended Programs and Policy Updates

Programs and policy updates recommended for implementation.



PAGE **48**

Chapter 7: Recommended Safety Projects

Engineering projects identified for implementation.



PAGE **66**

Chapter 8: Monitoring and Implementation

Process for tracking progress toward Vision Zero on an annual basis.



PAGE **74**

Chapter 9: Technical Appendix

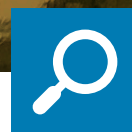


CHAPTER 1

Executive Summary



Crosswalk at the Bluford Avenue and McKey Street intersection



CITY OF OCOEE
adopted a Vision Zero
resolution, committing
to reaching zero traffic
fatalities and serious
injuries on City roads
by or before 2045.

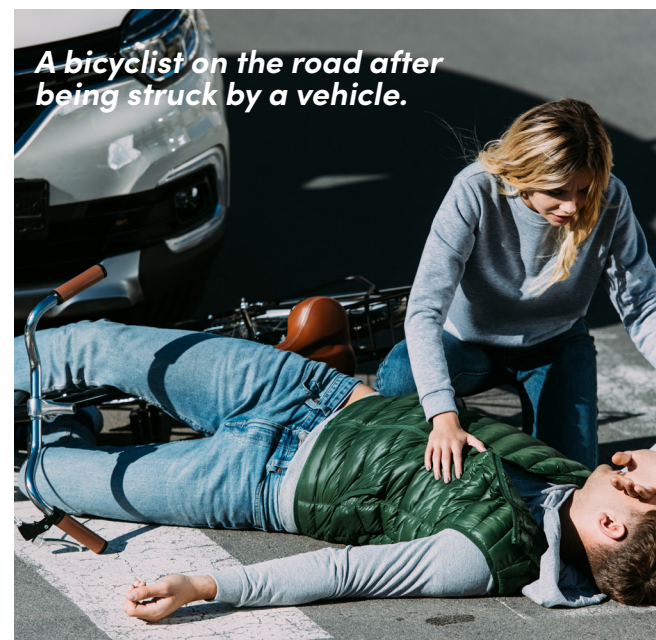
In the last five years, **12 people** were killed and **102 people** were seriously injured in traffic crashes on roads in the City of Ocoee.

Vision Zero is a road safety philosophy stating no loss of life or incapacitating injury due to traffic crashes is acceptable. **The City of Ocoee** adopted, by resolution, the Vision Zero philosophy on August 20, 2024. This Vision Zero Safety Action Plan, known as the Safety Action Plan, is the City's roadmap to reaching the goal of zero crashes that result in a fatality or serious injury.

This Safety Action Plan is part of a larger regional safety effort funded by a \$3.79 million Safe Streets for All (SS4A) grant and conducted by MetroPlan Orlando, the metropolitan planning organization for Orange, Osceola, and Seminole Counties. MetroPlan guides the region toward envisioning a 25-year plan for transportation for all Central Floridians.

During a typical week in the MetroPlan Orlando Region, **5 people are killed and 35 are seriously injured** in traffic crashes on the region's roads. In the last five years (2018 to 2022), **12 people were killed (in 10 crashes) and 102 people were seriously injured (in 83 crashes)** in traffic crashes on Ocoee's roads.

To address this reality, this Safety Action Plan turns to the core elements of **Vision Zero** and the **Safe Systems Approach**.



1.1 What Are the Transportation Safety Issues?

A large share of fatal or serious injury crashes (referred to as KSI crashes) happen on a small percentage of the overall roadway network. While most crashes only involve people in motor vehicles, crashes that result in a fatality or severe injury disproportionately involve someone walking, bicycling, or riding a motorcycle.

This Safety Action Plan identifies, among other things, Ocoee's High Injury Network (HIN), which is a map of State, County, and City roads within the city where KSIs have occurred in the past five years. All the City's traffic deaths between 2018 and 2022 have occurred on eight (8) percent of the roads within the City. [Figure 1](#) shows a map of Ocoee's HIN.

1.2 Getting to Zero

There is no one solution to reach zero traffic deaths and serious injuries. Rather, it will require a multidisciplinary and collaborative approach along with community input. This Safety Action Plan incorporates community feedback and provides a tailored Safe System Approach that includes non-engineering and engineering countermeasures Ocoee may use, including working with MetroPlan Orlando, Orange County, FDOT, and others to achieve zero fatalities and serious injuries on roadways within the City's jurisdiction. Finally, this Safety Action Plan provides monitoring strategies, outlined in the City of Ocoee Progress Monitoring section, the City can use to track its progress toward zero.

All the City's traffic deaths between 2018 and 2022 have occurred on **eight (8) percent** of the roads within the City.

1.3 Vision Zero Resolution

The City of Ocoee adopts, by resolution, the Vision Zero Philosophy relating to road and traffic safety in the City and commits to working towards a goal of zero fatal and serious injury crashes by or before 2045. The full resolution is included in [Appendix A](#).

1.4 Grants and Other Implementation Sources

The Federal Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program with \$5 billion in appropriated funds over 5 years, 2022–2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. To facilitate future SS4A grant applications by the City, the 2024 SS4A Safety Action Plan Component Checklist was completed, and summarized in [Appendix B](#).

1.5 Tracking the City's Progress

Monitoring progress towards meeting zero fatal and serious injury crashes within the City is important. On an annual basis, the City will reflect on progress towards zero through an assessment of the crash trends from the prior year and comparing them to the base-year trends documented in this Safety Action Plan.

Figure 1: Map of Ocoee High Injury Network

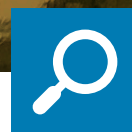
Legend

-  Local Road High Crash Intersection
-  State and County High Crash Intersection
-  Local Road High Injury Network
-  State and County High Injury Network
-  West Orange Trail



Ocoee Has a Vision of Zero Fatal and Serious Injury Crashes

Crosswalk at the Bluford Avenue and McKey Street intersection



THIS CHAPTER describes the need for a Vision Zero transportation Safety Action Plan and highlights how it differs from other safety plans. This chapter also outlines Vision Zero and the Safe System Approach.

Too frequently, visitors and residents in Ocoee lose their lives or have them permanently changed in traffic crashes.

This Safety Action Plan addresses the City of Ocoee's roadway safety issues by offering concrete, data-backed solutions.

2.1 Vision Zero Makes Roads Safer

Correcting Ocoee's roadway safety issues requires a holistic approach shaped by technical assessments and forward-minded thinking. That's where Vision Zero and the Safe System Approach come into play.

Vision Zero is a road safety philosophy that views any loss of life or serious injury due to traffic crashes as unacceptable. Vision Zero aims to eliminate crashes that result in death and serious injuries by anticipating human mistakes and minimizing impacts on the human body when crashes do occur. To accomplish this goal, Vision Zero draws from the Safe System Approach (SSA).

How Is Vision Zero Different?

- 1. Reframes traffic deaths as preventable.*
- 2. Integrates human failure into the approach.*
- 3. Focuses on preventing fatal and severe injury crashes rather than eliminating all crashes.*
- 4. Aims to establish safe systems rather than relying on individual responsibility.*
- 5. Applies data-driven decision-making.*
- 6. Establishes road safety as a social equity issue.*

2.2 The Safe System Approach

As an engineering strategy, the SSA insists the responsibility for safety must be shared between all road users, including drivers, motorcyclists, bicyclists, and pedestrians, and those who plan, design, maintain, and enforce the transportation system.

The SSA defines five elements of a safe transportation system:



Safer people: Encourage safe, responsible driving, bicycling, and walking behavior by people who use the roads and create conditions that prioritize their ability to reach their destination unharmed.



Safer vehicles: Proactively plan for a connected and autonomous vehicle fleet and encourage the purchase of vehicles that feature crash prevention technology.



Safer speeds: Use a multidisciplinary approach that induces drivers to travel at speeds appropriate for the context, thus reducing injuries even when human error leads to a crash.



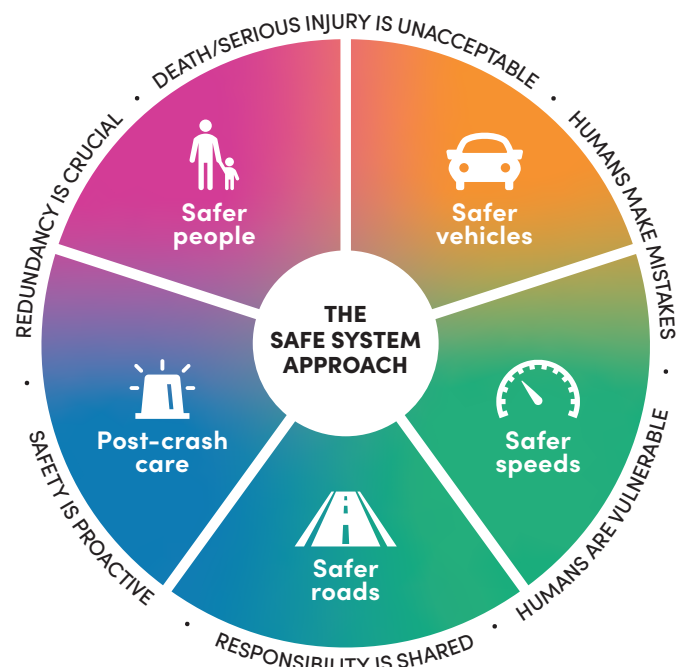
Safer roads: Prioritize roadway design changes, inclusive of bike lanes, sidewalks, crosswalks, and intersections, that address the factors contributing to severe injury and fatal crashes.



Post-crash care: Partner with law enforcement and emergency response to identify strategic investments in crash response and to clearly prescribe protocols for uniform, comprehensive, and consistent crash assessment and crash reporting.

The SSA approach relies on layering interventions in each of these areas atop one another to provide cumulative, redundant safety for all users. The relationship between these elements is represented in **Figure 2**.

Figure 2: Safe Systems Approach



Source: Adapted from Federal Highway Administration, 2024.

In addition, the SSA is driven by its core principles:

 Death and serious injury are unacceptable which is why Ocoee is focused on eliminating crashes resulting in death and serious injuries in Ocoee by or before 2045.	 Responsibility is shared by every person in the transportation system, from everyday users to elected officials, planners, and engineers. Each person has a role to play in reaching zero fatalities and serious injuries.
 Humans make mistakes that can lead to a crash, regardless of whether they are walking, bicycling, or driving. The goal of the SSA is to design and manage a transportation system to ensure these mistakes do not have life-altering impacts.	 Safety is proactive, so instead of waiting for a crash to occur, transportation agencies should seek to proactively identify dangerous situations and develop solutions to eliminate them before a crash occurs.
 Humans are vulnerable and bodies can only withstand a limited amount of impact from a crash before death or serious injury occurs.	 Redundancy of safety measures is crucial to ensure there are multiple layers of the transportation system working together towards safer outcomes so that if one layer fails, people are still protected.

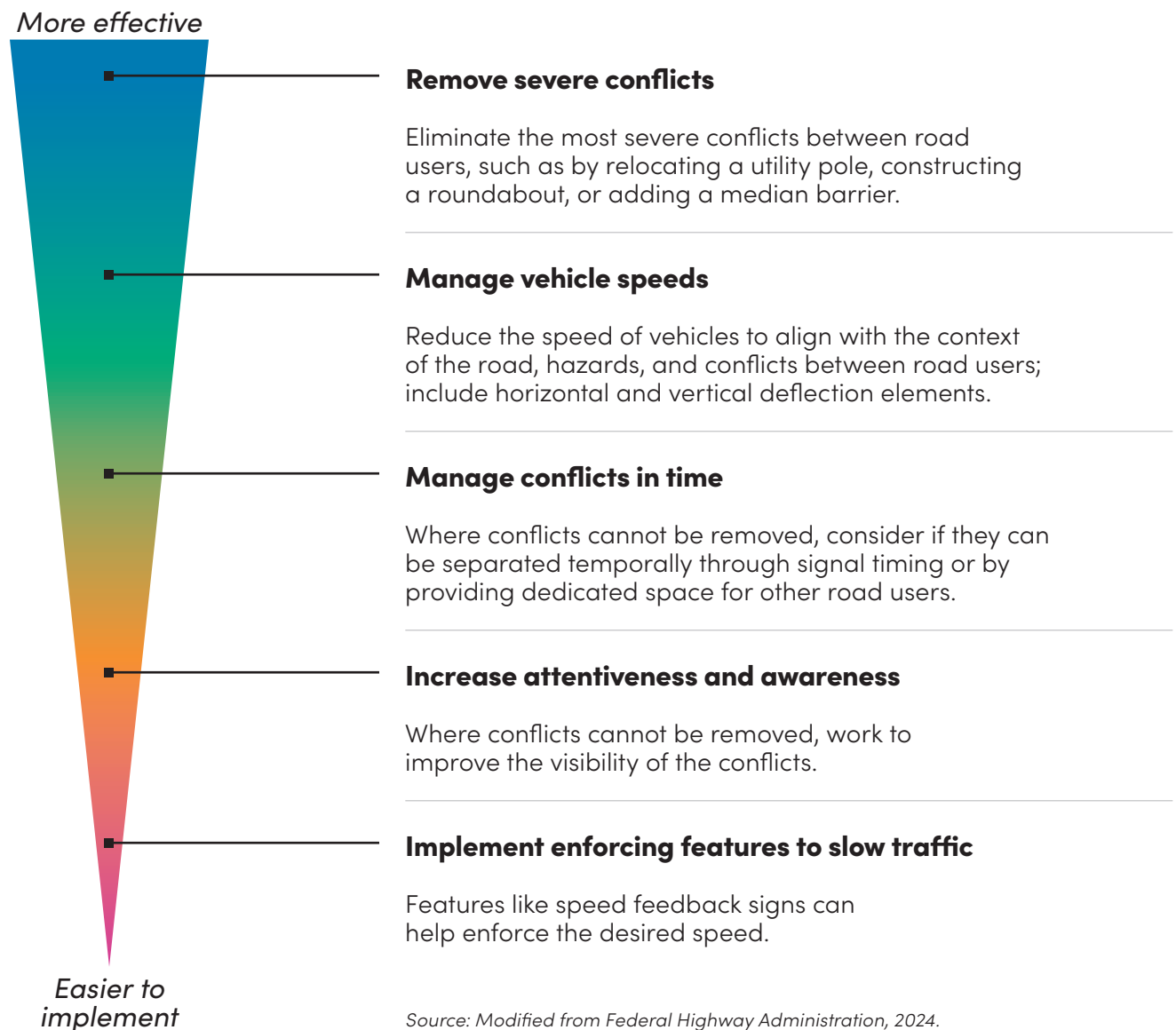
2.3 Safe System Approach Framework

Achieving a safe system requires the coordination of planning, design, operations, and law enforcement to anticipate human errors and proactively compensate for human vulnerabilities.

As shown in **Figure 3**, the SSA tiers roadway interventions broadly by their impact. While this hierarchy offers a general prioritization of safety projects, the SSA does not present a one-size-fits-all solution to roadway safety. Instead, the approach prioritizes context-sensitive design. Every site in a region's HIN will require a different combination of countermeasures depending on what the crash trends reveal at those locations.

The SSA treats safety as a systemic quality and requires regional partners to work together. As such, this Safety Action Plan is meant to work in tandem with MetroPlan Orlando's Regional Vision Zero Safety Action Plan and other concurrent safety efforts being undertaken by neighboring municipalities, Orange County, and the Florida Department of Transportation (FDOT).

Figure 3: FHWA Safe Systems Solutions Hierarchy



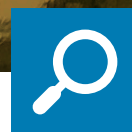


CHAPTER 3

Ocoee Vision Zero Statement and Plan Framework



Crosswalk at Bluford Avenue and McKey Street intersection



THIS CHAPTER
provides Ocoee's
Vision Zero Statement
and outlines its
Safety Action Plan.



City of Ocoee's Vision Zero Statement

The City of Ocoee is committed to implementing measures that lead to eliminating deaths and serious injuries caused by crashes by or before 2045 through a local and regional safety approach that is proactive, data-informed, and community-based. From 2018 to 2022, 12 fatalities (in 10 crashes) and 102 serious injuries (in 83 crashes) occurred in traffic crashes in the City. Implementing the projects and strategies identified in the **Safety Action Plan** will help achieve the vision of **safer, accessible, and convenient** travel in Ocoee for all road users, especially the most vulnerable road users.

3.1 Vision Zero Safety Action Plan Framework

The Safety Action Plan plays a key role in eliminating fatal and serious injury crashes. This section outlines the framework used to develop this Safety Action Plan. The framework consists of four key elements, the High Injury Network, Projects, Policy Changes, and Next Steps. Each of these elements are described in further detail below along with where these elements can be found within the Safety Action Plan.

1

Identify Ocoee's HIN, which is a network of roads having the highest incidence of death or serious injury crashes. Forty-one percent of the region's deaths between 2018 and 2022 occurred on 2 percent of the roads. In Ocoee, all of the City's traffic deaths between 2018-2022 occurred on 8 percent of the roads within the City. The HIN is discussed in further detail in **Chapter 4: Crash Analysis and Trends**.

2

Recommend policy changes that support design and maintenance of safe roadways. The recommended policy changes are discussed in further detail in **Chapter 6: Recommended Programs and Policy Updates**.

3

Prioritize feasible projects that have the greatest safety impacts. The prioritized projects are discussed in further detail in **Chapter 7: Recommended Safety Projects**.

4

Define next steps so the City may begin working with MetroPlan Orlando, the Florida Department of Transportation (FDOT), and Orange County to implement changes and monitor long-term progress towards roadway safety. Next steps are discussed in further detail in **Chapter 8: Monitoring and Implementation**.

The City of Ocoee Safety Action Plan is the result of a coordinated planning effort led by a City Staff Working Group and supported by MetroPlan Orlando and FDOT.

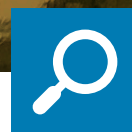


CHAPTER 4

Crash Analysis and Trends



Crosswalk at the Bluford Avenue and McKey Street intersection



THIS CHAPTER
describes the key
findings and trends
from the crash analysis.

In order to provide Ocoee’s residents, visitors, and businesses with improved roadway safety, this Safety Action Plan identifies the areas of the Ocoee roadway network that pose the greatest safety threats. This section identifies Ocoee’s crash data trends in order to identify the City’s **High Injury Network (HIN)**.

4.1 Who Is Involved in Crashes?

While anyone on the road is at risk of being involved in a crash, certain users in Ocoee are more at risk. For example, people walking and bicycling were involved in only **3 percent of all crashes but account for 22 percent of the serious injury crashes between 2018 and 2022. While there were no fatal bicycle crashes from 2018 to 2022, pedestrians were involved in 30 percent of fatal crashes.** This is shown in **Figure 4, Figure 5, and Figure 6**, which show the proportion of road users involved in all crashes, fatal crashes, and serious injury crashes. As shown in **Figure 5**, no bicycle or motorcycle fatal crashes occurred in the City from 2018 to 2022.

It should be noted the vehicle crashes include crashes with multiple vehicles (left turn, rear-end, etc.) and a single vehicle (run off road). The pedestrian, bicycle, and motorcycle crashes occurred exclusively between a vehicle and a pedestrian, bicycle, or motorcycle (there were no motorcycle-bicycle crashes, for example).

Figure 4: All Crashes within Ocoee by Travel Mode (2018-2022)

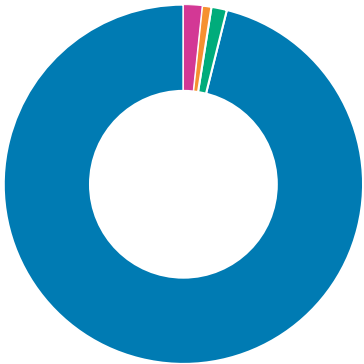
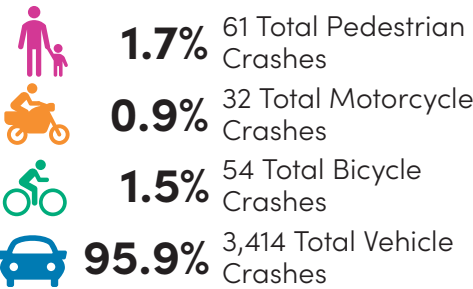


Figure 5: Fatal Crashes within Ocoee by Travel Mode (2018-2022)

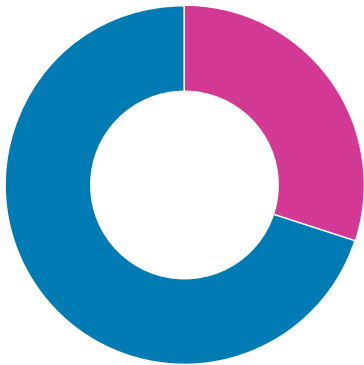
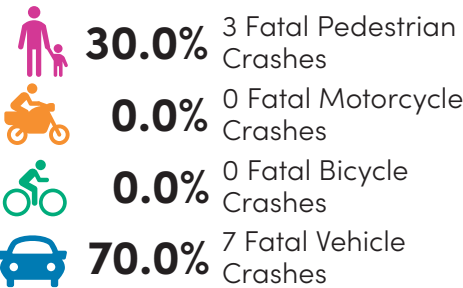
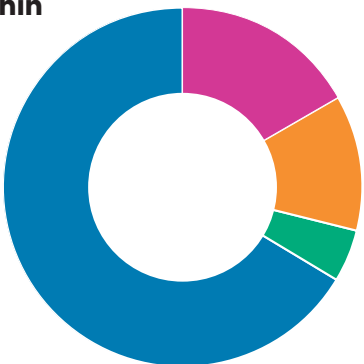
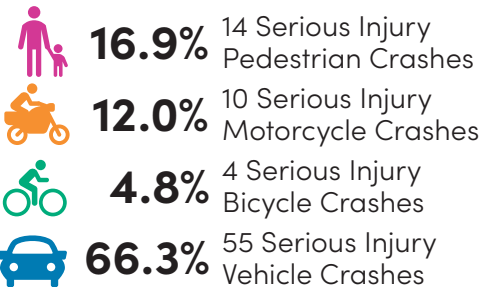


Figure 6: Severe Injury Crashes within Ocoee by Travel Mode (2018-2022)



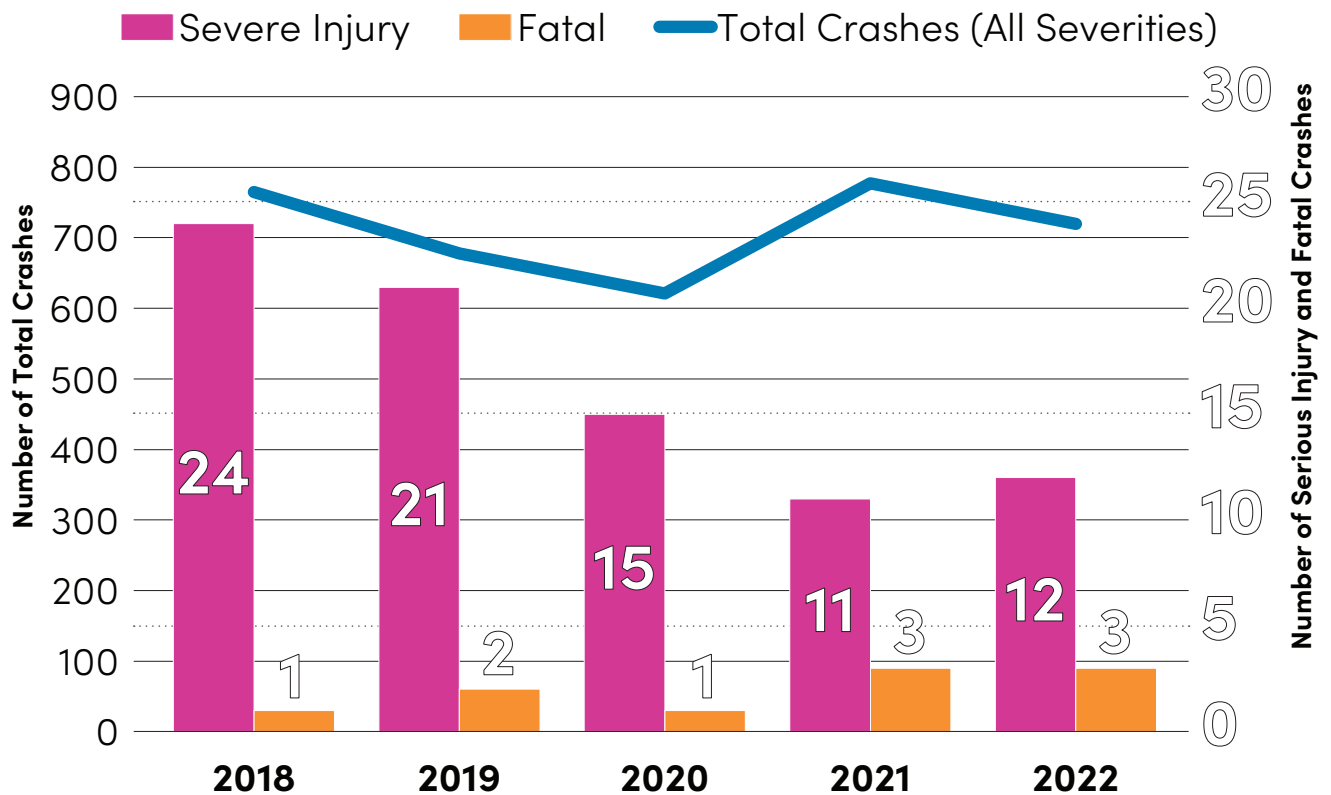


A “serious” or “severe injury” crash results in an incapacitating injury, such as burns, lacerations, spinal cord injuries, or broken bones that require hospitalization. These are frequently life-altering injuries that affect a person’s quality of life and capacity to do tasks—sometimes permanently.

1.6 crashes per month in Ocoee result in severe injuries or fatalities.

An overview of crashes by year and severity is shown in **Figure 7**. This figure identifies the total number of crashes, severe injury crashes, and fatal crashes. It is important to note that some of these crashes had multiple severe injuries or fatalities.

Figure 7: Crashes within Ocoee by Year and Severity



4.1.1 Focus on Transportation Underserved Communities

Every community has its unique transportation advantages and disadvantages based on factors, such as land use, road network characteristics (i.e. the presence of sidewalks and streetlights), and demographics. Transportation disadvantage occurs when people are underserved by the area transportation network and are unable to access the needs of their daily life regularly, reliably, and safely. To better understand the disadvantages, the US Department of Transportation (USDOT) developed the Equitable Transportation Community (ETC) Explorer which uses a set of criteria to identify transportation underserved communities. These criteria served as the basis of MetroPlan Orlando's Transportation for All: Overcoming Obstacle Report, which included five components or indicators of transportation disadvantage as summarized below:



Transportation Insecurity:

When people are unable to get to where they need to go to meet the needs of their daily life regularly, reliably, and safely.



Environmental Burden:

Natural or built environments making transportation challenging or burdensome, such as pollution, physical barriers (i.e. waterways, bridges, unsafe roadways), hazardous facility exposure, and the built environment.



Social Vulnerability:

Socioeconomic indicators such as lack of employment, under-employment, educational attainment, and poverty.



Health Vulnerability:

Increased frequency of health conditions that may result from exposure to air, noise, and water pollution, as well as lifestyle factors such as poor walkability, car dependency, and long commute times.



Climate and Disaster Risk Burden:

Impacts from sea level rise, changes in precipitation, extreme weather, and heat which pose risks to the transportation system. These hazards may affect system performance, safety, and reliability.

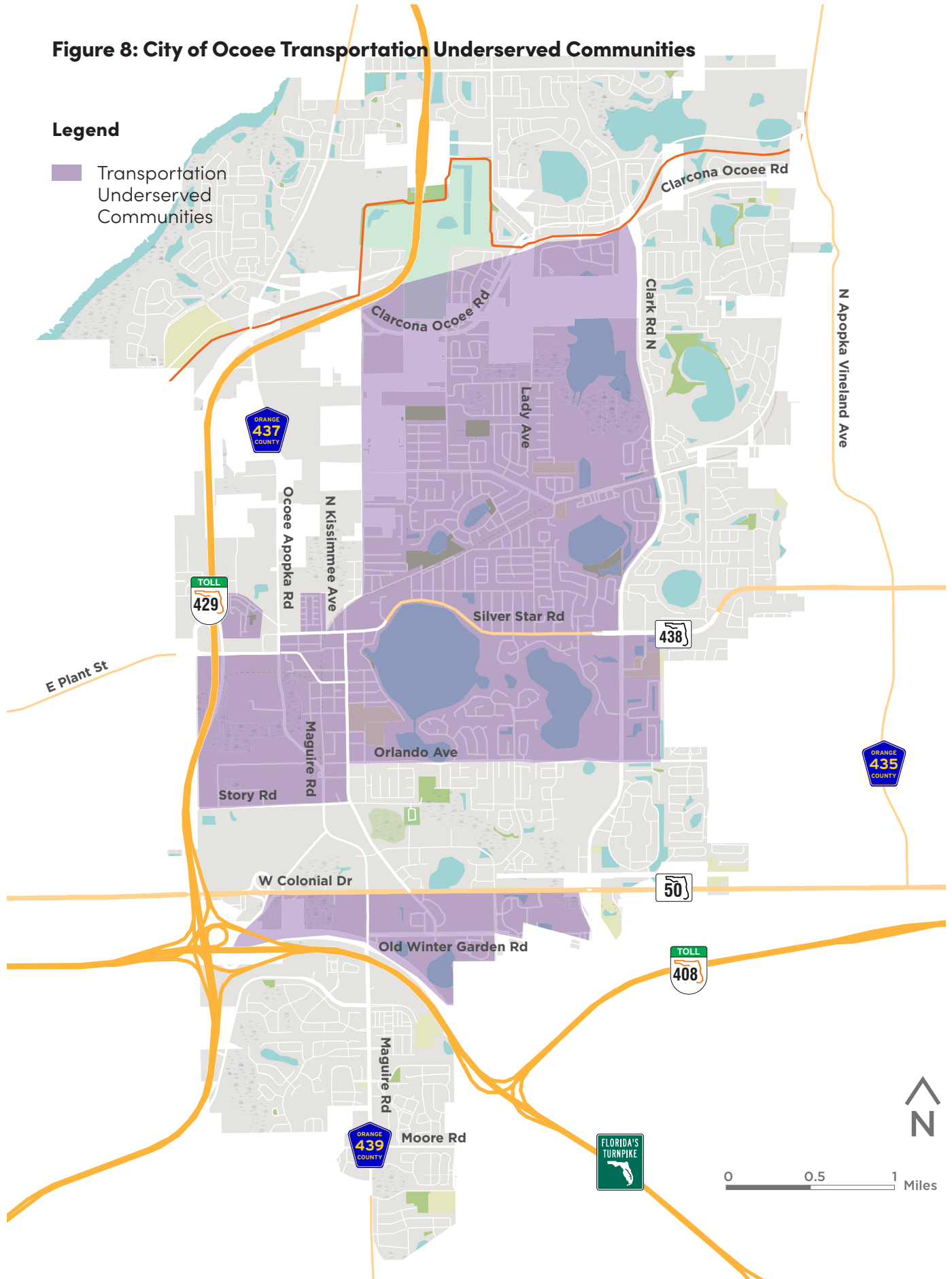


55%
of all crashes
and

70%
of fatal crashes
occur in or
adjacent to
transportation
underserved
communities

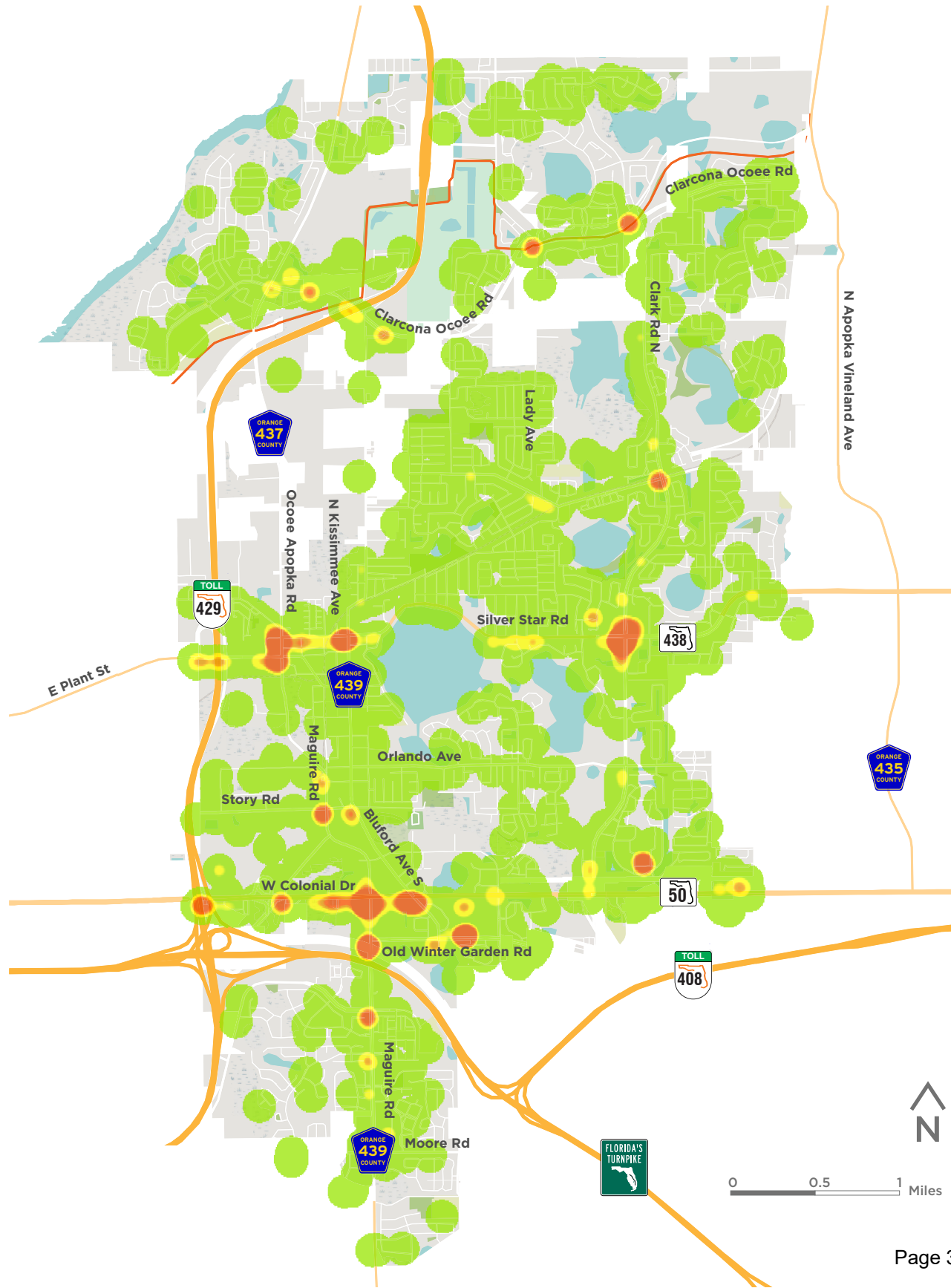
In Ocoee, 46 percent of the population lives in a community considered to be transportation underserved (as defined by USDOT) and 55 percent of all crashes and 70 percent of fatal crashes occur in or adjacent to transportation underserved communities. Many of these crashes involved a severe injury or fatality. As fatal and severe injury crashes disproportionately occur in transportation underserved communities, improvements in transportation underserved communities will be prioritized. The identified transportation underserved communities in the City of Ocoee are shown in [Figure 8](#).

Figure 8: City of Ocoee Transportation Underserved Communities



4.2 Where Are Crashes Happening?

Figure 9 is a heat map showing where crashes are occurring. On the map, red indicates a higher concentration of crashes where green indicates fewer crashes. Crash concentrations are most apparent on W. Colonial Road (S.R. 50) and Silver Star Road (SR 438), as well as the intersections of Clarke Road and Silver Star Road and Maguire Road and W. Colonial Road.



4.3 What Behaviors Are Contributing to the Crash Trends?

Based on the evaluation of 5-year crash data, it is likely that the following factors played a role in causing crashes in Ocoee:

Behavioral/Driver Factors

- Crashes involving **alcohol and drug use, distraction, aggression, speeding, and passengers not wearing seatbelts** are more likely to result in a fatality.

Contextual Factors

- Time of day and road conditions can affect crash severity. For example, **nighttime lighting** and **wet roadways** both can increase crash severity.
- Certain parts of the roadway are more dangerous, including near **intersections** and **when the vehicle leaves its lane**.

Regionally, fatal and severe injury crashes are most likely to occur on roads that have been designed to accommodate vehicle travel at 45 mph or above, that are also expected to serve pedestrians, bicyclists, and transit, all while providing direct and convenient access to a variety of destinations.

A breakdown of the contributing behavioral factors that resulted in fatal crash outcomes in Ocoee is shown below in [Table 1](#), similar results for contextual factors are shown in [Table 2](#). Some crashes may have multiple factors, so the total and fatal crash values shown in these tables may be different than shown in other tables and figures.

Table 1: Behaviors that Contributed to Crashes in Ocoee

BEHAVIOR	TOTAL NUMBER OF CRASHES	NUMBER OF FATAL CRASHES
Alcohol or drugs involved	137	6
Distraction	545	1
Aggressive driving	127	6
Speeding*	101	4
Not wearing a seatbelt	74	5

*Crashes involving speeding are based on the reporting officer's assessment of travel speed and are likely an under count of crashes with a direct correlation to speeding.

Table 2: Contexts that Contributed to Crashes in Ocoee

CONTEXT	TOTAL NUMBER OF CRASHES	NUMBER OF FATAL CRASHES
Nighttime	1,004	7
Wet Roadway	427	1
Intersection related	1,274	1
Lane departure	1,074	6

4.4 High Injury Network

Ocoee's High Injury Network (HIN), **Figure 10**, represents the corridors and intersections where a disproportionate number of fatal or serious injury crashes occur, with added emphasis on crashes involving people walking, bicycling, and motorcycling.

The HIN map provides a comprehensive set of locations for the City of Ocoee and partner jurisdictions to prioritize safety improvements and resources, on both local and county/state roadways, to achieve the greatest and most cost-efficient benefits. **Table 3**, **Table 4**, and **Figure 10** show the HIN on both local and State/County roadways. Details of how the HIN was calculated are provided in **Appendix C**. Notable local roadways on the HIN include Maguire Road, Bluford Avenue, and Old Winter Garden Road. Multiple State roadway segments of Colonial Drive and Silver Star Road are included in the HIN as well.

Table 5 shows the amount of total, serious injury, and fatal crashes that occurred on local roadways and County/State roadways within the City's boundaries between 2018 and 2022. There were more total and serious injury crashes on local roadways, but more fatal crashes on County and State roadways. **Table 6** shows the amount of total, serious injury, and fatal crashes that occurred on the HIN network (both local and County/State roadways) within the City's boundaries between 2018 and 2022. About half of the City's total (56 percent) and serious injury (54 percent) crashes occurred on the HIN network, while all of the fatal crashes occurred on the HIN network. The HIN only encompass 8 percent of the total roadway miles within the City's boundaries.

Table 3: High Injury Network Segments

ROADWAY	FROM	TO	HIN TYPE	LENGTH (MI.)
Winshire Blvd.	Grovesmere Lp.	Maguire Rd.	Local Road	0.09
Old Winter Garden Rd.	Bluford Ave.	W. of Walmart Dwy.	Local Road	0.19
Bluford Ave.	Old Winter Garden Rd.	SR 50	Local Road	0.30
Maguire Rd./Kissimmee Ave.	Marshal Farms Rd.	N. of Washington St.	Local Road	0.53
Story Rd.	SR 429	Bluford Ave.	Local Road	0.98
Kissimmee Ave.	Silver Star Rd.	Lee St.	Local Road	0.24
Christine Ave./Mack Ave.	Rewis St./Lakewood Ave.	Mack St./End	Local Road	0.21
Lady Ave./Maureen Ave.	Wurst Rd./Perce St.	Nicole Blvd./Mona Ave.	Local Road	0.87
Clarke Rd.	SR 50	Twinbranch Tr.	Local Road	4.29
Maguire Rd.	Publix Dwy.	Tomyn Blvd.	Local Road	0.76
Maguire Rd.	S. of Old Winter Garden Rd.	SR 50	Local Road	0.35
Colonial Dr.	W. of Maguire Rd.	E. of Bluford Ave.	County Road/ State Road	0.83
Silver Star Rd.	Maguire Rd.	Roberts Rise Dr.	County Road/ State Road	0.66
Silver Star Rd.	W. of 1st St.	Roddy Red Rd.	County Road/ State Road	1.43
Ocoee Apopka Rd.	Silver Star Rd.	Clarcona Ocoee Rd.	County Road/ State Road	2.11

Table 4: High Injury Network Intersections

INTERSECTION	HIN TYPE
Bluford Ave. & Rew Cir.	Local Road
Maguire Rd. & Marshall Farms Rd.	Local Road
Lakewood Ave. & Rewis St.	Local Road
Christine Ave. & Mack St.	Local Road
Jamela Dr. & Wurst Rd.	Local Road
Lady Ave. & Maureen Ave.	Local Road
Maguire Rd. & Old Winter Garden Rd.	Local Road
Bluford Ave. & Ohio St.	Local Road
Maguire Rd. & SR 50	County Road/State Road
Bluford Ave. & SR 50	County Road/State Road
Ocoee Apopka Rd. & Silver Star Rd.	County Road/State Road
Kissimmee Ave. & Silver Star Rd.	County Road/State Road
Cumberland Ave. & Silver Star Rd.	County Road/State Road
1st St. & Silver Star Rd.	County Road/State Road
3rd St. & Silver Star Rd.	County Road/State Road
Ocoee Hills Rd. & Silver Star Rd.	County Road/State Road
Clarke Rd. & Silver Star Rd.	County Road/State Road
Clarke Rd. & SR 50	County Road/State Road
Blackwood Ave. & SR 50	County Road/State Road

Table 5: Number of Crashes within City by Severity (2018–2022)

ENTIRE ROADWAY NETWORK BY JURISDICTION	NUMBER/PERCENTAGE OF TOTAL CRASHES	NUMBER/PERCENTAGE OF SERIOUS INJURY CRASHES	NUMBER/PERCENTAGE OF FATAL CRASHES
Local	2,091 (59%)	47 (57%)	4 (40%)
County Road/State Road	1,470 (41%)	36 (43%)	6 (60%)
Total	3,561 (100%)	83 (100%)	10 (100%)

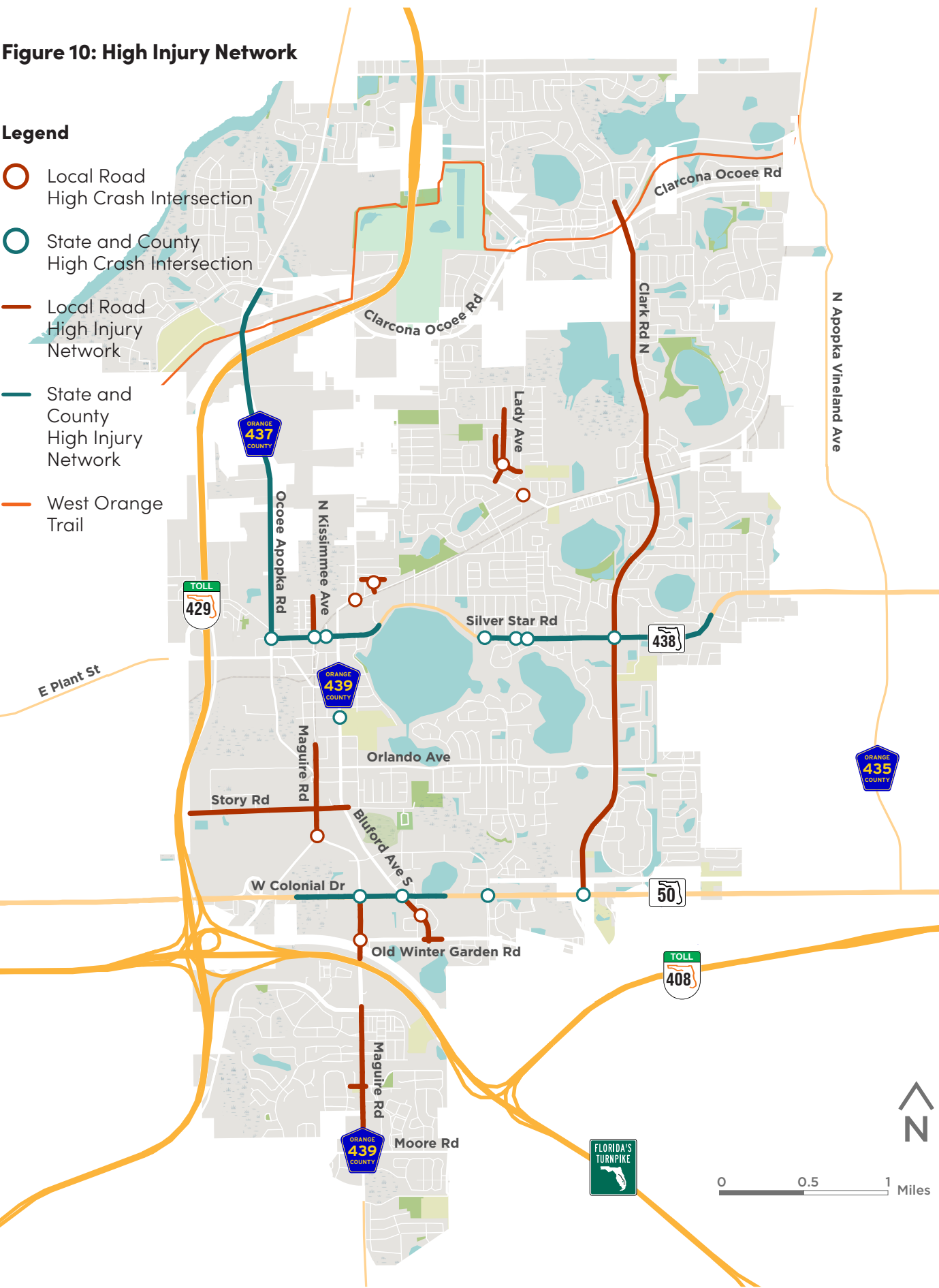
Table 6: Number Crashes on the HIN by Crash Severity (2018–2022)

HIN BY JURISDICTION	NUMBER/PERCENTAGE OF TOTAL CRASHES	NUMBER/PERCENTAGE OF SERIOUS INJURY CRASHES	NUMBER/PERCENTAGE OF FATAL CRASHES
Local	1,030 (30%)	21 (25%)	4 (40%)
County Road/State Road	935 (26%)	24 (29%)	6 (60%)
Total	2,005 (56%)	45 (54%)	10 (100%)

Figure 10: High Injury Network

Legend

- Local Road High Crash Intersection
- State and County High Crash Intersection
- Local Road High Injury Network
- State and County High Injury Network
- West Orange Trail



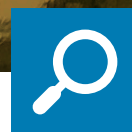


CHAPTER 5

Listening to the Community



Crosswalk at the Bluford Avenue and McKey Street intersection



THIS CHAPTER
focuses on specific
engagement activities
that were conducted
and how those
activities informed the
Safety Action Plan.

The City of Ocoee and MetroPlan Orlando reached out to stakeholders, residents, and visitors to gain a practical, real-life understanding of how the people who live, work, and visit the region and the City of Ocoee experience its roadways.

Local and regional stakeholder engagement gathered feedback from multiple sources to inform the development of the local and regional Safety Action Plans. Public feedback was collected using a range of in-person and online opportunities. This section describes the regional engagement conducted by MetroPlan Orlando and the local engagement conducted by the City of Ocoee.

5.1 MetroPlan Orlando’s Regional Engagement

The engagement strategies for the MetroPlan Orlando Regional Vision Zero Safety Action Plan complement strategies at the city level. Cumulatively, they spread awareness and engagement much more broadly than any single agency could. Further details on the regional engagement efforts are provided in [Appendix D](#).

5.1.1 Regional Task Force

A **Regional Vision Zero Task Force** provided feedback and strategic guidance throughout the preparation of the Regional Safety Action Plan and included people representing local agencies, the Florida Department of Transportation, public health officials, medical professionals, bicycling and pedestrian advocacy groups, and members of the public. The task force provided key feedback on the technical analysis, public engagement strategies, policy benchmarking, Safety Action Plan elements, and project prioritization criteria.

5.1.2 Regional Hub Site

To supplement regional information provided on the MetroPlan Orlando website, a Hub Space was developed to provide one centralized location for sharing of safety information. The site provides an overview of the Safety Action Plan process and purpose, and an interactive safety data dashboard where people can view the High Injury Network (HIN) and crash data by jurisdiction. The Hub also allows visitors to provide comments, testimony and identify specific locations of concern.

A restricted access portion of the site was developed where project materials, including crash data, can be downloaded for use by the City of Ocoee for development and updates to the City’s Safety Action Plan. The site is intended to live on beyond the preparation of this Safety Action Plan and serve as a clearinghouse for information and Vision Zero updates.

The site can be accessed at VisionZeroCFL.gov or by using the QR code in [Figure 11](#). The crash dashboard will be updated on an annual basis as part of regional progress monitoring.

Figure 11: Hub Site QR Code



5.1.3 Regional Public Feedback

Public feedback has been collected through the Hub resulting in over 650 comments from 350 people as of April 2024. Of the feedback received, the majority were from Orange County (84%), with Osceola County (7%) and Seminole County (9%) having lower response rates. Approximately 30 percent of the comments were made about transportation facilities within transportation underserved communities, slightly higher than the regional percentage of people who live in transportation underserved communities (25%).

Common themes that emerged from the feedback relate to **a need for improved infrastructure**, especially for people walking, bicycling, and taking transit, as well as, **a need for more education** directed at all road users to provide safe walking, bicycling and driving habits. In addition, there is **a need for more enforcement of egregious behaviors** that are prevalent throughout the region, including excessive speeding, people driving golf carts on sidewalks, and people using their phones.

There is a lack of road courtesy that contributes to the issue. With the wide center section, traffic from multiple directions frequently perform maneuvers to jump in front of vehicles or around vehicles that are having difficulty navigating the intersection.

– Orange County Resident

[Consider] adding speed bumps due to excessive traffic driving at high rates of speed.

– City of Ocoee Resident



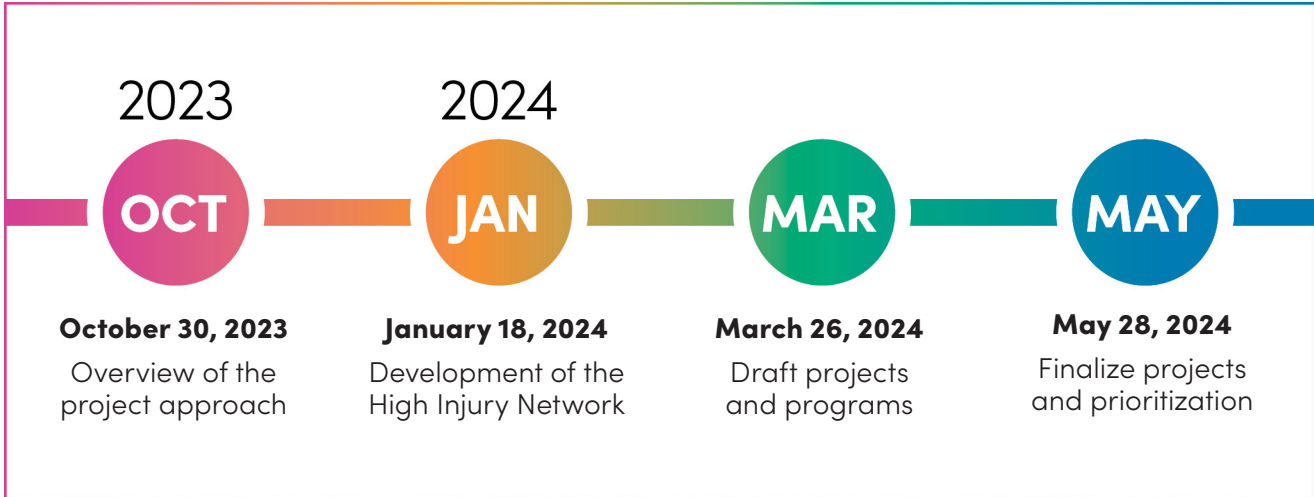
Public engagement at Ocoee Jolly Jamboree

5.2 City of Ocoee Local Engagement

The City of Ocoee conducted targeted public engagement efforts in coordination with MetroPlan Orlando’s regional efforts to bring awareness to local roadway safety issues and to learn about challenges the community is facing. The local engagement plan is provided in [Appendix E](#) and community engagement materials are provided in [Appendix F](#).

5.2.1 City of Ocoee Staff Working Group

The City of Ocoee developed a Working Group that led the planning effort for the City. It included representatives from Development Services, Public Works, Support Services, Fire, and Police departments. The Working Group met at key points in the development of the Ocoee Safety Action Plan to review the crash data analysis and identify safety projects. Meetings were held on the following dates.



Working Group meeting notes are provided in [Appendix G](#).

5.2.2 City of Ocoee Community Events

The City conducted outreach efforts at public events to inform the community about the planning process and solicit feedback about transportation safety concerns in each community. These were held on:

- December 9, 2023**
at the Jolly Jamboree
- April 27, 2024**
at the Ocoee Fire Department Open House

Boards of information presented at community engagement events are shown in [Figure 12](#).



Figure 12: Community Engagement Boards



Higher Speed Risks and Countermeasures

Speed Influences Drivers' Cone of Vision

40 MPH 30 MPH 20 MPH 15 MPH

Pedestrian's Risk of Death or Serious Injury

40 MPH 85% 30 MPH 45%

Countermeasures you would like to see

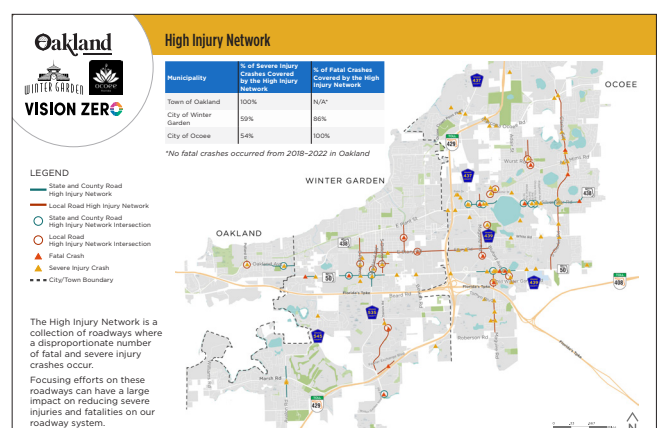
Vote for Intersection and Corridor Potential Countermeasures

Vote for Pedestrian/Bicycle Potential Countermeasures

The public was encouraged to vote on countermeasures they would like to see more of. The result of interactions with over 30 individuals led to the following countermeasures receiving the most votes:

- Roundabouts (6 votes)
- Add/widen sidewalk (5 votes)
- Separated bicycle lanes (4 votes)
- Pedestrian safety improvements (4 votes)
- Speed enforcement (4 votes)

The results of the public voting on countermeasures was taken into consideration when selecting countermeasures for project locations.



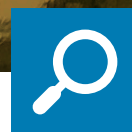
5.2.3 City of Ocoee Community Redevelopment Agency Board and City Commission Presentations

The City of Ocoee presented the Safety Action Plan's current progress to the Community Redevelopment Agency Board on December 5, 2023 and the City Commission on June 18, 2024. The City adopted a Vision Zero resolution on TBD, 2024. The resolution is included in [Appendix A](#).

Recommended Programs and Policy Updates

A horizontal bar with a rainbow gradient, transitioning from red on the left to blue on the right.

Crosswalk at the Bluford Avenue and McKey Street intersection



THIS CHAPTER
outlines the program
and policy review
and recommended
updates.

This section of the Safety Action Plan addresses non-engineering programs and policies geared toward improving road user behavior.

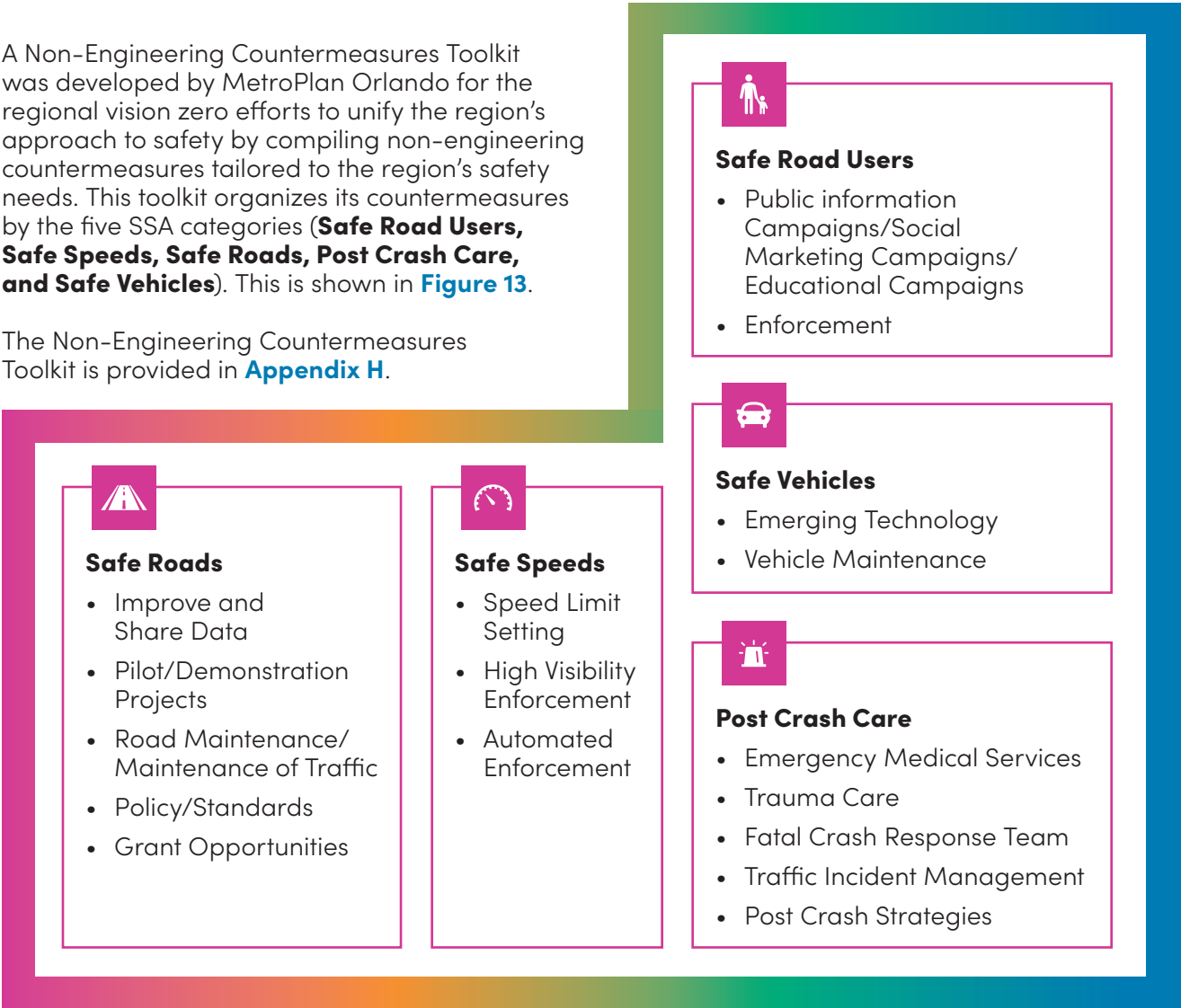
These **non-engineering countermeasures** include efforts like educational campaigns, high-visibility enforcement of driving speeds, and publicized sobriety checkpoints.

6.1 Non-Engineering Countermeasures Toolkit

A Non-Engineering Countermeasures Toolkit was developed by MetroPlan Orlando for the regional vision zero efforts to unify the region’s approach to safety by compiling non-engineering countermeasures tailored to the region’s safety needs. This toolkit organizes its countermeasures by the five SSA categories (**Safe Road Users, Safe Speeds, Safe Roads, Post Crash Care, and Safe Vehicles**). This is shown in **Figure 13**.

The Non-Engineering Countermeasures Toolkit is provided in **Appendix H**.

Figure 13: Organization of Non-Engineering Countermeasures Toolkit



6.2 Potential City Programs

Ocoee conducted a benchmarking evaluation, provided in the [Appendix I](#), and applied the Non-Engineering Countermeasure Toolkit to identify the following programs that could be pursued at the city level to reduce fatal and serious injury crashes:

Expand Road Safety Education for Young Children and Teens.

Work with schools and parent organizations to organize supervised walking and cycling groups (walking school bus and bicycle trains). This introduces children to the rules of the road in a safe environment, provides an opportunity for exercise and community building, and builds safety habits for walking and cycling at an early age. Work with high schools to promote teen safety programs such as the Teen Driver Challenge (www.flsheriffs.org/law-enforcement-programs/teen-driverchallenge), free and low cost behind the wheel training provided by the Florida Safety Council (<https://www.floridasafetycouncil.org/categories>), as well as resources that provide opportunities for local agencies and law enforcement to partner with schools to deliver educational campaigns to teach teens about the dangers of alcohol and driving, such as Every 15 Minutes, Sober Graduation, and DUI mock trials.

Speed Enforcement in School Zones.

The City is currently increasing enforcement in school zones, including the addition of cameras in select areas. Continue high visibility enforcement in school zones.

Progressive Ticketing. This is a method of introducing ticketing in three stages: education (to raise awareness), warning (to

give the public time to change behavior), and ticketing (to enforce the rules of the road after an education campaign has been introduced).

Develop a Quick-build Program.

Quick builds are flexible, temporary projects that let people test drive infrastructure changes that could create safer, more livable public spaces. The City could develop a program that outlines the appropriate location for quick builds, materials to use, public engagement to use, and before/after analysis to conduct to learn from the quick build and move towards a permanent investment in safety.

Develop Target Speed Policy Based on Context and Crash History.

Target speed is the operating speed that designers intend for drivers to use. Target speeds based on the setting of the street, such as a neighborhood, commercial area, or industrial area, promote driving behavior that improves safety and comfort for all roadway users.

Develop and Fund a Traffic Calming Plan.

A traffic calming plan consists of physical measures aimed at creating safe streets, by slowing drivers down, reducing frequency and severity of collisions, reducing the need for police enforcement, and increasing access to different modes of transport. A traffic calming plan may define the types

of traffic calming measures, such as design criteria and materials and physical speed tables, for specific road types. The plan may also include the process by which residents or business owners request traffic calming measures along a specific roadway and their funding strategies.

Safe Routes to School (SRTS) Plan.

SRTS programs aim to make it safer for students to walk and bike to school and encourage more walking and biking by funding projects that remove the barriers currently preventing them from doing so. Those barriers include a lack of infrastructure, unsafe infrastructure, a lack of programs that promote walking and bicycling, and lack of education/encouragement programs geared to children, parents, and the community. Projects can include hands-on experiences or literature on education, enforcement, engineering encouragement, and evaluation.

The City will consider further non-engineering countermeasures as part of its Comprehensive Plan update, as well as during annual updates to this Safety Action Plan.

6.3 Potential City Policies

The City conducted a Policy Benchmark Review to identify potential issues and provide content for current City policy updates. The policy review included the following documents:

- Comprehensive Plan (2002), Transportation Element
- Article 3, Design Standards, 3.02 Streets and Other Pavements
- City of Ocoee Trails Master Plan
- Healthy West Orange Trails Initiative
- SR 50/UCF Connector Alternatives Analysis
- Downtown Ocoee Master Plan (2016)

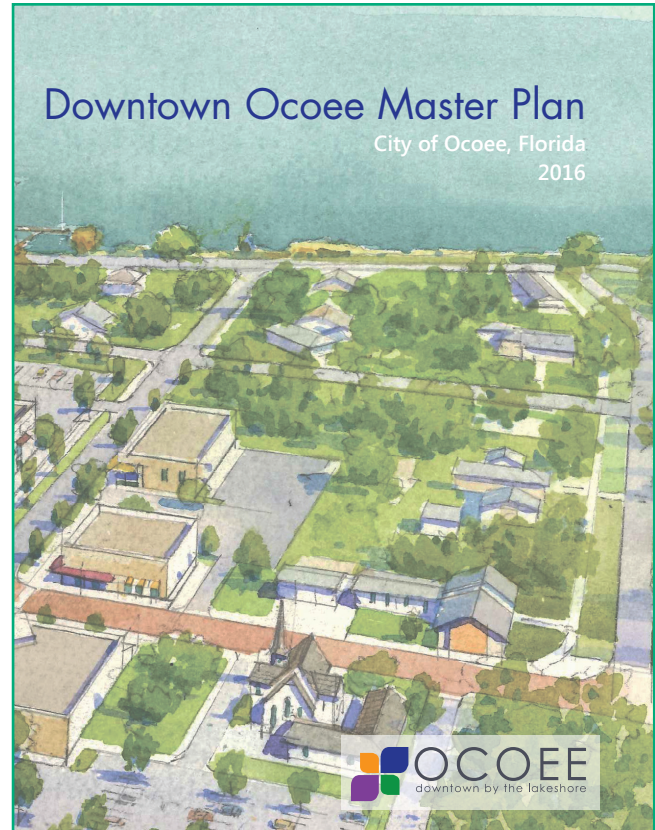
The policy review is timely as the City is beginning efforts to update the City's Comprehensive Plan and the Land Development Code.



Healthy West Orange Trails Initiative



SR 50/UCF Connector Alternatives Analysis



Downtown Ocoee Master Plan (2016)

The Policy Benchmark Review led to the identification of a number of a policy recommendations that could be incorporated into the upcoming regulatory updates or adopted as a separate effort to reduce fatal and severe injury crashes. Recommendations include:

Updates to the 2002 Comprehensive Plan

- Consider including other best practice elements such as the Public Right-of-Way Accessibility Guidelines (PROWAG), Americans with Disability Act (ADA), AASHTO Roadside Design Guides, NACTO Urban Street Design Guide, NACTO Urban Bikeway Design Guide, NACTO Don't Give Up at the Intersections.
- Consider adopting specific language for multimodal performance measure targets such as Quality of Service standards or Level of Traffic Stress.
- Consider including a policy to implement a traffic calming plan on local and collector streets.
- Consider adopting context classification system for local roads.
- Consider policy supporting the adoption of a complete streets policy and Vision Zero policy.
- Consider adding a Complete Streets goal of serving all users to the goals and objectives of the Transportation Element.
- Consider incorporating the local roadways identified in the High Injury Network under safety enhancements.
- Consider adopting a policy to monitor vehicular crashes in the City.
- Consider including bicycle parking standards or recommendations.
- In addition to Policy 3.1.2, consider monitoring speeding on local and collector roadways.
- Consider updating Policy 3.2.3 to require sidewalks on both sides of the road on all roadways, with sidewalks meeting PROWAG standards.

Engineering Design Standards Updates

- Consider including other best practices including: PROWAG, ADA, AASHTO Roadside Design Guides, NACTO Urban Street Design Guide, NACTO Urban Bikeway Design Guide, NACTO Don't Give Up at the Intersections.
- Consider aligning horizontal alignments minimum design with context classification.
- Consider a minimum design speed of 25 mph or 30 mph in the Downtown Code Overlay
- Consider reducing minimum radii at intersections based on NACTO guidance or the draft 2015 FDOT Freight Roadway Design Considerations.
- Consider including speed management tools appropriate by context classification.
- Consider including streetscape criteria.

Land Development Codes

- Consider reducing pavement widths in section 6-3.C.
- Consider increasing sidewalk widths in section 6-3.H to align with PROWAG standards.
- Consider including criteria for landscape/streetscape space between curb and sidewalk.
- Consider including criteria or recommendations for on-street parking.

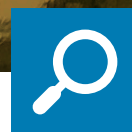


CHAPTER 7

Recommended Safety Projects



Crosswalk at Bluford Avenue and McKey Street intersection



THIS CHAPTER
describes the
engineering projects
identified for
implementation.

7.1 MetroPlan Orlando's Engineering Countermeasures Toolkit

The purpose of MetroPlan Orlando's Engineering Countermeasure Toolkit is to establish a shared understanding of key strategies available to address roadway safety issues that align with the SS4A strategy. The Toolkit is provided in [Appendix J](#). The key objectives of the Engineering Countermeasure Toolkit are to:

1

Inform partner jurisdictions about safety treatment options and their appropriate uses and contexts,

2

Communicate safety tools using easy-to-understand language and graphics,

3

Facilitate coordination between staff, contractors, developers, and the community when discussing transportation safety improvements, and

4

Create a shared understanding and realistic expectations around safety treatments.

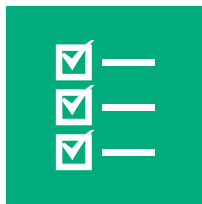


7.2 MetroPlan Orlando's Project Development Process

Following MetroPlan Orlando's project development process, the City Working Group used the Engineering Countermeasure Toolkit to identify specific countermeasures for high crash segments and intersections within the City of Ocoee. To summarize, the Working Group:



Analyzed HIN Segments/Intersections: A detailed analysis was conducted, including crash summaries, and other contextual information. Prevailing crash types were summarized, and crash locations were mapped. Additional contextual information was gathered, such as the number of travel lanes, location of signalized intersections, locations of bus stops, posted speeds, and the context classification or functional classification.



Identified Planned Improvements:

For each roadway segment/intersection included in the countermeasure selection process, planned projects (if any) along the segment were identified.



Identified Potential Countermeasures: For each segment corridor, potential countermeasures were identified using input from the City's Working Group, the Engineering Countermeasures Toolkit, FDOT, and Federal Highway Administration (FHWA) guidelines, as well as professional judgment. An opinion of probable cost was developed for each project.



Prioritized Projects: Based on the prioritization criteria, projects were prioritized for implementation and other purposes, such as grant applications.

7.3 Projects

Ten (10) projects were developed as part of Ocoee's Safety Action Plan. [Figure 14](#) provides a map of the segment and intersection projects. Project details are described in [Figure 15](#) through [Figure 24](#). Cost details are summarized in [Table 7](#) and provided in [Appendix K](#). For each project, the following is provided:

- Focus crash type
- Map of corridor
- Identification of potential countermeasures
- Project prioritization score and ranking
- Opinion of probable cost

Figure 14: Proposed Safety Projects

Legend

- County and State Road Intersection Projects
- Local Intersection Projects
- County and State Road Corridor Projects
- Local Corridor Projects
- West Orange Trail



Figure 15: Silver Star and Clarke Road

Silver Star Road & Clarke Road

Total crashes: 203. Crash Focus: 59 left turn (2 Serious Injury) crashes, 2 bike/5 pedestrian (2 Serious Injury) crashes.

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	1.00	1.00	1.00	1.00	1.00
Weighted Score	0.50	0.15	0.15	0.10	0.10
Total Score / Rank	1.00 / Tied for 1 st				
Opinion of Probable Cost	\$1,745,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:



Protected Left Turns



Retroreflective Signal Backplates



Review Yellow Time



Extend All Red Phase



Leading Pedestrian Interval



High Visibility Crosswalk

Mid-Term Countermeasures:



Protected Intersection



Curb Extensions

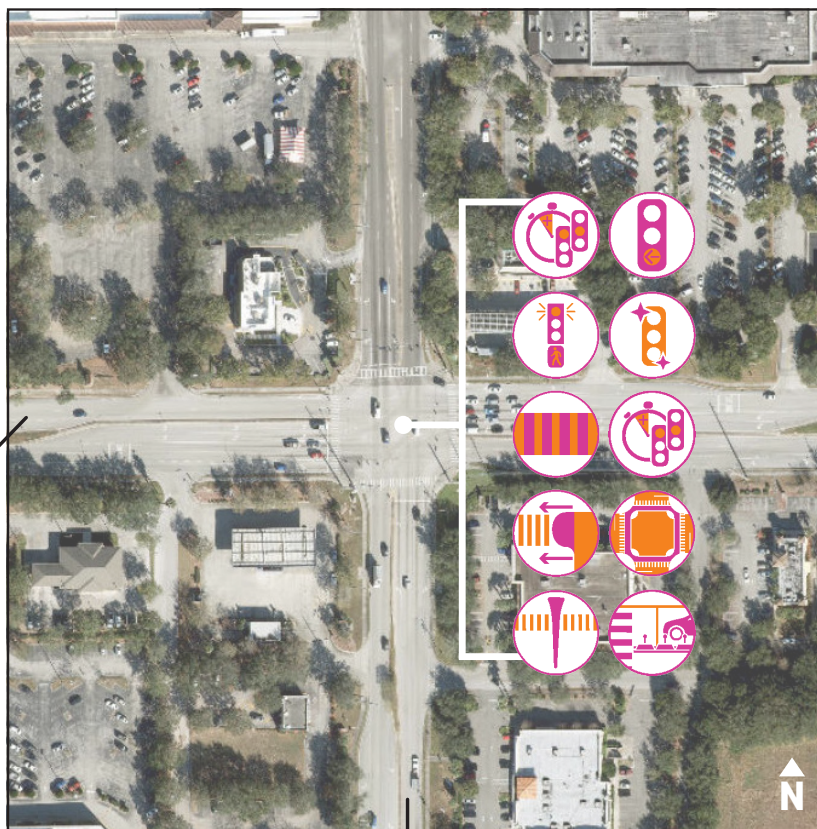


Hardened Median Nose Extension



Centerline Hardening

Silver Star Road



Clarke Road

Figure 16: SR 50 and Maguire Road

S.R. 50 & Maguire Road

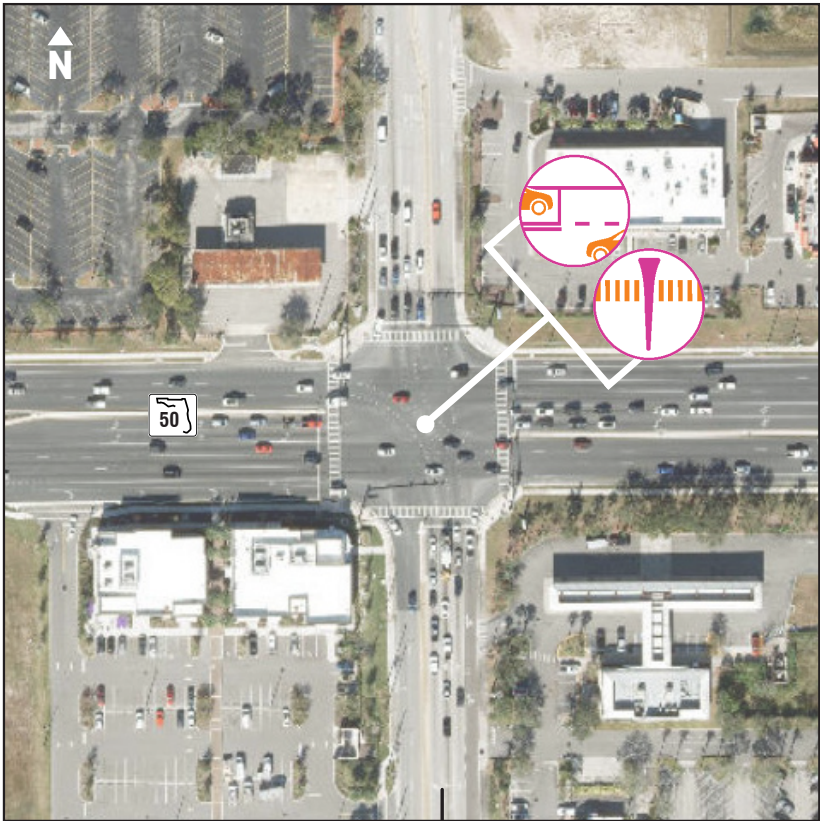
Total crashes: 426 Crash Focus: 37 sideswipe crashes.
This project is within the Community Redevelopment Agency boundary.

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	1.00	1.00	1.00	1.00	1.00
Weighted Score	0.50	0.15	0.15	0.10	0.10
Total Score / Rank	1.00 / Tied for 1 st				
Opinion of Probable Cost	\$64,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:

-  Striping Through Intersection
-  Hardened Median Nose Extension



Maguire Rd.

Figure 17: SR 50 and Blackwood Avenue

S.R. 50 & Blackwood Avenue

Total crashes: 231. Crash Focus: 1 Fatal/8 Serious Injury crashes.

This project is within the Community Redevelopment Agency boundary

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	1.00	1.00	1.00	1.00	1.00
Weighted Score	0.50	0.15	0.15	0.10	0.10
Total Score / Rank	1.00 / Tied for 1 st				
Opinion of Probable Cost	\$13,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:



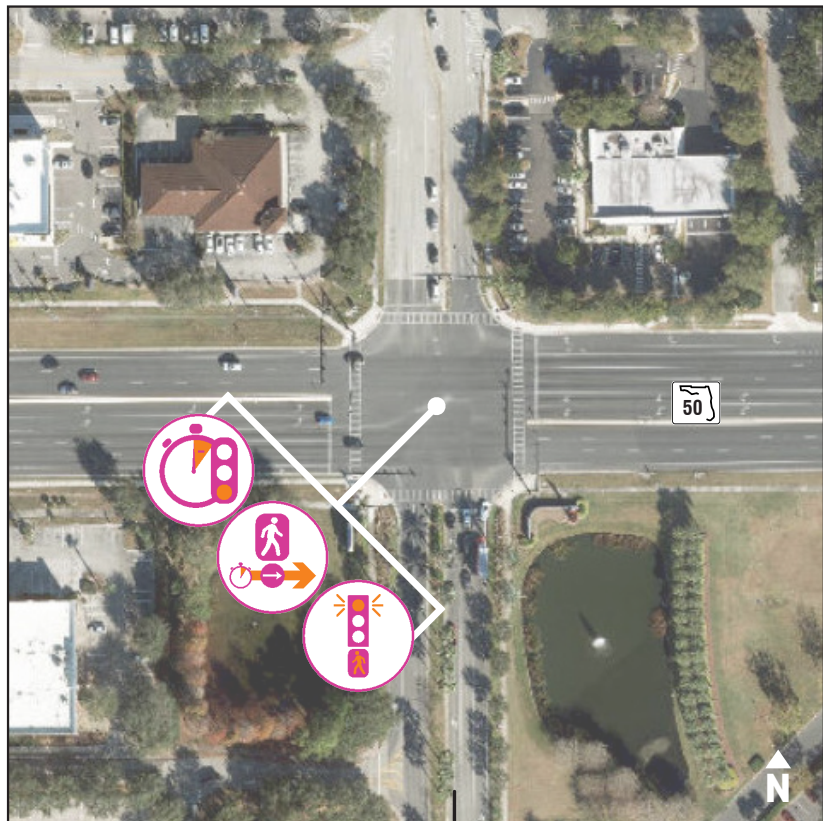
Rest on Walk/
Pedestrian Recall



Shorter Cycle
Length



Leading Pedestrian
Interval



Blackwood Ave.

Figure 18: SR 50 and Clarke Road

S.R. 50 & Clark Road

Total crashes: 174. Crash Focus: 3 Fatal/5 Serious Injury crashes.

This project is within the Community Redevelopment Agency boundary

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	1.00	1.00	1.00	1.00	1.00
Weighted Score	0.50	0.15	0.15	0.10	0.10
Total Score / Rank	1.00 / Tied for 1 st				
Opinion of Probable Cost	\$13,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:



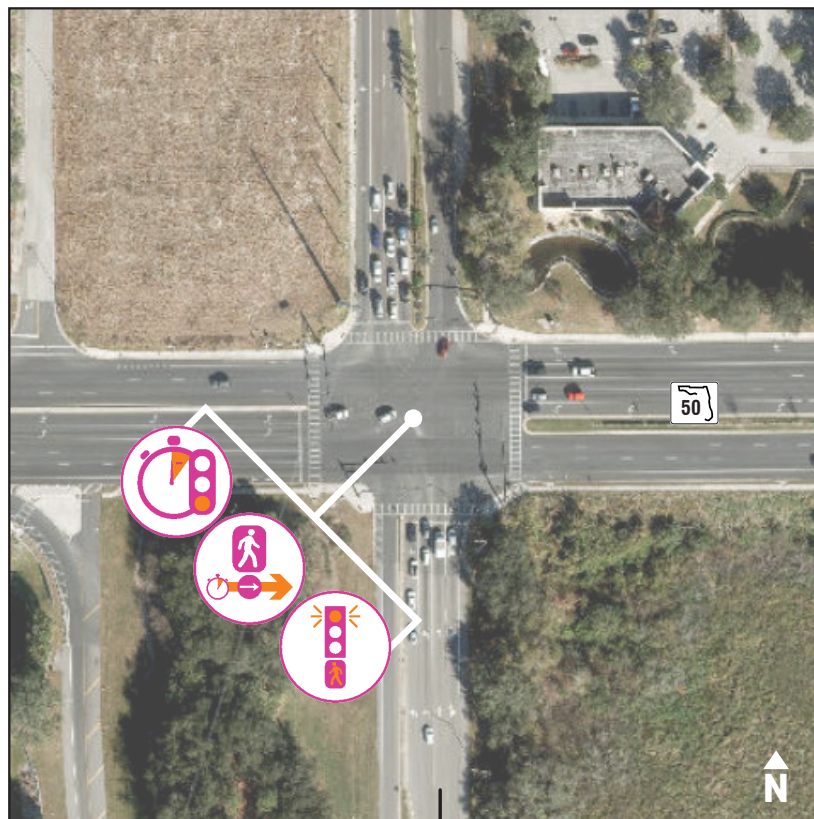
Rest on Walk/
Pedestrian Recall



Shorter Cycle
Length



Leading Pedestrian
Interval



Clarke Rd.

Figure 19: Maguire Road and Old Winter Garden Road

Maguire Road & Old Winter Garden Road

Total crashes: 85. Crash Focus: 1 Fatal/3 Serious Injury crashes.

City Project

Project Prioritization	Safety Score	Underserved Communities	Safety Benfit	HIN	Implementation
Initial Score	1.00	1.00	1.00	0.50	1.00
Weighted Score	0.50	0.15	0.15	0.05	0.10
Total Score / Rank	0.95 / 5 th				
Opinion of Probable Cost	\$16,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:



Upgrade to Larger
Warning Sign



Retroflective Signal
Backplates



High Visibility
Crosswalk

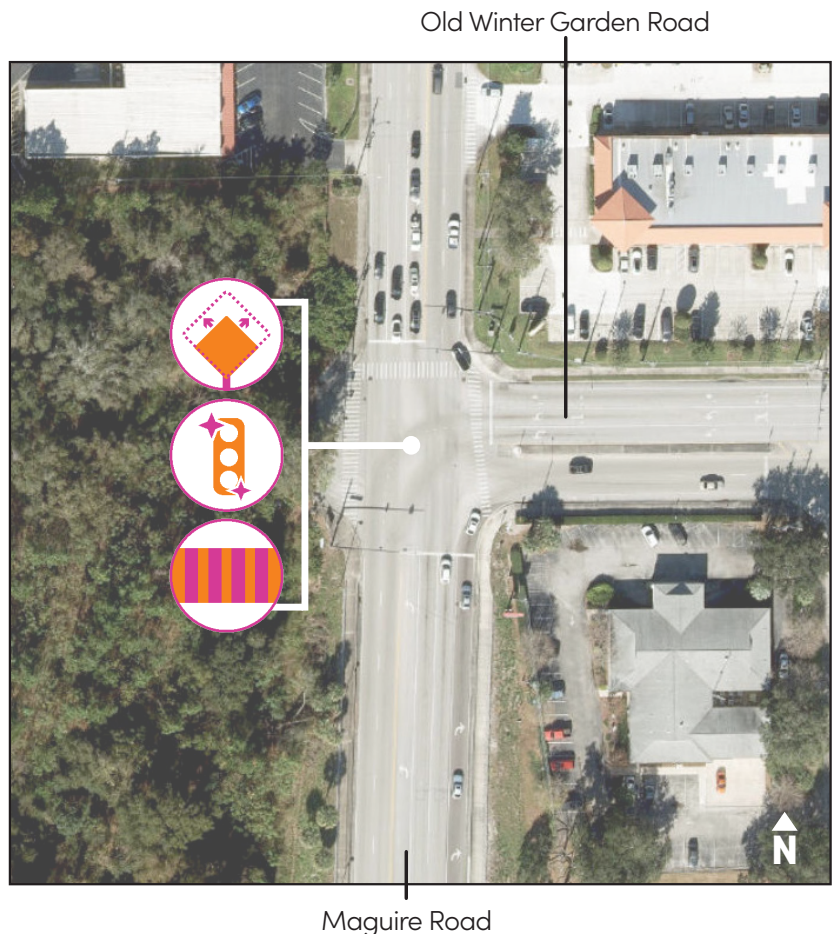


Figure 20: SR 50 from SR 429 to Good Homes Road

S.R. 50 from S.R. 429 to Good Homes Road (Short Term)

Total crashes: 1380. Crash Focus: 15 Serious Injury/Fatal crashes.

This project is within the Community Redevelopment Agency boundary

Project Prioritization	Safety Score	Underserved Communities	Safety Benfit	HIN	Implementation
Initial Score	0.75	1.00	1.00	1.00	1.00
Weighted Score	0.38	0.15	0.15	0.10	0.10
Total Score / Rank	0.88 / 6 th				
Opinion of Probable Cost	\$10,923,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

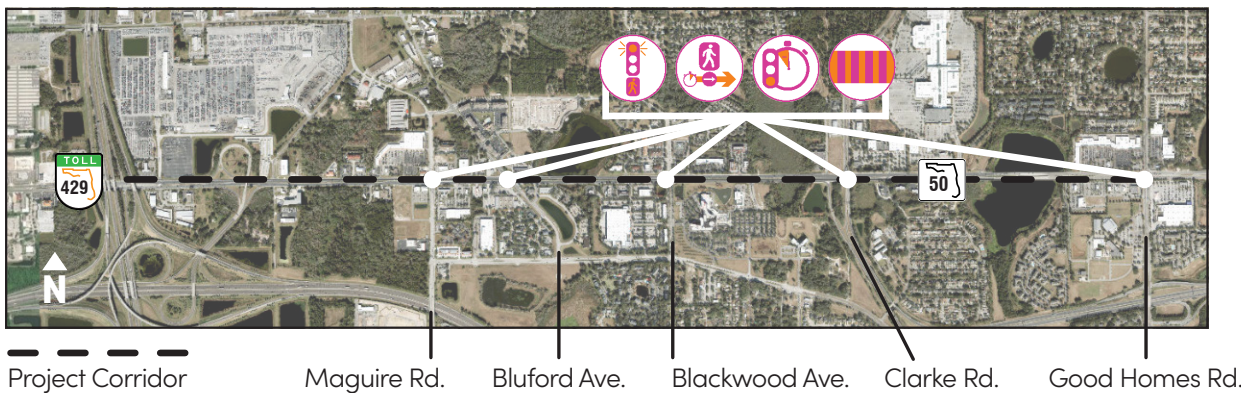
Short-Term Countermeasures:

 Rest on Walk/
Pedestrian Recall

 Shorter
Cycle Length

 Leading Pedestrian
Interval

 High Visibility
Crosswalk



S.R. 50 from S.R. 429 to Good Homes Road (Mid-Long Term)

Total crashes: 1380. Crash Focus: 15 Serious Injury/Fatal crashes.

This project is within the Community Redevelopment Agency boundary

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	0.75	1.00	1.00	1.00	1.00
Weighted Score	0.38	0.15	0.15	0.10	0.10
Total Score / Rank	0.88 / 6 th				
Opinion of Probable Cost	\$10,923,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Mid-Term Countermeasures:



Two-Stage Turn
Queue Bicycle Boxes



Intersection
Lighting



Widen
Sidewalk



Midblock
Crossing Study

Long-Term Countermeasures:



Protected
Intersection



Separated
Bicycle Lanes

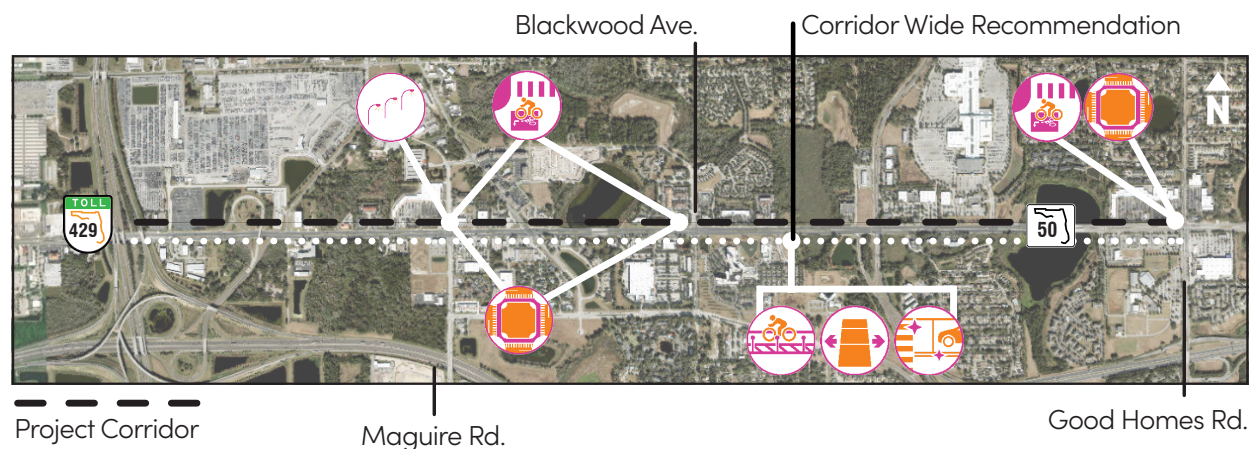


Figure 21: Silver Star Road from Ocoee Apopka Road to Coventry Lane

Silver Star Road
from Ocoee Apopka Road to Coventry Lane

Total crashes: 556. Crash Focus: 21 Serious Injury/Fatal crashes.

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	0.50	1.00	1.00	1.00	1.00
Weighted Score	0.25	0.15	0.15	0.10	0.10
Total Score / Rank	0.75 / 7 th				
Opinion of Probable Cost	\$5,305,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:

 Chevron Signs

 Speed Feedback Sign

 Leading Pedestrian Interval

 High Visibility Crosswalk

Mid-Term Countermeasures:

 High Friction Surface Treatment

 Two-Stage Turn Queue Bicycle Box

 Add Sidewalk

Long-Term Countermeasures:

 Raised Intersection

 Shared Use Path



Figure 22: Lady Avenue/Maureen Avenue from Wurst Road/Perce Street to Nicole Boulevard/Mona Avenue

Lady Avenue/Maureen Avenue from Wurst Road/Perce Street to Nicole Boulevard/ Mona Avenue

Total crashes: 19. Crash Focus: 1 Serious Injury/Fatal crash.
City project

Project Prioritization	Safety Score	Underserved Communities	Safety Benefit	HIN	Implementation
Initial Score	0.25	1.00	1.00	0.50	1.00
Weighted Score	0.13	0.15	0.15	0.05	0.10
Total Score / Rank	0.58 / Tied for 8 th				
Opinion of Probable Cost	\$122,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:



LED-Enhanced sign



Upgrade to Larger Warning Signs

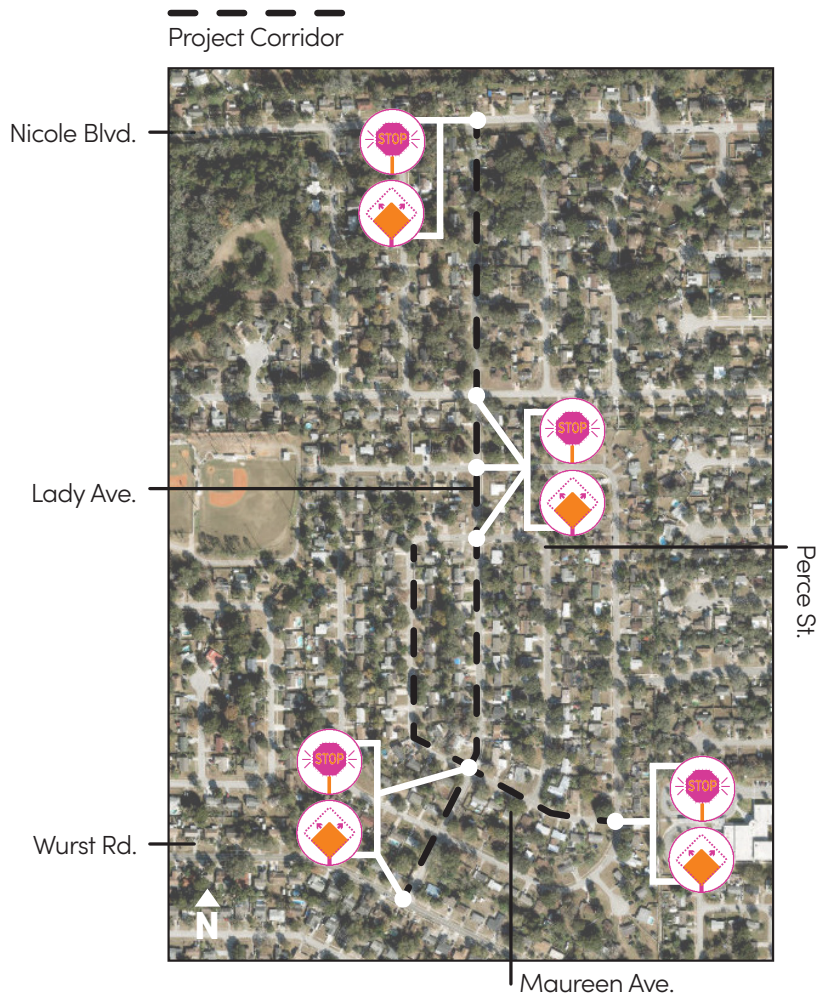


Figure 23: Bluford Avenue from Old Winter Garden Road to SR 50

**Bluford Avenue
from Old Winter Garden Road to S.R. 50**

Total crashes: 154. Crash Focus: 2 Serious Injury/Fatal crashes.
City Project

Project Prioritization	Safety Score	Underserved Communities	Safety Benfit	HIN	Implementation
Initial Score	0.25	1.00	1.00	0.50	1.00
Weighted Score	0.13	0.15	0.15	0.05	0.10
Total Score / Rank	0.58 / Tied for 8 th				
Opinion of Probable Cost	\$20,000*				

*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:

-  Chevron Signs on Horizontal Curves
-  Retroreflective Signal Backplates
-  Protected Left Turns

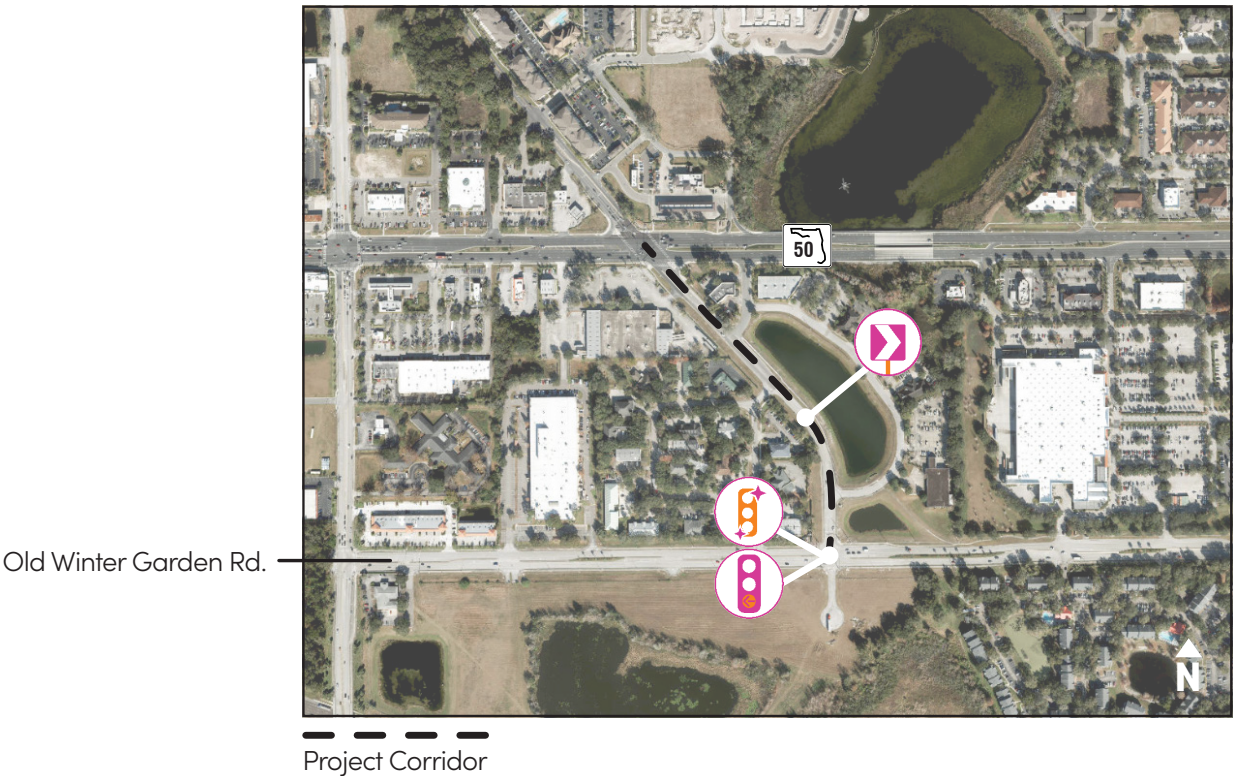


Figure 24: Ocoee Apopka Road from Silver Star Road to north of Bridlewood Drive

**Ocoee Apopka Road
from Silver Star Rd. to N. of Bridlewood Dr.**

Total crashes: 356. Crash Focus: 9 Serious Injury/Fatal crash.

Project Prioritization	Safety Score	Underserved Communities	Safety Benfit	HIN	Implementation
Initial Score	0.25	0.00	1.00	0.50	1.00
Weighted Score	0.13	0.00	0.15	0.05	0.10
Total Score / Rank	0.43 / 10 th				
Opinion of Probable Cost	\$4,775,000*				

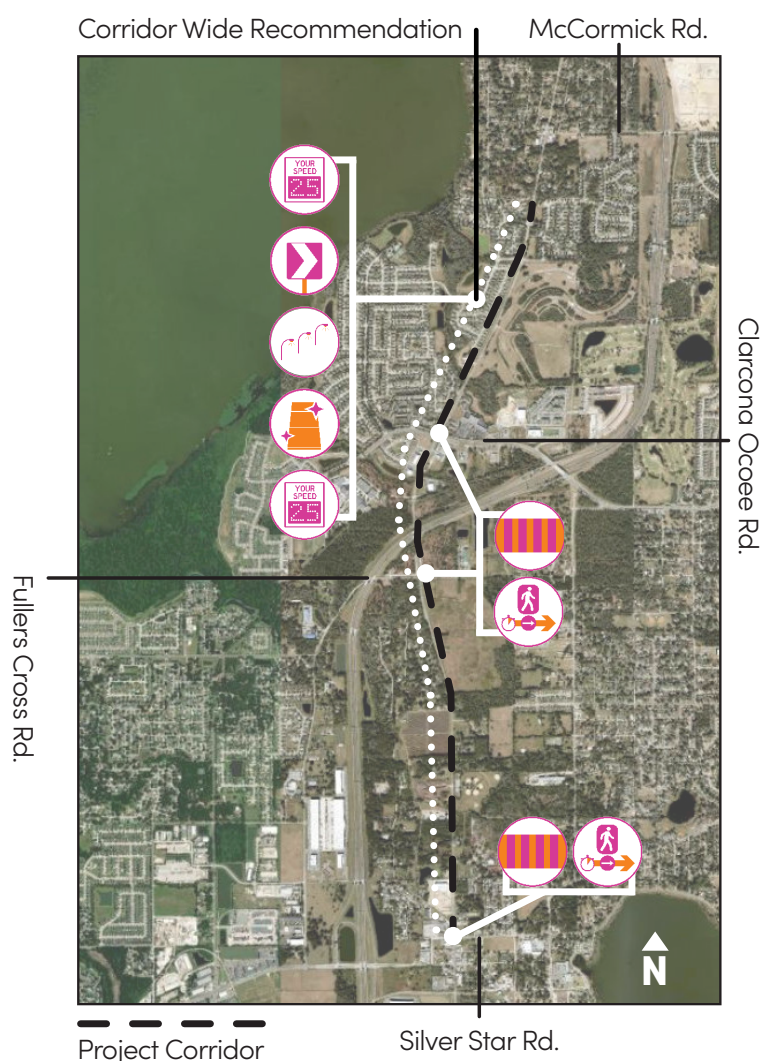
*Planning level estimate. Includes 20% CEI and 30% contingency. Does not include ROW, drainage, or utility impacts.

Short-Term Countermeasures:

- Leading Pedestrian Interval
- Chevron Signs
- High Visibility Crosswalk
- Speed Feedback Sign

Long-Term Countermeasures:

- Widen Sidewalk
 - Lighting



7.4 Project Prioritization Process

Project prioritization criteria were developed based on the goals identified by MetroPlan Orlando and in this Safety Action Plan. For details on how these criteria were developed, see [Appendix L](#).

The criteria help identify projects that could be included in a regional or local SS4A grant application or another safety-focused grant program. High-priority safety improvements identified through this process may also be added to the 2050 Metropolitan Transportation Plan (MTP) or incorporated into an already planned project in the Prioritized Project List (PPL) or Transportation Improvement Plan (TIP). The City of Ocoee can use these criteria or a modified version for its own project prioritization process.

Key prioritization criteria include:

50% Safety History	15% Transportation Underserved	15% Safety Benefit	10% Regional Benefit	10% Timeline
Safety History (50%) – Based on the safety score calculated for each corridor and intersection, this criterion prioritizes projects where the most fatal and severe injury crashes occur.	Transportation Underserved (15%) – This criterion considers where people might be disproportionately affected by traffic crashes and benefit the most from transportation safety improvements.	Safety Benefit (15%) – This considers the potential safety benefit of identified improvements.		
			Regional Benefit (10%) – If a project is on multiple high injury networks, it is likely to have a regional benefit.	Implementation Timeline (10%) – Projects start saving lives when they are implemented, so projects that can be implemented quickly are prioritized.

Table 7 ranks the identified projects using the developed project prioritization criteria. **Table 7** also includes an opinion on probable cost. Cost details are provided in **Appendix K**.

Table 7: Proposed Safety Projects

RANK	PROJECT	SCORE	OPINION OF PROBABLE COST
1	Silver Star Road & Clarke Rd. (Left Turn, Ped/Bike)	1.00	\$1,745,000
1	<u>SR 50 & Maguire Rd.</u>	1.00	\$80,000
1	<u>SR 50 & Blackwood Ave.</u>	1.00	\$15,000
1	<u>SR 50 & Clarke Rd.</u>	1.00	\$15,000
5	<u>Maguire Rd. & Old Winter Garden Rd.</u>	0.95	\$16,000
6	<u>SR 50 from SR 429 to Good Homes Rd.</u>	0.88	\$10,920,000
7	Silver Star Road from Ocoee Apopka Rd. to Coventry Ln*	0.75	\$3,030,000
8	Lady Avenue/Maureen Avenue from Wurst Rd./Perce St. to Nicole Blvd./Mona Ave.	0.58	\$120,000
8	<u>Bluford Avenue from Old Winter Garden Rd. to SR 50</u>	0.58	\$20,000
10	Ocoee Apopka Rd. from Silver Star Rd. to N. of Bridlewood Dr.	0.43	\$4,780,000

Bold: Project is on a city-maintained roadway.

Underline: Project is within the CRA boundary.

**Silver Star Road Complete Streets project planned on west side of corridor.*

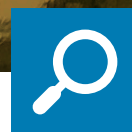


CHAPTER 8

Monitoring and Implementation



Crosswalk at the Bluford Avenue and McKey Street intersection



THIS CHAPTER
outlines a process
for tracking progress
toward Vision Zero
on an annual basis.

The recommendations offered in this Safety Action Plan can only make area roadways safer if they are implemented. For that reason, both MetroPlan Orlando and the City of Ocoee have created groups dedicated to tracking the progress of regional and local safety efforts.

8.1 MetroPlan Orlando’s Safety Action Committee

Upon the adoption of the City’s Safety Action Plan, the City of Ocoee’s Working Group can continue to meet to review progress towards zero fatalities and serious injuries and reassess project and policy priorities over time. The City’s **Working Group** will be responsible for updating and maintaining the City’s Safety Action Plan.

With adoption of the regional Safety Action Plan, the MetroPlan Orlando’s Vision Zero Task Force will continue their work as the newly formed **Safety Action Committee** that will help with the implementation of the various action items of the regional Safety Action Plan, by providing feedback, identifying resources, and holding other jurisdictions accountable for their role in reaching zero. The Safety Action Committee will be involved in overseeing the regional annual safety progress report.

Additionally, MetroPlan Orlando hosts a **Vulnerable Users Safety Working Group**, which focuses on decreasing corridor driving speeds and on decreasing fatal and serious injuries involving pedestrians and bicyclists.

8.2 City of Ocoee Progress Monitoring

Annually monitoring progress made toward achieving zero traffic fatalities and severe injuries will help the City evaluate the success of current action items and adopt new strategies as needed. Performance metrics will be used to evaluate the effectiveness of the Safety Action Plan.

It is expected that MetroPlan Orlando will update the regional crash dashboard and provide regional and jurisdictional summaries of key information and that the City can use the data prepared at the regional level to help support its progress monitoring. In July of each year, the annual monitoring process should begin with [Signal 4](#) data for the most recent full year and the most current data obtained from other sources. This data can be accessed through a free [Signal 4 account](#), hosted by FDOT. Using the data, a variety of metrics should be calculated, as presented in [Table 8](#). In addition to the crash data, a list of safety improvements implemented in the prior calendar year should be prepared.

The **safety dashboard** hosted at [VisionZeroCFL.gov](#) will be updated on an annual basis to reflect new data as well as highlight key findings from the crash analysis. A data management plan that details the process to obtain, review and upload data to MetroPlan Orlando’s crash dashboard is provided in [Appendix M](#) and includes documentation for calculating the VMT in Ocoee for the metrics shown in [Table 8](#).

As safety projects are implemented and before and after studies are completed, these results shall also be shared as part of the annual progress reporting.

Table 8: Annual Progress Monitoring Metric

PERFORMANCE METRIC	DATA SOURCE	2021	2022	2022-2021 CHANGE
Total fatalities	Signal 4	4	3	-1
Fatality rate (Per 100M VMT)	Signal 4, Census	0.82	0.57	-0.25
Total serious injuries	Signal 4	13	15	2
Serious injury rate (Per 100M VMT)	Signal 4, Census	2.68	2.85	0.17
Non-motorized fatalities and serious injuries	Signal 4	1/1	1/5	0/4
Percentage change in KSI crash types (2021-2022)	Signal 4	Rear End: 1 Left Turn: 1 Right Turn: 2 Pedestrian: 1 Bicycle: 1 Run off Road: 5 Angle: 4 Sideswipe: 1 Other: 1	Rear End: 1 Left Turn: 3 Right Turn: 0 Pedestrian: 4 Bicycle: 1 Run off Road: 6 Angle: 2 Sideswipe: 0 Other: 0	Rear End: 0% Left Turn: 200% Right Turn: -100% Pedestrian: 300% Bicycle: 0% Run off Road: 20% Angle: -50% Sideswipe: -100% Other: -100%
Impaired Driving Assessment (percent of people killed or severely injured in a DUI crash as compared to prior year)	Signal 4	0%*	0%*	0%*
Citations for Key Behaviors	Signal 4, Florida Highway Patrol, Local Law Enforcement	N/A	N/A	N/A
Implemented safety improvements in prior calendar year	City	N/A	N/A	N/A
Before/After Study Completion	Various studies	N/A	N/A	N/A
Number and outcome of Non-Engineering Countermeasures	FDOT, Best Foot Forward, and local jurisdictions	N/A	N/A	N/A

*No severe or fatal impaired driving crashes occurred in the City in 2021 or 2022

Source: MetroPlan Orlando, 2024

8.3 Federal Funding Opportunities

No one funding source will be able to pay for all the safety improvements identified in Ocoee’s Safety Action Plan. In addition to the traditional **Highway Safety Improvement Program** (HSIP), the MetroPlan Orlando funding progress, and other local funding sources, such as developer fees, **Table 9** summarizes potential federal funding sources related to transportation safety.

MetroPlan Orlando will also continue to look for opportunities to layer safety-related projects onto other capital improvement projects, as well as maintenance projects and through review and approval of projects in the PPL and TIP. The City can directly pursue funding from the sources in **bold** below. Funding from other sources listed is available through FDOT and MetroPlan Orlando.

Table 9: Potential Federal Funding Sources

POTENTIAL FUNDING SOURCE	ADDITIONAL INFORMATION
Safe Streets and Roads for All (SS4A)	The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. The Fiscal Year (FY) 2024 Notice of Funding Opportunity (NOFO) for the SS4A grants offers funding for two distinct types of grants: 1. Planning and Demonstration Grants: These grants allocate federal funds to develop, complete, or enhance a Safety Action Plan. Demonstration activities are temporary safety improvements that inform comprehensive safety action plans (referred to as “Action Plans”) by testing proposed project and strategy approaches to determine future benefits and future scope. 2. Implementation Grants: These grants provide federal funds to execute projects and strategies outlined in an Action Plan, specifically aimed at addressing roadway safety issues. Eligible projects and strategies may encompass infrastructure, behavioral, and operational activities.
Rebuilding American Infrastructure with Sustainability & Equity (RAISE) Discretionary Grant Program	The program funds multimodal, multi-jurisdiction projects that have significant local or regional impact but are more difficult to support through traditional DOT programs.
Transportation Alternatives Program (TAP)	The TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.
Carbon Reduction Program (CRP)	Provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources.

POTENTIAL FUNDING SOURCE	ADDITIONAL INFORMATION
Infrastructure for Rebuilding America Discretionary Grant Program (INFRA)	Funds available for multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people in and across rural and urban areas.
Reconnecting Communities Pilot Program (RCP)	Planning grants and capital construction grants, as well as technical assistance, to restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities.
Federal Transit Administration Capital Funds (FTA)	Funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit.
Areas of Persistent Poverty Program (AoPP)	Funds projects that provide access to transit in disadvantaged communities, including safety improvements.
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Provides funds to States for transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards.
Highway Safety Improvement Program (HSIP)	HSIP is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance.
Railway-Highway Crossings (Section 130) Program (RHCP)	The Railway-Highway Crossings (Section 130) Program provides funds for the elimination of hazards at railway-highway crossings.
National Highway Performance Program (NHPP)	Provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a state's asset management plan for the NHS.
Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation (PROTECT)	Used to help make surface transportation more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure.
Surface Transportation Block Grant Program (STBG)	Provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
Safe Routes to School Program (SRTS)	Projects that improve safety for students going to school.

Source: MetroPlan Orlando, 2024

8.4 Vision Zero Safety Action Plan Updates

From adoption, the City of Ocoee Safety Action Plan will be refreshed or fully updated every five years

8.5 Implementation

Implementing Vision Zero will require broad collaboration across many partners and disciplines. Transportation safety projects will get implemented in many ways, including through local funding, the traditional MetroPlan Orlando funding, as well as grant programs. As projects move forward from the Metropolitan Transportation Plan to construction, there are opportunities to prioritize the funding projects that will be able to improve transportation safety outcomes along high-crash corridors.



CHAPTER 9

Technical Appendix



Crosswalk at the Bluford Avenue and McKey Street intersection



A-Vision Zero Resolution

B-2024 SS4A Safety Action
Plan Component Checklist

C-MetroPlan Orlando's High
Injury Network Development

D-Regional
Engagement Efforts

E-Local Engagement Plan

F-Local Engagement Materials

G-Working Group
Meeting Notes

H-Non-Engineering
Countermeasure Toolkit

I-Benchmarking Evaluation

J-Engineering
Countermeasure Toolkit

K-Project Details

L-Prioritization Criteria

M-Data Management Plan

Technical Appendix

A- Vision Zero Resolution



Crosswalk at the Bluford Avenue and McKey Street intersection



RESOLUTION NO. 2024-

**A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF
OCOE, FLORIDA, ADOPTING THE VISION ZERO
PHILOSOPHY AND ACTION PLAN; PROVIDING FOR
SEVERABILITY; PROVIDING AN EFFECTIVE DATE.**

WHEREAS, the State of Florida is one of the most dangerous states for pedestrians, consistently ranking high on the Pedestrian Danger Index by Smart Growth America, with the metro area of Orlando-Kissimmee-Sanford, Florida ranking as one of the most dangerous metropolitan areas for pedestrians in the country; and

WHEREAS, fatal and severe crashes are preventable, and death and severe injury are not an acceptable cost for using our public roadway system; and

WHEREAS, The Ocoee City Commission recognizes the need to ensure pedestrian and bicycle safety and provide facilities to meet the travel needs of all mode users within the City, regardless of age or ability; and

WHEREAS, the City of Ocoee is responsible for the operation and maintenance of the continuing transportation planning systems and adoption of transportation plans and programs; and

WHEREAS, the City of Ocoee will hereby commit to decreasing these crash statistics by endorsing Vision Zero which is a data-driven strategy focused on eliminating traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all; and

WHEREAS, Vision Zero is founded on a Safe System approach that recognizes that people will make mistakes and roadway systems and policies should be designed to protect them through human-centered safety redundancies and shared responsibilities; and

WHEREAS, key elements of the Vision Zero strategy include: reframing traffic fatalities as preventable, focusing on system failures, reducing the impact of collisions, adopting a safe system approach for vehicles, bicycles, and pedestrians, making data-driven decisions, prioritizing safety improvements in areas that have historically been underserved, and building robust engagement strategies to reach those who are most vulnerable on the roadways; and

WHEREAS, the United States Department of Transportation has adopted the Safe System approach; and

WHEREAS, the Florida Department of Transportation has adopted a Target Zero Initiative; and

WHEREAS, there are over 50 Vision Zero jurisdictions in the United States, including Orange County, and this is expected to increase significantly in the coming years; and

WHEREAS, it is anticipated that implementation of Vision Zero methodologies will make City of Ocoee streets safer for all road users, particularly those who are most physically vulnerable, such as seniors, youth, and people with disabilities, and will further encourage people of all ages and abilities to walk, bike and take transit;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF OCOEE, FLORIDA:

SECTION 1. The City Commission hereby establishes the elimination of traffic fatality and severe injury due to traffic crashes as a goal of the City of Ocoee.

SECTION 2. The City of Ocoee hereby adopts the Vision Zero philosophy and commits to working towards a goal of zero traffic deaths and severe injuries on City streets by the year 2045.

SECTION 3. The City of Ocoee hereby adopts the City of Ocoee Vision Zero Action Plan, attached hereto as Exhibit A, as a key strategy for achieving this goal.

SECTION 4. RATIFICATION. Any act consistent with the authority and prior to the effective date of this Resolution is hereby ratified and affirmed.

SECTION 5. SEVERABILITY. If any clause, section, or other part of this Resolution shall be held by any court of competent jurisdiction to be unconstitutional or invalid, such unconstitutional or invalid part shall be considered as eliminated and in no way affecting the validity of other provisions of this Resolution.

SECTION 6. EFFECTIVE DATE. This Resolution shall take effect immediately upon its passage and adoption.

PASSED AND ADOPTED this ____ day of _____, 2024.

ATTEST:

APPROVED:

CITY OF OCOEE, FLORIDA

Melanie Sibbitt, City Clerk

(SEAL)

Rusty Johnson, Mayor

FOR USE AND RELIANCE ONLY BY THE CITY OF OCOEE FLORIDA; APPROVED AS TO FORM AND LEGALITY THIS ____ DAY OF _____, 2024.

APPROVED BY THE OCOEE CITY COMMISSION AT A MEETING HELD ON _____, 2024, UNDER AGENDA ITEM NO. ____

FISHBACK DOMINICK LLP

By: _____
City Attorney

Technical Appendix

B- 2024 SS4A Safety Action Plan Component Checklist

A horizontal bar with a rainbow gradient, transitioning from red on the left to blue on the right.

Crosswalk at the Bluford Avenue and McKey Street intersection



SS4A 2024 Action Plan Component Checklist

	Description	How Plan Achieves Component
1	Governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries.	Resolution adopted on TBD and included in appendix.
	Set targets to achieve significant declines in roadway fatalities and serious injuries.	Target set for 2045 , as noted in the resolution in appendix.
2	To develop the Action Plan, a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring.	See <i>Listening to the Community</i> for overview of engagement activities and <i>Monitoring and Implementation</i> for Implementation and monitoring actions.
3	Analysis of existing conditions and historical trends to baseline the level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region.	See <i>Crash Analysis and Trends</i> and technical appendix.
	Analysis of systemic and specific safety needs is performed as needed (e.g., high risk)	See <i>Crash Analysis and Trends</i> and technical appendix.
	Analysis of the location where there are crashes, the severity, as well as contributing factors and crash types.	See <i>Crash Analysis and Trends</i> and technical appendix.
	A geospatial identification (geographic or locational data using maps) of higher risk locations.	See <i>Crash Analysis and Trends</i> and technical appendix.
4	Engagement with the public and relevant stakeholders, including the private sector and community groups.	See <i>Listening to the Community</i> for overview of engagement activities.
	Incorporation of information received from the engagement and collaboration into the plan.	See <i>Listening to the Community</i> for overview of engagement activities and how feedback was incorporated into the Safety Action Plan.
	Coordination that included inter- and intragovernmental cooperation and collaboration, as appropriate.	See <i>Listening to the Community</i> for overview of level of intergovernmental collaboration.
5	Considerations of equity using inclusive and representative processes.	See <i>Crash Analysis and Trends</i> , <i>Recommended Safety Projects</i> , and <i>Monitoring and Implementation</i> for descriptions of how equity was incorporated into analysis and process.
	Identified underserved communities through data.	See <i>Crash Analysis and Trends</i> for description of how transportation underserved data was incorporated into analysis.
	Equity analysis in collaboration with appropriate partners, focused on initial equity impact.	See <i>Crash Analysis and Trends</i> and <i>Listening to the Community</i> for equity analysis and collaboration.
6	The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety.	See <i>Recommended Programs and Policy Updates</i> and technical analysis for policy benchmarking and Action Plan Elements.

	Description	How Plan Achieves Component
	The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.	See <i>Recommended Programs and Policy Updates</i> and technical analysis for policy benchmarking and Action Plan Elements.
7	The plan identifies a comprehensive set of projects and strategies to address the safety problems in the Action Plan, time ranges when projects and strategies will be deployed, and explain project prioritization criteria.	See <i>Recommended Safety Projects</i> .
8	A description of how progress will be measured over time that includes, at a minimum, outcome data.	See <i>Monitoring and Implementation</i> .
	The plan is posted publicly online.	Plan will be available here: VisionZeroCFL.gov
9	The plan was finalized and/or last updated between 2018 and 2024.	Plan was finalized in 2024.

Technical Appendix

C– MetroPlan Orlando’s High Injury Network Development



Crosswalk at the Bluford Avenue and McKey Street intersection



Draft Memorandum

Date: September 12, 2023

To: Vision Zero Central Florida Partners

From: Mighk Wilson, MetroPlan Orlando
Kathrin Tellez, Fehr & Peers

Subject: **Vision Zero Central Florida – Regional High Injury Network**



Introduction

The MetroPlan Orlando metropolitan area has the unfortunate distinction of having the one of the highest pedestrian fatality rates in the country, with transportation safety affecting all roadway users as the region has an overall fatal crash rate 15 percent higher than the national average and 10 percent higher than the statewide average. To understand where and why crashes that result in fatalities and serious injuries are most likely to occur and how to reduce the severity and frequency of these crashes, MetroPlan Orlando is preparing a Regional Vision Zero Action Plan, rooted in the core elements of Vision Zero and the Safe System approach. The overall purpose of the Action Plan is to identify projects, programs and strategies that will eliminate fatalities and serious injuries on the regions roadways by taking advantage of implementation funding through the Safe Streets for All (SS4A) grant program. The SS4A program is also funding the preparation of County and Local Vision Zero action plans in the region.

This memo summarizes the methodology to analyze collision trends and develop a high-injury network (HIN) for the MetroPlan Orlando region, with a focus on the non-access-controlled Federal Aid (MPO) network. The HIN is a collection of streets where a disproportionate number of collisions that result in someone being killed or severely injured (KSI) occur. Together, these collision types are referred to as KSI collisions throughout this memo. In addition to identifying corridors where a disproportionate number of KSI crashes occur, top KSI crash intersections are also identified.

This work will culminate in the preparation of a Safety Action Plan for the region. Additionally, separate HINs will be prepared for each County and each local jurisdiction that reflects:

1. All roadways within the jurisdiction regardless of ownership
2. All roadways maintained by the jurisdiction

Based on the preliminary data analysis, about 47 percent of KSI crashes occur on about 4 percent of centerline miles of non-access-controlled roadways in Orange, Osceola, and Seminole County, and about 13 percent of the Federal Aid System centerline miles.

The following describes the data sources that were used and explains the methodology employed by Fehr & Peers to develop the HIN.

Data Inputs

Roadway Network

The roadway network that served as the basis for this analysis was obtained from the xGeographic Wave database, which is a land use, transportation, environmental and demographic mapping database, usable across GIS mapping platforms, that has been built for the Orlando Metropolitan Area. For the purposes of developing the high injury network, limited access, and toll facilities (e.g., I-4 and the Turnpike) and their corresponding on/off ramps were removed from the network prior to the HIN analysis. Ramp terminal intersections were included in the analysis, including the ramp influence area of 100 feet. Preparation of the initial HIN included all non-limited access facilities in the network with non-Federal Aid roadways removed from the final HIN for the regional HIN. This process identified the primary roadways where a disproportionate number of crashes that result in a KSI occur in the region on roadways where MetroPlan Orlando can provide funding for safety improvements through the Metropolitan Transportation Plan (MTP) process as well as support regional grant applications for implementation funding through future SS4A applications.

Collision Severity Weighting

The goal of Vision Zero within the Safe System approach is to eliminate all serious and fatal injury crashes on roadways within the MetroPlan Orlando region, recognizing that while it is not feasible to prevent all crashes, implementation of safe system strategies can reduce the severity of crashes. To prioritize efforts at locations where crashes result in a fatality or severe injury, KSI crashes were assigned a weight factor. As presented in [Table 1](#), collision weights are derived from comprehensive crash costs from the 2023 FDOT Design Manual, with the Highway Safety Manual (HSM) Equivalent Property Damage Only (EPDO) weighting applied.

Comprehensive crash costs include both economic costs and monetized pain and suffering costs. Economic costs are monetary costs associated with emergency services deployment, medical services, productivity loss due to victim injury, insurance, and legal costs, cost associated congestion impacts because of the collision, and property damage costs. Monetized pain and suffering costs are an assumption of the costs associated with lost quality-of-life (or Quality-Adjusted Life Years), accounting for reductions in life expectancy and quality of life changes because of a crash.

Application of the EPDO weighting (dividing the cost of each crash type by the cost of a property damage only crash) approach results in different crash types receiving a different weight factor. As shown in Table 1, application of the EPDO weight results in fatal crashes receiving a significantly higher weight which could skew the HIN. In many instances, a crash that results in a severe injury could have been a fatality under slightly different circumstances, such as a victim with underlying health issues. Conversely, a fatal crash involving someone not wearing a seatbelt could have been injury only if the victim was wearing a seatbelt. Additionally, only fatalities that occur within 30 days are reported in the crash dataset. If a serious injury crash resulted in a fatality more than 30 days after the crash, it would not be reflected in this analysis as a fatality. Consequently, a modified EPDO method was used that groups fatal and serious injury crashes together and groups non-incapacitating injuries together. This approach has been used by agencies across the county. The approach to develop the regional HIN also includes all crashes – given the low weight applied to

property damage only crashes, only locations where there is high frequency of crashes would affect the HIN.

Table 1: Crash Costs¹ and EPDO Weight Factors

Severity	Crash Cost	EPDO Weight	Modified EPDO Weight ²
Fatal (K)	\$10,890,000	1,414	317
Incapacitating Injury (A)	\$888,030	115	
Non-Incapacitating Injury (B)	\$180,180	23	17
Possibly Injury (C)	\$103,950	14	
No Injury (0)	\$7,700	1	1

1. Source: FDOT Design Manual, Table 122.6.2 FDOT KABCO Crash Costs

2. Based on an average weighted KA crash cost in Orange, Osceola and Seminole Counties of \$2,438,850 for 2018 – 2022 and an average weighted BC crash cost in Orange, Osceola and Seminole Counties of \$129,725.

Collision Mode Weighting

In addition to applying a weight factor based on the severity of a crash, a weight factor was developed and applied based on the travel mode of crash victims. Review of the data indicates that people walking, bicycling, and riding motorcycles are disproportionately represented in crashes that result in a KSI. People outside of vehicles are involved in about 3.7 percent of all reported crashes but represent 54 percent of all fatalities, 31 percent of all KSI crashes and 10 percent of all injury crashes. For the region, the resulting weight factor, based on the proportion of overall crashes involving someone outside a vehicle to crashes that resulted in an injury, is 3. **All crashes involving a person walking, bicycling, or riding a motorcycle were weighed by a factor of 3** in the development of the Regional HIN for the MetroPlan Orlando region. The factor, while based on local data, is in-line with weight factors used by other jurisdictions in the development of their HINs.

HIN Development

Sliding Window Approach

The HIN analysis was conducted using a sliding window approach, which uses overlapping windows to account for errors in collision location reporting. For a specific window length, performance measures are calculated for that window along a corridor (e.g., the number of fatal or serious injury collisions). The window is shifted along the corridor for a given offset distance and the analysis is repeated for the shifted window. Using this approach, a single location would be evaluated in several different windows, so any inaccuracies inherent within collision location reporting can be accounted for. Windows with the highest values for the segment or facility are identified as candidate HIN locations.

Sliding Window Parameters

A 1-mile window length with a 0.2-mile offset distance was chosen for the regional HIN analysis. Analyses prepared for a smaller geography should consider a smaller scale, such as a 0.5-mile window and 0.1-mile offset for a city boundary. Any segment less than 1-mile in length was treated as a single segment without any offset shifting.

Collision Summary for Each Window

Collisions were summarized for each window using a 100-ft search radius. This radius was chosen by inspecting collision locations relative to the centerline network at various locations throughout the network. The collision summary for each window consisted of summing all weighted collision values within the search radius. For example, a window with 15 property-damage only, 10 minor injury collisions and 5 KSI collisions within 100 feet would receive a weighted score of 1,770 ($15 \times 1 + 10 \times 17 + 5 \times 317$), presuming no pedestrians, bicyclists or motorcyclists were involved. For that same window, if a pedestrian, bicyclist, or motorcyclist was involved in 1 of the 15 property-damage only crashes, 3 of the 10 minor injury collisions and 3 of the 5 KSI collisions, that window would receive a weighted score of 3,776 ($14 \times 1 + 1 \times 3 \times 1 + 7 \times 17 + 3 \times 3 \times 17 + 2 \times 317 + 3 \times 3 \times 317$).

HIN Development

After summarizing collisions all windows throughout the network, the HIN draft was built using the weighted score of each window. By visualizing the weighted score throughout the network, potential HIN corridors could be identified, as shown on [Figure 1](#).

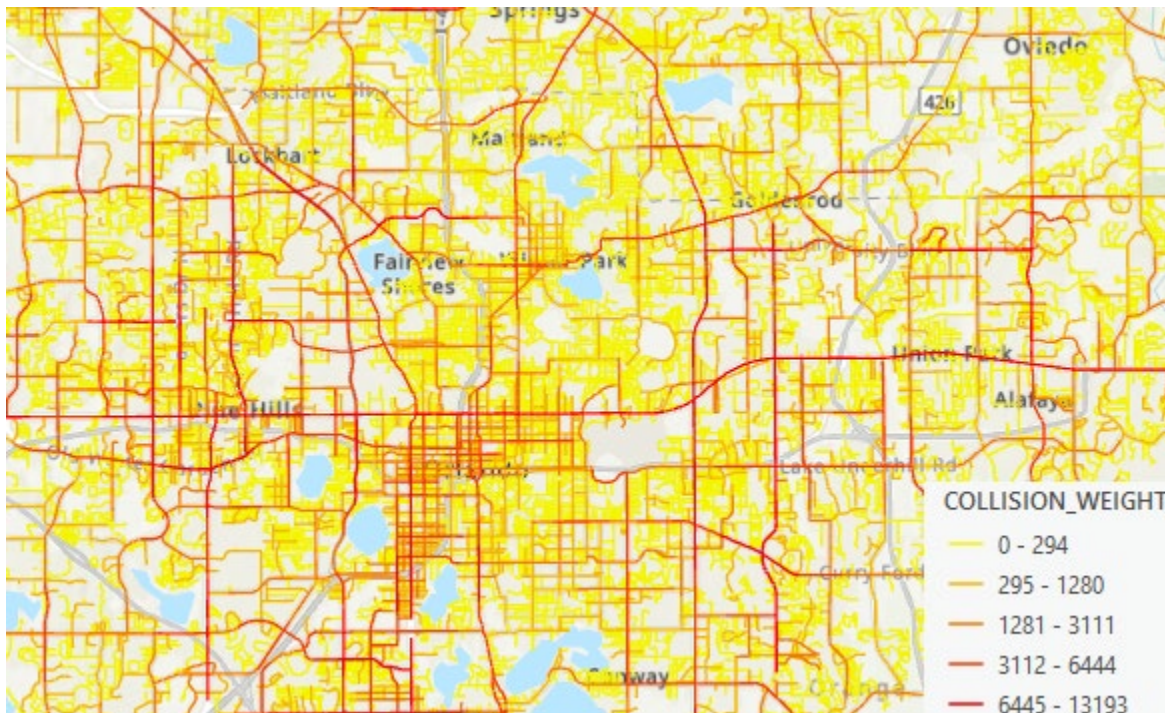


Figure 1: Initial visualization of Collision Weight Summaries Throughout Network

The HIN draft was built by using the following iterative process, with the goal of achieving a network that accounted for approximately 50 percent of the KSI collisions in the region:

1. Select/flag window segments throughout the network with collision weight values above a certain threshold.
2. Adjacent high-scoring windows (flagged in the previous step) are aggregated into longer corridor segments (greater than 1 mile in length) when appropriate.
3. Cleaning/reasonableness check:
 - a. Some high scoring windows on local roads which intersect with major ones were removed from consideration if it was discovered that the collision score was being skewed by the number of collisions on the major leg of the intersection.
 - b. Any small gaps (<1/2 mile) in between the aggregated corridor segments in step 2 were added to the draft HIN for continuity.

HIN and HIN Statistics

The resulting HIN can be viewed through this [weblink](#). The MetroPlan Orlando Regional HIN contains about 260 centerline miles and includes roadway segments in all three counties, with a disproportionate number of roadways in Orange County. Crashes that occur on the HIN segments account for 47 percent of all KSI crashes in the region. 61 percent of pedestrian KSI, 50 percent of bicyclist KSI, and 44 percent of motorcyclist KSI crashes also occur on these roadways, as summarized in [Table 2](#).

Table 2: MPO Network HIN Statistics

	All Roadways*	All Federal Aid Roadway*	Draft Regional HIN	HIN % All Roadways	HIN % of Federal Aid Roadways
Centerline miles	7,461	1,966	258	4%	13%
All collisions	272,500	229,280	98,987	36%	43%
KSI (All modes)	7,146	6,398	3,3378	47%	53%
Ped KSI	949	854	576	61%	67%
Bike KSI	327	285	164	50%	58%
Motorcycle KSI	953	864	416	44%	48%

Source: Signal 4 Analytics, Fehr & Peers.

Notes: * Excluding Toll facilities and access-controlled facilities

The 10 corridors on the HIN that received the highest weighted score on a per mile basis is summarized in [Table 3](#), with the full list provided as an attachment.

Table 3: Top 10 HIN Corridors

Roadway Name	From	To	Location	Total Weighted Score per Mile
1. John Young Parkway	SR 50	Orange Center Blvd.	Orlando	17,478
2. Sand Lake Road/ McCoy Road	Turkey Lake Rd.	Universal Blvd.	Orlando	17,104
3. Chickasaw Trail	Frontage Rd.	Lake Underhill Rd.	Orange County	14,589
4. Hiawasse Road	SR 438/Silver Star Rd.	SR 50	Orange County	14,547
5. Oakridge Road	Millenia Blvd.	S. Orange Blossom Trail	Orlando	14,296
6. SR 435	SR 50	Raleigh St.	Orange County	14,130
7. SR 551	SR 50	Lake Underhill Rd.	Orange County	14,129
8. SR 436	Lee Vista Rd.	TG Lee Blvd.	Orlando	14,088
9. Pine Hills Road	SR 50	Old Winter Garden Rd.	Orange County	13,941
10. Alafaya Trail	SR 50	Lake Underhill Rd.	Orange County	13,564

Source: Signal 4 Analytics, Fehr & Peers.

Notes: * Excluding Toll facilities and access-controlled facilities

Top Intersections

In addition to developing a HIN, the intersections with the highest weighted crash were also identified based on a similar process as the HIN development. For this analysis, any crash that was within 250 feet of an intersection was considered as attributed to that intersection, except for crashes in downtown areas where short blocks reduce the intersection influence area. For crashes in those contexts, crashes within 50 feet of an intersection were considered. The top 30 intersections are also shown on the HIN network, with a summary in [Table 4](#). Of the top 30 intersections, none are off the HIN. Intersections where a disproportionate share of the KSI crashes involved a person outside a vehicle are noted in ***bold italics***.

Table 4: Top 30 HIN Intersections¹

Intersection	Total Weight		Intersection	Total Weight
1. John Young Parkway at Sand Lake Road ²	10,140		16. Colonial Drive at Econlockhatchee Trail	6,480
2. Alfaya Trail at Colonial Drive	10,103		17. Powers Drive at Silver Star Road	6,415
3. Orange Blossom Trail at Holden Avenue	10,055		18. Orange Blossom Trail at Conroy Road/Americana Boulevard	6,401
4. Hiawassee Road at Silver Star Road	9,630		19. Old Cheney Highway/Tucker Avenue at Colonial Drive	6,386
5. N Poinciana Boulevard at Irlo Bronson Memorial Highway	9,399		20. Goldenrod Road at University Boulevard	6,224
6. Pine Hills Road at Silver Star Road	8,673		21. Alfaya Trail at Lokanotosa Trail	5,905
7. Semoran Boulevard at Old Cheney Hwy	8,509		22. Semoran Boulevard at Curry Ford Road	5,504
8. W Colonial Drive at N Kirkman Road	7,097		23. S French Street at W 25th Street	5,459
9. Goldenrod Road at Colonial Drive	7,040		24. Hastings Street at Silver Star Road	5,368
10. Simpson Road at Irlo Bronson Memorial Highway	6,946		25. Orange Blossom Trail at Orlando Central Parkway	5,160
11. Orange Blossom Trail at Gore Street	6,769		26. Orange Blossom Trail at Michigan Street	4,924
12. N Kirkman Road at Old Winter Garden Road	6,724		27. Irlo Bronson Memorial Highway at Club Sevilla	4,812
13. Goldenrod Road at Curry Ford Road	6,715		28. Forsyth Road at University Boulevard	4,722
14. John Young Parkway at Conroy Road	6,699		29. N French Avenue at W 1st Street (US 17/92)	4,294
15. Pine Hills Road at North Lane	6,651		30. Orange Blossom Trail at Premier Row	3,919

Source: Signal 4 Analytics, Fehr & Peers.

Note: 1. Intersections where a disproportionate share of the KSI crashes involved a person outside a vehicle are noted in **bold italics**.

2. At the intersection of John Young Parkway at Sand Lake Road, improvements were completed in late 2019/early 2020 to convert an at-grade intersection to a single-point urban interchange (SPUI). The number of KSI crashes per year has reduced from approximately 9 per year (2018/2019) to an average of 3 per year (2020-2022). This intersection could be a candidate for more detailed analysis as part of the County plan to document the safety benefit associated with the SPUI and potentially identify additional countermeasures that could be implemented at the intersection.

Next Steps

Using the same process that was used to identify the Regional HIN, County and Local HINs will be developed, which will include:

- County (all roadways included in the analysis) – this will identify the roadways in each county where a disproportionate number of fatal and severe injury crashes are reported. This will likely overlap with the regional HIN, but this map will provide focus locations for each county and the respective local jurisdiction(s). A secondary HIN of only roadways within the County jurisdiction will also be prepared.
- Jurisdictional – this will identify the roadways in each jurisdiction regardless of ownership where a disproportionate number of fatal and severe injury crashes are reported. For example, for the City of Kissimmee, an initial HIN may include roadways such as John Young Parkway and Vine Street which are maintained by the County. A secondary HIN of only roadways within the city jurisdiction will be prepared.
- Top Intersections – this will identify the intersections in each jurisdiction where a disproportionate number of fatal and severe injury crashes are reported.

If you have questions, please contact Mighk Wilson at mighk.wilson@metroplanorlando.gov.

Attachments: Roadways in HIN

**Central Florida Vision Zero
Regional HIN Segments
September 2023**

Corridor Number	Road Name	Location	Total Weighted Score per Mile	From	To
1	John Young Parkway	Orlando	17,478	SR 50	Orange Center Blvd.
2	Sand Lake Road/McCoy Road	Orlando	17,104	Turkey Lake Rd.	University Blvd.
3	Chickasaw Trail	Orange County	14,589	Frontage Rd.	Lake Underhill Rd.
4	Hiawassee Road	Orange County	14,547	SR 438/Silver Star Rd.	SR 50
5	Oakridge Road	Orlando	14,296	Millenia Blvd.	S. Orange Blossom Trail
6	SR 435	Orange County	14,130	SR 50	Raleigh St.
7	SR 551	Orange County	14,129	SR 50	Lake Underhill Rd.
8	SR 436	Orlando	14,088	Lee Vista Rd.	TG Lee Blvd.
9	Pine Hills Road	Orange County	13,941	SR 50	Old Winter Garden Rd.
10	Alafaya Trail	Orange County	13,564	SR 50	Lake Underhill Rd.
11	SR 435	Orlando	13,466	LB Mcleod Rd.	Major Blvd.
12	Colonial Drive	Orlando	13,415	Orange Blossom Trail N.	N Bumby Ave.
13	North Lane	Orange County	12,946	Westgate Rd.	N Pine Hills Rd.
14	Hiawassee Rd	Orange County	12,344	SR 50	Old Winter Garden Rd.
15	SR 434	Orange County	12,284	McCulloch Rd.	SR 50
16	CR 506	Orange County	12,054	S. Orange Blossom Trail	Orange Ave S.
17	SR 423	Orange County	11,972	N. Orange Blossom Trail	N. Wymore Rd.
18	University Blvd.	Orange County	11,938	SR 436	Lake Mirage Blvd.
19	Rosalind Ave	Orlando	11,526	E. Livingston St.	S. Lucerne Cir.
20	Semoran Boulevard	Orlando	11,419	Lake Underhill Rd.	Lake Margaret Dr.
21	US 192/Vine St	Osceola County	11,347	Celebration Ave.	Four Winds Blvd.
22	Goldenroad Road	Orange County	11,182	Lake Underhill Rd.	Beatty Dr.
23	N Ronald Regan Blvd	Seminole County	10,951	Eldersprings Cir.	Jones Ave.
24	W First Street (US 17/92)	Sanford	10,856	N. Persimmon Ave.	N. Frence Ave.
25	Edgewater Dr/Highland Ave	Orange County	10,652	Clarcona Ocoee Rd.	Lee Rd.
26	Conway Road	Orlando	10,570	Curry Ford Rd.	E. Michigan St.
27	Pershing Ave.	Orlando	10,554	Woodgate Blvd.	Goldenrod Rd. S.
28	John Young Pkwy	Orange County	10,510	SR 528 Ramps	Lazio Ln.
29	East Lake Mary Blvd	Seminole County	10,477	North of Celery Ave.	SR 46
30	Poinciana Blvd	Osceola County	10,431	US 192	Siesta Lago Dr.
31	Holden Ave	Orange County	10,402	Rio Grande Ave. S.	Lake Holden Hills Dr.
32	S Orange Blossom Trail	Kissimmee	10,376	E. Osceola Pkwy.	Ridgewood Ave.
33	US-192/Vine St	Kissimmee	10,356	South of Four Winds Blvd.	N. John Young Pkwy.
34	CR 435/Apopka Vineland Rd	Orange County	10,310	Balboa Dr.	SR 50
35	Texas Ave	Orange County	10,255	Americana Blvd.	W. Oak Ridge Rd.
36	Vineland Road	Orange County	10,156	I-4	South of LBV Factory Shores Dr.
37	Orange Avenue	Orlando	10,131	S. Lucerne Cir.	Gatlin Ave.
38	Orange Blossom Trail	Orange County	9,988	Overland Rd.	Rosamond Dr.
39	Ivey Ln	Orlando	9,944	Edgemoor St.	Raleigh St.
40	Orange Blossom Trail	Apopka	9,928	Drage Dr.	S. McGee Ave.
41	Orange Blossom Trail	Orlando	9,902	Lee Rd.	Shader Rd.
42	Lancaster Road	Orange County	9,900	S. Orange Blossom Trail	Orange Ave. S.
43	Goldenroad Road	Orange County	9,875	North of Dwell Well Way	SR 50
44	John Young Pkwy.	Orlando	9,873	LB McLeod Rd.	W. Sand Lake Rd.
45	US-17/92/Orlando Ave	Seminole County	9,853	South St.	Spartan Dr.
46	S Orange Blossom Trail	Kissimmee	9,546	Ridgewood Ave.	Neptune Rd.
47	Conroy Rd/Americana	Orlando	9,495	West of President Barack Obama Pkwy.	S. Orange Blossom Trail
48	John Young Pkwy	Orange County	9,488	Deerfield Blvd.	South of Town Loop Blvd.
49	University Blvd.	Orange County	9,410	Bibb Ln.	Rouse Rd.

**Central Florida Vision Zero
Regional HIN Segments
September 2023**

Corridor Number	Road Name	Location	Total Weighted Score per Mile	From	To
50	W Colonial Dr/Martin Luther King B	Orange County	9,406	Economic Ct.	Good Homes Rd.
51	Westmoreland Drive	Orlando	9,377	SR 526/Washington Street	W. Gore St.
52	West 25th Street	Sanford	9,328	Club Rd.	S. Mellonville Ave.
53	Osceola Pkwy	Kissimmee	9,281	N. Orange Blossom Trail	Florida's Turnpike
54	US-17/92/Orlando Ave/French Ave	Seminole County	9,122	North of Longdale Ave.	SR 434
55	E Bronson Hwy/13 St/Vine St	Osceola County	9,118	Neocity Way	Pecan St.
56	Semoran Boulevard	Altamonte Springs	9,083	Montgomery Rd.	Palm Springs Dr.
57	Silver Star Road	Orange County	9,070	Mercy Dr.	East of N. John Young Pkwy.
58	Orange Avenue	Orange County	9,055	Prince St.	Spruce Ave.
59	Orange Blossom Trail	Orange County	9,038	Consulate Dr.	Town Center Blvd.
60	Old Winter Garden Rd	Orange County	8,868	N. Hiawassee Rd.	Takoma St.
61	SR 434	Seminole County	8,843	West of E. Lake Brantley Dr.	Oak St.
62	Fairbanks Avenue	Winter Park	8,816	Clay St.	Pennsylvania Ave. S.
63	Old Winter Garden Rd	Orlando	8,698	SR 408 Exit Ramp	Orange Blossom Trail N.
64	Aloma Avenue	Orange County	8,691	West of St. Andrews Blvd.	West of Tangerine Ave.
65	SR 434	Orange County	8,672	Pembroke Dr.	Edgewater Dr.
66	Michigan Ave.	Kissimmee	8,545	E. Donegan Dr.	E. Vine St.
67	Powers Drive	Orange County	8,540	Indian Hill Rd.	SR 438
68	Semoran Boulevard	Casselberry	8,485	US 17-92	Kewannee Trl.
69	John Young Pkwy.	Orange County	8,451	Sand Lake Rd.	South of SR 528 Ramps
70	Rio Grande Avenue	Orange County	8,446	W. Gore St.	Holden Ave.
71	US-17/92/French Ave	Sanford	8,421	W. 20th St.	W. 27th St.
72	Chickasaw Trl	Orange County	8,374	SR 50	Valencia College Ln.
73	Curry Ford Rd	Orange County	8,218	West of Frederica Dr.	East of Excalibur Dr.
74	Orlando Avenue	Winter Park	8,217	Lake Ave.	W. Fairbanks Ave.
75	Buenaventura Blvd.	Osceola County	8,171	County Boundary	Simpson Rd.
76	Simpson Rd	Osceola County	8,139	Harbor Town Dr.	US 192
77	Wetherbee Rd	Orange County	8,093	Orange Blossom Trail S.	Orange Ave. S.
78	Clark Road	Ocoee	8,093	Sparrow Song Ln.	White Rd.
79	Hoffner Avenue (SR 15)	Orange County	8,083	Conway Rd.	Goldenrod Rd. S.
80	SR 434	Longwood	8,076	S. Ronald Reagan Blvd.	US 17-92
81	Semoran Boulevard	Orlando	8,053	Lake Margaret Dr.	Hoffner Ave.
82	Lake Underhill Rd	Orange County	7,611	S. Oxalis Ave.	Econlockhatchee Trl. N.
83	Conway Road	Orange County	7,501	Caitlin Ave.	Hoffner Ave.
84	Hiawassee Rd.	Orange County	7,437	Beggs Rd.	SR 438/Silver Star Rd.
85	Semoran Boulevard	Casselberry	7,388	Lake Howell Ln.	County Boundary
86	Colonial Drive	Orange County	7,358	N. Avalon Park Blvd.	SR 520
87	Robinson Street	Orlando	7,204	N. Rosalind Ave.	N. Primrose Rd.
88	John Young Pkwy	Kissimmee	7,052	West of Ham Brown Rd.	Palmetto Ave.
89	Turkey Lake Rd	Orange County	6,854	Toscana Blvd.	South of Hillenmeyer Way
90	Clarcona-Ocoee Rd.	Orange County	6,815	Apopka Vineland Rd. N.	Powers Dr. N.
91	Landstar/Fairway Wds	Orange County	6,702	Fairway Woods Blvd.	County Boundary
92	Sand Lake Rd.	Orange County	6,682	Dr. Phillips Blvd.	Turkey Lane Rd.
93	Irlo Bronson Memorial Highway	Orange County	6,653	Westside Blvd.	East of Inspiration Dr.
94	Colonial Drive	Orange County	6,645	Econlockhatchee Trl. N.	N. Avalon Park Blvd.
95	International Drive	Orange County	6,622	West of Universal Blvd.	Destination Pkwy.
96	Rock Springs Rd N	Orange County	6,606	Faye St.	Welch Rd. E.
97	Semoran Boulevard	Orange County	6,531	Sheeler Ave. S.	Bear Lake Rd.

**Central Florida Vision Zero
Regional HIN Segments
September 2023**

Corridor Number	Road Name	Location	Total Weighted Score per Mile	From	To
98	Boggy Creek Rd	Orlando	5,949	Tradeport Dr.	E. Wetherbee Rd.
99	Narcoossee Road	Orange County	5,777	Tavistock Lake Blvd.	County Boundary
100	Colonial Drive	Orange County	5,662	N. Bumby Ave.	Econlockhatchee Trl. N.
101	Avalon Park Blvd	Orange County	5,630	SR 50	South of Timber Springs Blvd.
102	US-17/92/Orlando Ave/French Ave	Sanford	5,568	W. 27th St.	W. Lake Mary Blvd.
103	SR 531	Osceola County	5,405	Marsh Rd.	South of Granada Blvd.
104	E Bronson Hwy/13 St/Vine St	St. Cloud	5,168	West of Florida's Turnpike	Eastern Ave.
105	Winter Garden Vineland Road	Orange County	5,147	Fiquette Rd.	Overstreet Rd.
106	Winter Garden Vineland Road	Orange County	4,590	E. Buena Vista Dr.	S. Apopka Vineland Rd.
107	Boggy Creek Rd	Osceola County	4,451	E. Osceola Parkway	Buenaventura Blvd.
108	W Colonial Drive	Orange County	4,233	Apopka Vineland Rd. N.	Orange Blossom Trail N.
109	Apopka Vineland Road	Orange County	4,003	North of Buena Vista Woods Blvd.	North of Vineland Ave.
110	Apopka Vineland Road	Orange County	3,983	Windy Ridge Rd.	Sandberry Blvd.
111	Alafaya Trail	Orange County	3,161	Golfway Blvd.	Innovation Way
112	SR 438	Orange County	3,031	Apopka Vineland Rd. N.	Chantelle Ave.
113	Sand Lake Road	Orange County	2,646	Mandarin Dr.	Jetport Dr.
114	Orange Blossom Trail	Orlando	2,530	SR 50	Holden Ave.
115	Semoran Boulevard	Orange County	2,417	County Boundary	SR 408
116	Orange Blossom Trail	Orange County	2,315	Holden Ave.	Florida's Turnpike
117	SR 50	Orange County	1,667	Fort Christmas Rd S.	County Boundary
118	Pine Hills Road	Orange County	1,410	Pinto Way	SR 50

Technical Appendix

D– Regional Engagement Efforts

A horizontal bar with a rainbow gradient, transitioning from red on the left to blue on the right.

Crosswalk at the Bluford Avenue and McKey Street intersection



Regional Engagement Efforts

The engagement strategies for the MetroPlan Orlando Regional Vision Zero Safety Action Plan were designed to complement strategies at the county and local plan levels, such that collectively there was a much broader reach and impact than could be realized by any one agency.

Task Force, Steering Committees and Working Groups

A regional **Vision Zero Task Force** provided feedback and strategic guidance throughout the preparation of the plan and included people representing local agencies, the Florida Department of Transportation, public health officials, the medical professionals, bicycling and pedestrian advocacy groups, and members of the public. Throughout the course of the project, the regional Task Force met 5 times around the following topics:

August 2023: Introduction to Vision Zero and the Safe System Approach, Project Overview, and High-Level Crash Trends.

September 2023: High Injury Network, Crash Trends, Public Engagement, and Hub Site Overview.

November 2023: Public Engagement Update, Countermeasures, Policy Benchmarking, Reduction Goals.

February 2024: Public Engagement Update, Policy Benchmarking Outcomes, Preliminary Prioritization Process, and Project Development Process.

April 2024: Public Engagement Update, Project Prioritization, Project Development, and Action Plan Development.

Each task force meeting was recorded, and summaries are available on the hub site

(<https://www.visionzerocfl.gov/pages/project-resources>).

The Task Force provided key feedback on the technical analysis, public engagement strategies, policy benchmarking, action plan elements, and project prioritization criteria. Several smaller focused discussions were conducted with key stakeholders to review the policy benchmarking and prioritization criteria and feedback from the Task Force was incorporated into the final set of actions and prioritization criteria.

Vision Zero Central Florida by the Numbers

22 Vision Zero Action Plans

1 Regional Task Force

3 County Steering
Committees

18 Local Working Groups

40+ community events with
1,000+ of interactions with
the public

400+ views of Call-to-Action
video

150+ local government
meetings

15+ updates to MetroPlan
Orlando Board and
committees

Over 10,000 views by over
2,700 unique users of
VisionZeroCFL.gov

345+ survey responses

1 Regional Press Conference

4 Safety Champion Speaker
Series Events

30+ mentions on local media
outlets

Speaker Series

MetroPlan Orlando facilitated a **Safety Champion Speaker Series**, a series of webinars and events with safety experts from the region and country presenting topics centered around the Safe System Approach. As of June 2024, the following speaker series events have occurred or have been scheduled.

- World Day of Remembrance for Road Traffic Victims, November 15, 2023
- Moving the Needle on Pedestrian and Bicyclist Safety, Rebecca Sanders, PhD, April 4, 2024
- Centering Safety and Equity, Charles Brown, May 23, 2024
- From the Perspective of those Left Behind, Melissa Wandall, June 4
- A Plan for Action for Walking & Cycling, Dan Burden, June 13
- Stories of Speed Management, Loreen Bobo, Whit Blanton, Makenzi Rasey (LADOT), August/September 2024

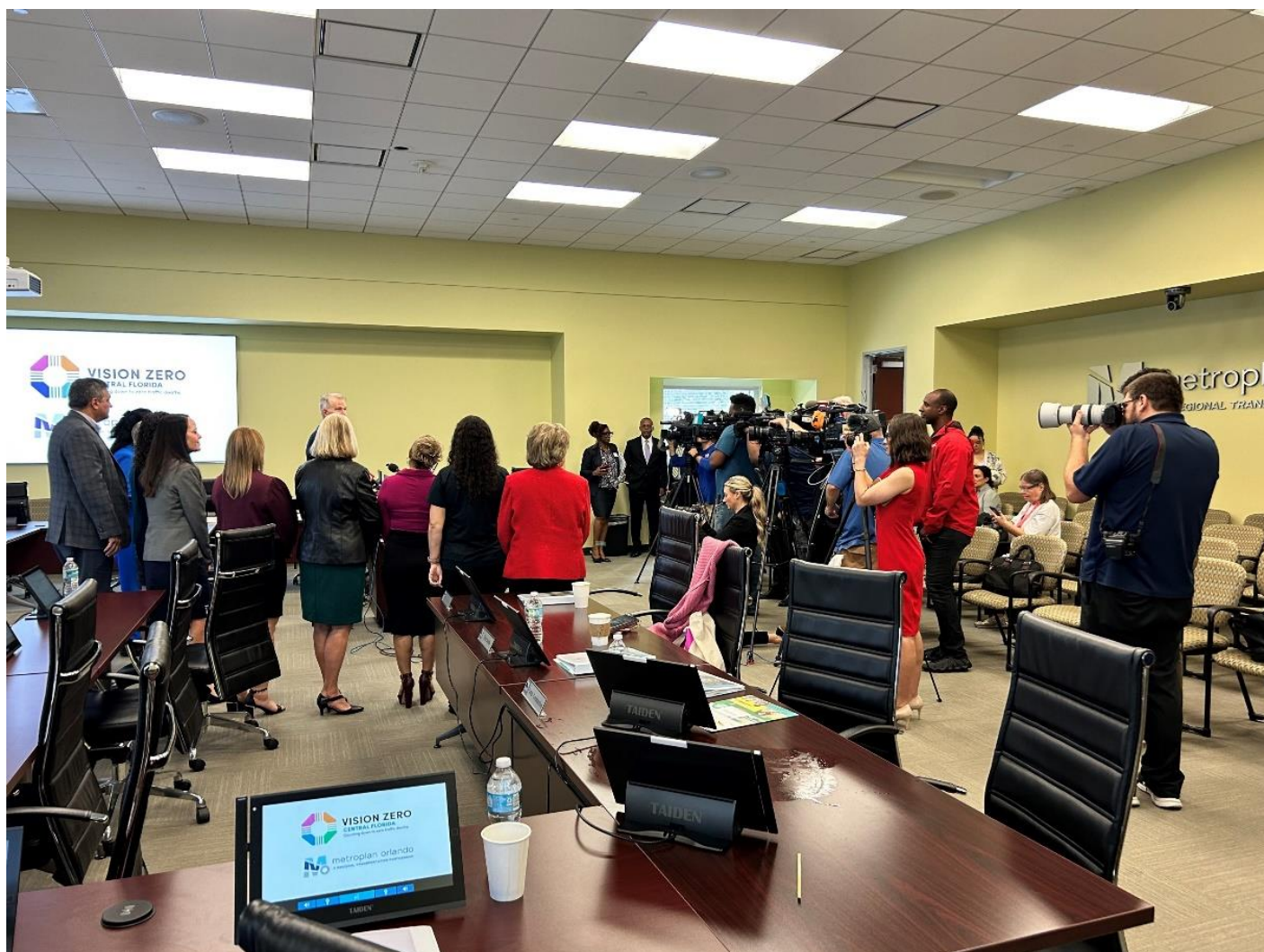
This series is intended to continue beyond plan adoption with a quarterly speaker series event and an annual safety summit for all jurisdictions in the region to share their progress, successes and failures so we can learn as a region. Recordings of the sessions are available on the MetroPlan Orlando YouTube Channel.

Media Briefing

In December 2023, MetroPlan Orlando hosted a Media Briefing to introduce the plan to the local media and generate interest from across the region. The MetroPlan Orlando Board and staff, as well as Florida Department of Transportation staff were present at the event, which also included:

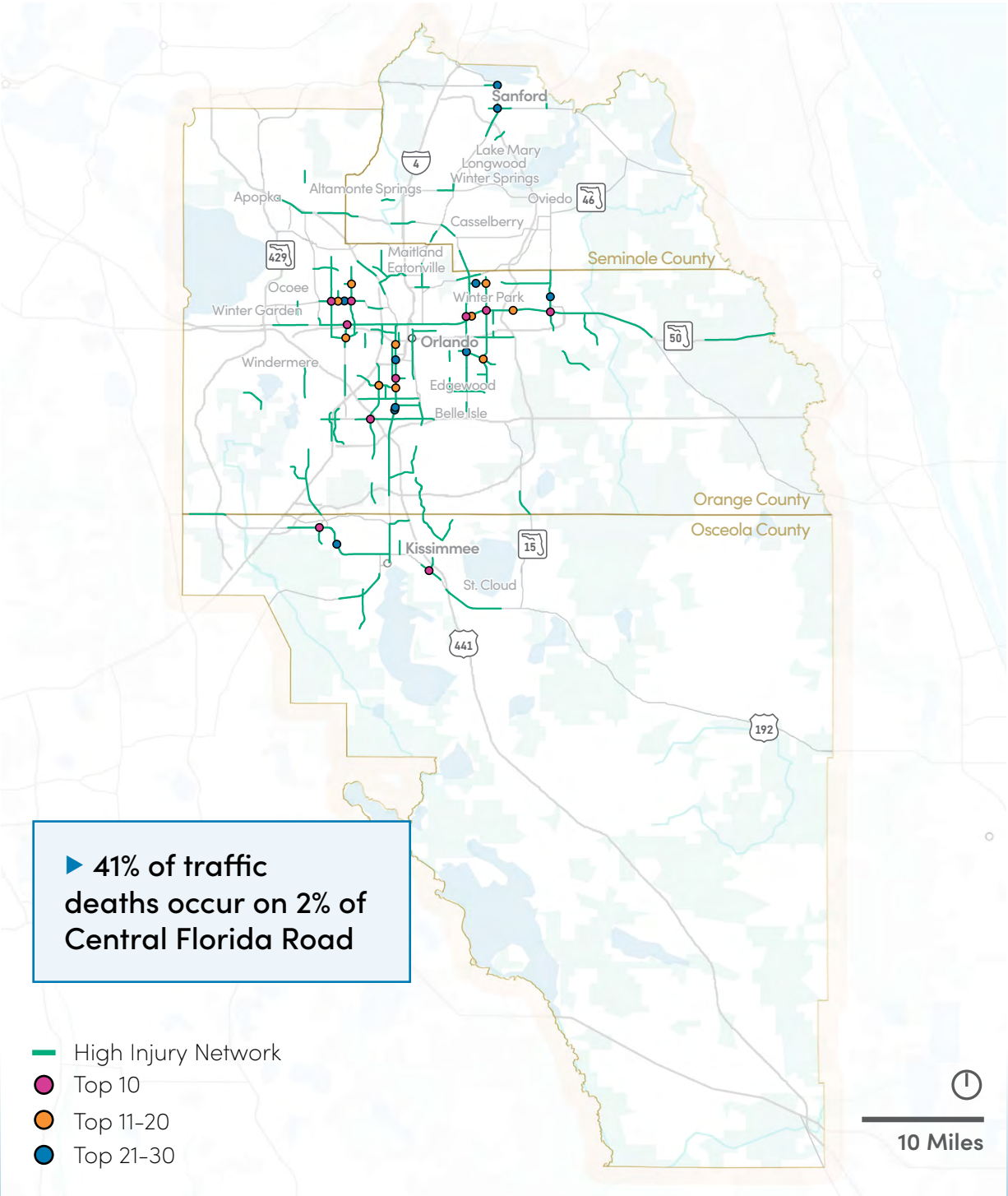
- 5 English and 1 Spanish-language broadcast outlet
- 25+ minutes of on-air coverage following event
- Fact sheets in English, Spanish and Haitian Creole

After the media briefing, there continue to be additional inquiries from print and broadcast journalists, with at least 30 additional segments in local media about the Vision Zero efforts occurring throughout the region, including announcements of local community workshops.



High Injury Network (HIN)

WORST ROADS & INTERSECTIONS FOR CRASH DEATHS AND SERIOUS INJURIES



WHAT IS A HIGH INJURY NETWORK (HIN)?

A HIN is a collection of streets where a disproportionate number of crashes that result in someone being killed or severely injured (KSI) occur. This allows us to focus our efforts on the places where crashes are more likely to result in a KSI.

HOW IS IT CALCULATED?

The HIN calculations weight crashes differently depending on the mode of travel involved and the severity of the crash. Crash summaries for each half mile roadway segment were calculated with the segments that receive the highest score comprising the HIN. High injury intersections are identified using a similar process as the HIN, considering all crashes within 250 feet of each intersection.

HIN FACTS

- Average Posted Speed **43mph**
- Average Prevailing Speed **53mph**
- 53%** of HIN in **Disadvantaged Community**¹ (**25%** of the region is classified as disadvantaged)
- HIN includes:
 - 60%** State Roads
 - 30%** County Roads
 - 10%** Local roads

¹ **Disadvantaged Communities** experience greater transportation inequities to access jobs, housing, food, health care, education and other destinations. More information can be found on the website: <https://www.transportation.gov/priorities/equity/justice40/etc-explorer>

HIN NETWORK OVERALL STATISTICS

	ALL ROADS*	HIN	% HIN	FEDERAL AID (FA) NETWORK	% HIN OF FA
CENTERLINE MILES	10,728	258	2%	1,965	13%
All Crashes	272,523	98,975	36%	229,278	43%
DEATHS	1,143	638	56%	1,071	60%
KSI	7,146	3,378	47%	6,398	53%
PEDESTRIAN KSI	949	576	61%	854	67%
BICYCLIST KSI	327	164	50%	285	58%
MOTORCYCLIST KSI	956	416	44%	864	48%

* All roads excluding limited access (interstate, toll roads, parking lots, etc.)

* All roads in HIN are on FA network

HOW CAN YOU GET INVOLVED

This planning initiative encourages participation from people of all ages across our region, including community leaders, residents, and visitors. Join us in this quest to eliminate deaths and serious injuries on Central Florida’s roads. We can save lives when each of us does our part and we all work together.



Visit our website to review crash data, learn more about safety, provide feedback and get details for upcoming events:

VisionZeroCFL.gov

TOP 30 HIGH INJURY NETWORK INTERSECTION LOCATIONS

#	Intersection	Location	Safety Score ²
1.	John Young Parkway at Sand Lake Road	Orange County	10,140
2.	Alafaya Trail at Colonial Drive	Orange County	10,103
3.	Orange Blossom Trail at Holden Avenue	Orange County	10,055
4.	Hiawassee Road at Silver Star Road	Orange County	9,630
5.	N Poinciana Boulevard at Irlo Bronson Memorial Highway	Osceola County	9,399
6.	Pine Hills Road at Silver Star Road	Orange County	8,673
7.	Semoran Boulevard at Old Cheney Hwy	Orange County	8,509
8.	W Colonial Drive at N Kirkman Road	Orange County	7,097
9.	Goldenrod Road at Colonial Drive	Orange County	7,040
10.	Simpson Road at Irlo Bronson Memorial Highway	Osceola County	6,946
11.	Orange Blossom Trail at Gore Street	Orlando	6,769
12.	N Kirkman Road at Old Winter Garden Road	Orange County	6,724
13.	Goldenrod Road at Curry Ford Road	Orange County	6,715
14.	John Young Parkway at Conroy Road	Orange County	6,699
15.	Pine Hills Road at North Lane	Orange County	6,651
16.	Colonial Drive at Econlockhatchee Trail	Orange County	6,480
17.	Powers Drive at Silver Star Road	Orange County	6,415
18.	Orange Blossom Trail at Conroy Road/Americana Boulevard	Orange County	6,401
19.	Old Cheney Highway/Tucker Avenue at Colonial Drive	Orange County	6,386
20.	Goldenrod Road at University Boulevard	Orange County	6,224
21.	Alafaya Trail at Lokanotosa Trail	Orange County	5,905
22.	Semoran Boulevard at Curry Ford Road	Orlando	5,504
23.	S French Street at W 25th Street	Sanford	5,459
24.	Hastings Street at Silver Star Road	Orange County	5,368
25.	Orange Blossom Trail at Orlando Central Parkway	Orange County	5,160
26.	Orange Blossom Trail at Michigan Street	Orange County	4,924
27.	Irlo Bronson Memorial Highway at Club Sevilla	Osceola County	4,812
28.	Forsyth Road at University Boulevard	Orange County	4,722
29.	N French Avenue at W 1st Street (US 17/92)	Sanford	4,294
30.	Orange Blossom Trail at Premier Row	Orange County	3,919

1. The **Safety Score** is calculated based on the total number of crashes, the **highest level of injury** sustained in each crash, and the **travel mode** of victims. Crashes that result in death or severe injury, or include a person outside a vehicle have different factors applied. With the Safety Score, a higher score indicates the location experiences a high crash rate and a lower score indicates as lower crash rate. A Safety Score of zero indicates no history of crashes at the location.

TOP 30 HIGH INJURY NETWORK CORRIDORS

#	Road Name	From	To	Location	Safety Score ¹
1.	John Young Parkway	SR 50	Orange Center Blvd.	Orlando	17,478
2.	Sand Lake Road/McCoy Road	Turkey Lake Rd.	Universal Blvd.	Orlando	17,104
3.	Chickasaw Trail	Frontage Rd.	Lake Underhill Rd.	Orange County	14,589
4.	Hiawassee Road	SR 438/Silver Star Rd.	SR 50	Orange County	14,547
5.	Oakridge Road	Millenia Blvd.	S. Orange Blossom Trail	Orlando	14,296
6.	Kirkman Road (SR 435)	SR 50	Raleigh St.	Orange County	14,130
7.	Goldenrod Road (SR 551)	SR 50	Lake Underhill Rd.	Orange County	14,129
8.	Semoran Boulevard (SR 436)	Lee Vista Rd.	TG Lee Blvd.	Orlando	14,088
9.	Pine Hills Road	SR 50	Old Winter Garden Rd.	Orange County	13,941
10.	Alafaya Trail	SR 50	Lake Underhill Rd.	Orange County	13,564
11.	Kirkman Road (SR 435)	LB Mcleod Rd.	Major Blvd.	Orlando	13,466
12.	Colonial Drive	Orange Blossom Trail N.	N Bumby Ave.	Orlando	13,415
13.	North Lane	Westgate Rd.	N Pine Hills Rd.	Orange County	12,946
14.	Hiawassee Rd.	SR 50	Old Winter Garden Rd.	Orange County	12,344
15.	SR 434	McCulloch Rd.	SR 50	Orange County	12,284
16.	Oak Ridge Road (CR 506)	S. Orange Blossom Trail	Orange Ave S.	Orange County	12,054
17.	Lee Road	N. Orange Blossom Trail	N. Wymore Rd.	Orange County	11,972
18.	University Blvd.	Semoran Blvd. (SR 436)	Lake Mirage Blvd.	Orange County	11,938
19.	Rosalind Ave.	E. Livingston St.	S. Lucerne Cir.	Orlando	11,526
20.	Semoran Boulevard	Lake Underhill Rd.	Lake Margaret Dr.	Orlando	11,419
21.	US 192/Vine St.	Celebration Ave.	Four Winds Blvd.	Osceola County	11,347
22.	Goldenrod Road	Lake Underhill Rd.	Beatty Dr.	Orange County	11,182
23.	N Ronald Reagan Blvd.	Elder Springs Cir.	Jones Ave.	Seminole County	10,951
24.	W First Street (US 17/92)	N. Persimmon Ave.	N French Ave.	Sanford	10,856
25.	Edgewater Dr./Highland Ave.	Clarcona Ocoee Rd.	Lee Rd.	Orange County	10,652
26.	Conway Road	Curry Ford Rd.	E. Michigan St.	Orlando	10,570
27.	Pershing Ave.	Woodgate Blvd.	Goldenrod Rd.	Orlando	10,554
28.	John Young Pkwy.	SR 528 Ramps	Lazio Ln.	Orange County	10,510
29.	East Lake Mary Blvd.	North of Celery Ave.	SR 46	Seminole County	10,477
30.	Poinciana Blvd.	US 192	Siesta Lago Dr.	Osceola County	10,431

1. The **Safety Score** is calculated based on the total number of crashes, the **highest level of injury** sustained in each crash, and the **travel mode** of victims. Crashes that result in death or severe injury, or include a person outside a vehicle have different factors applied. The roadway segment score was normalized on a per mile basis. With the Safety Score, a higher score indicates the location experiences a high crash rate and a lower score indicates as lower crash rate. A Safety Score of zero indicates no history of crashes at the location.

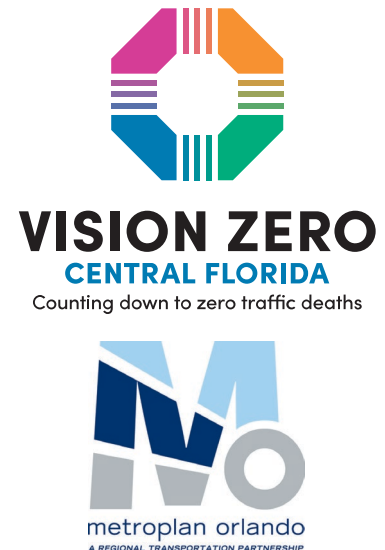
Memorandum

Date: January 17, 2024

To: Vision Zero Central Florida Partners

From: Mighk Wilson, MetroPlan Orlando
Kathrin Tellez, Fehr & Peers

Subject: **Vision Zero Central Florida – Crash Analysis and Profiles**



Introduction

The MetroPlan Orlando metropolitan area has the unfortunate distinction of having one of the highest pedestrian fatality rates in the country, and the region's overall fatal crash rate (for all road users) is 15% higher than the national average and 10% higher than the statewide average. To understand where and why crashes that result in fatalities and serious injuries are most likely to occur and how to reduce the severity and frequency of these crashes, MetroPlan Orlando is preparing a Regional Vision Zero Action Plan, rooted in the core elements of Vision Zero and the Safe System approach. The overall purpose of the Action Plan is to identify projects, programs and strategies that will eliminate fatalities and serious injuries on the region's roads by taking advantage of the next round of implementation funding through the Safe Streets for All (SS4A) grant program. The SS4A program is also funding the preparation of County and Local Vision Zero action plans in the region.

This memo summarizes the methodology used to analyze the crash data, identify trends in the data and complete a contextual analysis to understand the characteristics of roads throughout the MetroPlan Orlando region where fatal and severe injury crashes are more likely to occur. This analysis is presented in a series of high-level descriptive summary tables to capture relationships between crash data, infrastructure data, and contextual variables. These tables explore overall crash trends and patterns that can be used to guide the selection of other variables warranting deeper analysis, new driver behavior programs, policy changes, or the selection of safety countermeasures for project development. Detailed crash matrices for the region and each county are provided as attachments at the end of this memorandum. The memorandum is organized as follows:

1. Key Findings
2. Methodology and Data Sources
3. Crash Trends
4. Contextual Analysis
 - a. Behavioral Factors
 - b. Road Factors
 - c. Environmental Factors
5. Systemic Matrices

Key Findings

Key findings from the crash analysis are summarized below. The crash analysis considered all reported vehicular crashes in the MetroPlan Orlando Region between January 1, 2018 and December 31, 2022, as well as supplemental information from the Florida Injury Surveillance System (FISS), and the Florida Department of Transportation (FDOT) Modal Office. Crash data was downloaded from Signal 4 Analytics in July 2023; data downloaded before or after this date may reflect different information, especially for the latter years of analysis as the datasets are continually being reviewed and updated. Throughout the report, crashes that result in someone being **killed or severely injured (KSI)** are referred to as **KSI crashes**.

Overall

- During a typical week in the MetroPlan Orlando Region, which includes Orange, Osceola, and Seminole Counties, **5 people are killed and 35 people are seriously injured** in traffic crashes on our roads.
- Although only 25% of the regional population lives in a designated transportation disadvantaged community almost **50% of all crashes and 52% of fatal crashes** occur within or adjacent to **transportation disadvantaged** communities. The designation of transportation disadvantage considers many factors, including poverty rates, motor vehicle ownership, and access to destinations. Additional information is provided in the next section.
- Crashes involving people **outside a vehicle** – pedestrians, bicyclists and motorcyclists – accounted for about 3% of overall crashes, 25% of serious injury crashes and 48% of fatal crashes in the region.
- **Distraction** was a factor in 25% of overall crashes, 31% of serious injury crashes and 18% of fatal crashes.

Car and Truck Involved Crashes

- 61% of **left-turn** KSI crashes are due to a failure to yield the right of way, with 15% related to disobeying the traffic control device (running red light or stop sign). Left-turn related crashes are more likely to result in a KSI as the total number of travel lanes and the posted speed limit increases.
- **Off-road** crashes are more prevalent on 2-lane, 40+ mile per hour speed limit roads without a raised median or shoulders,
- **Rollover** crashes are most prevalent on high-speed principal arterial roads, with operating the motor vehicle in a careless or negligent manner a contributing factor in over 40% of KSI crashes, driving too fast for conditions a contributing factor in 7% of KSI crashes, and swerving to avoid a hazard a contributing factor in 3% of KSI crashes.
- **Alcohol and/or drugs** are a factor in about 10% of KSI crashes, with alcohol/drug related crashes more likely to occur on a Friday or Saturday night/early morning.

- **Teens** comprise about 6% of licensed drivers in the region and are involved in 11% of KSI crashes. **Aging drivers** comprise about 15% of licensed drivers in the region and are involved in about 14% of KSI crashes.
- **Rear-end** crashes are more likely to occur on high-speed, multilane roads, comprising 19% of all KSI crashes.
- 38% of people who died in a car or truck crash in the region were **not wearing their seatbelt**.

Pedestrian and Bicyclist

- 65% of pedestrian and 65% of bicyclist fatalities occur in **transportation disadvantaged communities**.
- Almost 20% of pedestrian KSI and 19% of bicyclist KSI crashes were **hit and run**, as compared to 9% of all crashes.
- Fatal and serious injury crashes involving a person walking or bicycling are more likely to occur at night, under **dark and dark-lighted conditions**.
- The percent of **KSI pedestrian and bicyclist** crashes increases as the number of lanes, the **volume of motor vehicles**, and the **posted speed limit increase**, with 71% of pedestrian KSIs occurring on roads with a posted speed limit higher than 40 miles per hour, 74% occurring on roads with 4 or more lanes, and 82% occurring on roads with more than 15,000 motor vehicle trips per day.
- Approximately 71% of KSI pedestrian crashes are **not at an intersection**.
- About 64% of **bicyclist hospital admissions** (over 100 per year) do not involve a motor vehicle.
- There are about 3 bicyclist fatalities per year that do **not involve a motor vehicle**.
- Non-motor-vehicle pedestrian **hospital admissions** have nearly doubled over the past decade from about 15 to 30 per year, with the increase corresponding to an increase in e-scooter use (and similar devices).

Motorcyclist Crashes

- 43% of motorcyclists who died in a crash were **not wearing a helmet**.
- Crashes involving a motorcyclist are more likely to lead to a severe or fatal injury as posted **speed limit increases**.
- 30% of motorcyclist KSI crashes involve **left-turn** movements and 16% involve **rear-end** crashes.
- Motorcyclist crashes are more likely to result in a **fatality under dark-not lighted conditions**.
- About 10% of motorcyclist KSI are **single-motor vehicle** crashes.

Railroad Crossings

- Of the 19 pedestrian fatalities along railroad **tracks or at railroad crossings**, 58% were determined to be suicides.

Methodology and Data Sources

Several datasets were used to aid in the understanding of crash trends within the region, including data from Signal 4 Analytics (Signal 4)¹, the Florida Injury Surveillance System (FISS), and the Florida Department of Transportation (FDOT) Modal Office. Data from Signal 4 reflects all crashes in the region that were reported to law enforcement and that involve a motor vehicle. From the FISS dataset, deaths, emergency room visits and hospitalizations for people who were injured while walking and biking are provided, including information for people who were injured or killed while walking or bicycling when a motor vehicle was not involved. The FDOT Modal Office provided information related to trespassing incidents near train tracks in the region as incidents between people walking or bicycling and trains do not typically show up in crash reports that would be included in the Signal 4 dataset unless a motor vehicle was involved. Data reflective of 2018 to 2022 from Signal 4 downloaded in June 2023, data from October 2018 to March 2023 from the modal office, and data from 2011 to 2021 from FISS was considered in this analysis.

Spatial Data

The road network that served as the basis for this analysis was obtained from the xGeographic Wave database, which is a land use, transportation, environmental and demographic mapping database, usable across Geographic Information System (GIS) mapping platforms, that has been built for the MetroPlan Orlando region. Information within the database that was considered in the analysis includes:

- Number of through lanes
- Number of turn lanes
- Average Annual Daily Traffic (AADT)
- Posted Speed
- Median Presence
- Presence of walking and biking facilities
- Functional Classification
- Context Classification
- Proximity to key destinations, such as public schools and transit stops

¹ The Signal 4 dashboard and analytics system receives data from Florida's statutory custodian of records, the Florida Department of Highway Safety and Motor Vehicles (FLHSMV); all data is considered preliminary until the year is reconciled and closed out by the FLHSMV, and thus certain adjustments may be made to verify the data where clerical errors are noted. As such, data downloaded before or after the data download for this project (July 2023) may slightly differ from the data used in this analysis.

Signal 4 Crash Dataset

All data from Signal 4 was mapped based on the geolocation associated with each crash record, which revealed some crashes with incomplete or incorrect information, such as crashes that did not actually occur in any of the three counties. After removing incorrectly geolocated crashes (i.e., those not actually located within the region), a total of 327,306 crashes, including 1,366 that resulted in a fatality, 7,484 that resulted in a serious injury, 89,957 that resulted in some injury, and 228,499 that resulted in no injury are considered in the analysis. Of the total reported crashes, approximately 3,950 occurred in parking lots, including 9 fatal crashes and 119 serious injury crashes. Of the total crashes, 50,850 reported crashes occurred on limited access facilities, including 214 fatal crashes and 1,363 serious injury crashes.

For some analyses presented in the subsequent sections, crashes that occurred on limited access facilities, like Interstate 4, and in parking lots, were not considered. Some high-level analyses incorporate all crashes, while most only consider crashes where someone was severely injured or killed. Additionally, total crashes are used as the unit of measurement (as opposed to total number of people involved), unless otherwise stated.

US DOT Transportation Disadvantage

The US Department of Transportation's (DOT) has developed a metric to identify communities that experience transportation insecurity through transportation disadvantage. Transportation disadvantage occurs when people are unable to access the needs of their daily life regularly, reliably, and safely. There are five main components of transportation disadvantage with the indicators used to identify transportation disadvantaged communities summarized below:

1. **Transportation Insecurity** occurs when people are unable to get to where they need to go to meet the needs of their daily life regularly, reliably, and safely. Nationally, there are well-established policies and programs that aim to address food insecurity and housing insecurity, but not transportation insecurity. A growing body of research indicates that transportation insecurity is a significant factor in persistent poverty.
2. The **Environmental Burden** component of the index includes variables measuring factors such as pollution, hazardous facility exposure, and the built environment. These environmental burdens can have far-reaching consequences such as health disparities, negative educational outcomes, and economic hardship.
3. **Social Vulnerability** is a measure of socioeconomic indicators that have a direct impact on quality of life. This set of indicators measure lack of employment, educational attainment, poverty, housing tenure, access to broadband, and housing cost burden as well as identifying household characteristics such as age, disability status and English proficiency.
4. The **Health Vulnerability** category assesses the increased frequency of health conditions that may result from exposure to air, noise, and water pollution, as well as lifestyle factors such as poor walkability, car dependency, and long commute times.
5. **Climate and Disaster Risk Burden** reflects sea level rise, changes in precipitation, extreme weather, and heat which pose risks to the transportation system. These hazards may affect system performance, safety, and reliability. As a result, people may have trouble getting to their homes, schools, stores, and medical appointments.

Each indicator is comprised of multiple factors. Additional information can be found on the US DOT website for Equitable Transportation Community (ETC):
<https://www.transportation.gov/priorities/equity/justice40/etc-explorer>.

For each indicator, a score was developed by normalizing and then summing indicators within each component. Census Tracts/projects areas at "0%" are considered the least disadvantaged and "100%" are the most. US DOT considers a census tract to be experiencing disadvantage if the overall index score places it in the 65 percentile (or higher) of all census tracts in the United States. The ranked Component Scores are then summed across all components to generate an Overall Score. The Transportation Insecurity component was double weighted in generating the final score. Census tracts that have an overall weighted score of 65% or higher are considered Transportation Disadvantaged.

As part of the preparation of a Regional Equity Profile, MetroPlan Orlando reviewed the US DOT data and made minor adjustments based on local data to remove a large census tract in southeast Osceola County that was skewing the results. A summary of the total transportation disadvantaged population in the MetroPlan Orlando region is provided in **Table 1**, which shows that about 25% of the regional population lives in a community considered to be transportation disadvantaged. For some crash statistics throughout the region presented in this memorandum, crash frequency and outcomes for crashes that occurred within transportation disadvantaged communities were compared to the overall regional data.

Table 1: Transportation Disadvantaged Summary Statistics – MetroPlan Orlando Region

Criteria	Total Disadvantaged Population	Total Disadvantaged Census Tracts	Total Disadvantaged area (in Acres)
MetroPlan Orlando Equitable Transportation Community (ETC) Final Rank Score	0.57M (25.2%)	103 (24.9%)	0.16M (9.6%)
Transportation Insecurity	0.78M (34.7%)	131 (31.6%)	1.27M (78%)

Source: Transportation for All; Overcoming Obstacles, Regional Equity Profile, MetroPlan Orlando; November 2023 and EquityIndex_V2 | Tableau Public

Statistical Test Methodology

To test if a certain category of crashes had a significantly higher crash rate, the crashes were normalized based on available data, such as traffic volume or centerline miles in that specific category. For example, crashes that result in someone being killed or severely injured, referred to as KSI crashes, are over-represented for roads with 6+ lanes based on the number of crashes that occurred on roads with 6+ lanes and the proportion of centerline miles for roads with 6+ lanes in the data set. Throughout the report, results that were found to be higher or lower than regional averages or disproportionately represented are highlighted in blue. Where applicable, a comparative analysis was made between modes (i.e., all modes versus pedestrians and bicyclists), by severity (i.e., all crashes versus KSI crashes only), or transportation disadvantaged status.

Limitations of the Data and Analysis

There are known limitations of the various datasets that are used for this analysis and the extent to which these limitations affect the overall dataset and subsequent analysis is not quantified. Some limitations include:

- **Only reported crashes** are included in the Signal 4 dataset. Some crash types may be underreported due to a variety of reasons, such as no apparent injuries, law enforcement response time, fear of law enforcement, lack of knowledge about the reporting process, lack of insurance or desire to not involve insurance, or legal status of people involved in crash.
- Potential for **incomplete or inaccurate data** within crash reports. While there are many layers of review that occur for crash reports, some information may not be correct. For example, in some instances, the reporting officer may use the GPS coordinates of where they completed the crash report, which could be a parking lot near the crash site, instead of the location of the first harmful event. Additionally, crashes involving a person in a wheelchair, or micromobility device, like an e-scooter, may be classified as pedestrian or bicyclist related, and a golf cart crash may be characterized as a motor vehicle crash as there are not fields within the crash report to denote the wide range of road users. While the details are often in the crash report, they are not available at this scale of analysis.
- **Only crashes involving a motor vehicle** are reported in the Signal 4 dataset. A crash between a bicyclist and a pedestrian or a bicyclist and a train would not be reflected in the Signal 4 dataset. As noted previously, other data sources were considered to better incorporate those crash types, but it may be difficult to compare trends with a variety of data resources that need to be compiled.
- Results are based on crash data and current attribute data from **2018-2022** and do not account for road improvements made during the study period. Locations where major safety improvements were made during that time frame may be candidates for before-and-after analysis to determine if the road improvements had any effect on crash severity, crash frequency, crash causes, and/or crash types. This type of analysis would also inform the effectiveness of road safety improvements within the study area.
- Some of the crash analyses are based on exposure by using the average annual daily traffic (AADT) volumes for motor vehicles, where available. However, pedestrian and bicyclist volumes are not readily available to adjust for exposure. Therefore, analyses reported here do not adjust for exposure rates based on volumes by modes, and results show crash density but not frequency of crashes based on how many people are walking, i.e., exposure. For example, in many communities, pedestrian crashes are more common during daylight conditions than dark conditions. This does not mean that daylight conditions are more dangerous than dark conditions. Rather, it reflects the fact that people are more likely to travel, and especially more likely to travel by walking, in light conditions than in dark conditions. Having volume by mode would provide some insight into exposure and frequency for non-motorized modes.

Crash Trends

The following sections summarize crash data from 2018 through 2022 to provide statistical trends by year, by mode and by severity. While the data presented in this memorandum is at the regional scale, there are similarities between roads in the region, such that the takeaways from the regional crash analysis can be used by local jurisdictions to help identify common crash trends.

Crashes by Year

The number of crashes by year by severity are summarized in **Table 2** for reported crashes from 2018 through 2022 in the MetroPlan Orlando region. The severity level reflects the maximum injury severity of any crash participant and is reflected as:

- No Injury – crashes where no persons were reported to be injured. Also known as property damage only crashes.
- Injury – crashes where there is a possible injury or a non-incapacitated injury which may or may not require hospitalization.
- Serious Injury – crashes where there is an incapacitating injury, such as burns, lacerations, or broken bones that require hospitalization.
- Fatality – crash results in one or more fatalities within 30 days.

In 2018 and 2019, the total number of reported crashes was around 75,000 per year. In 2020, the number of reported crashes decreased by about 33%. This reduction in total crashes, with an increase in the percent of crashes that resulted in a fatality or severe injury was likely influenced by the COVID-19 pandemic, which led to a significant reduction in overall travel for a portion of 2020, an increase in severity for crashes that did occur as people tended to be driving faster, and an overall decrease in reporting for non-injury crashes related to social distancing.

Table 2: Crash Summary by Year – MetroPlan Orlando Region

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	53,529 (71.7%)	19,252 (25.8%)	1,651 (2.2%)	262 (0.4%)	74,694
2019	53,141 (71%)	20,008 (26.7%)	1,465 (2%)	267 (0.4%)	74,881
2020	35,972 (68.1%)	15,217 (28.8%)	1,399 (2.6%)	249 (0.5%)	52,837
2021	42,539 (67.8%)	18,314 (29.2%)	1,648 (2.6%)	280 (0.4%)	62,781
2022	43,318 (69.7%)	17,166 (27.6%)	1,321 (2.1%)	308 (0.5%)	62,113
Total	228,499 (69.8%)	89,957 (27.5%)	7,484 (2.3%)	1,366 (0.4%)	327,306

Source: Signal 4 Analytics; Notes: Includes limited access facilities

Crash summaries by facility type were also developed, as presented in **Table 3** for non-limited access facilities and in **Table 4** for limited access facilities. Limited access facilities include freeways and toll roads while non-limited access roads include surface streets that typically accommodate non-auto travel as well as transit. National data shows that the overall crash rate per million miles of vehicle travel is lower on limited access roads than on non-limited access roads because there are fewer conflicts on limited access roads, including driveways, and bicyclists and pedestrians are not allowed on limited access roads. Therefore, some data is presented for only non-limited access roads.

Table 3: Crash Summary by Year Non-Limited Access Facilities – MetroPlan Orlando Region

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	44,585 (71.4%)	16,225 (26%)	1,382 (2.2%)	215 (0.3%)	62,407
2019	44,509 (70.7%)	16,937 (26.9%)	1,244 (2%)	226 (0.4%)	62,916
2020	30,986 (68.3%)	13,001 (28.7%)	1,141 (2.5%)	211 (0.5%)	45,339
2021	36,259 (67.7%)	15,766 (29.4%)	1,318 (2.5%)	245 (0.5%)	53,588
2022	36,192 (69.3%)	14,725 (28.2%)	1,036 (2%)	255 (0.5%)	52,208
Total	192,531 (69.6%)	76,654 (27.7%)	6,121 (2.2%)	1,152 (0.4%)	276,458

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Table 4: Crash Summary by Year Limited Access Facilities Only – MetroPlan Orlando Region

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	8,944 (72.8%)	3,027 (24.6%)	269 (2.2%)	47 (0.4%)	12,287
2019	8,632 (72.1%)	3,071 (25.7%)	221 (1.8%)	41 (0.3%)	11,965
2020	4,986 (66.5%)	2,216 (29.6%)	258 (3.4%)	38 (0.5%)	7,498
2021	6,280 (68.3%)	2,548 (27.7%)	330 (3.6%)	35 (0.4%)	9,193
2022	7,126 (71.9%)	2,441 (24.6%)	285 (2.9%)	53 (0.5%)	9,905
Total	35,968 (70.7%)	13,303 (26.2%)	1,363 (2.7%)	214 (0.4%)	50,848

Source: Signal 4 Analytics

Notes: Only limited access facilities

For crashes that occurred on non-limited access roads, the number of reported crashes within or 250 feet from of the boundary of a census tract that is identified as transportation disadvantaged was summarized, as presented in [Table 5](#), which shows that while only 25% of people live in transportation disadvantaged Census Tracts, almost **50% of all crashes and 54% of fatal crashes occur within or adjacent to transportation disadvantaged communities.**

Table 5: Crash Summary by Year on Non-Limited Access Roads in MetroPlan Orlando Transportation Disadvantaged Areas

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	21,904 (70.9%)	8,194 (26.5%)	677 (2.2%)	123 (0.4%)	30,898
2019	21,405 (69.2%)	8,773 (28.4%)	629 (2%)	124 (0.4%)	30,931
2020	15,432 (66.7%)	6,997 (30.2%)	603 (2.6%)	113 (0.5%)	23,145
2021	17,306 (65.7%)	8,148 (30.9%)	740 (2.8%)	146 (0.6%)	26,340
2022	16,728 (67.1%)	7,507 (30.1%)	585 (2.3%)	120 (0.5%)	24,940
Total	92,775 (68.1%)	39,619 (29.1%)	3,234 (2.4%)	626 (0.5%)	136,254
Percent of Regional Total	48%	52%	53%	54%	49%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Crashes by Mode

Table 6 through **Table 9** summarize crashes by injury severity and mode for all roads, limited access roads, non-limited access roads, and roads within and adjacent to transportation disadvantaged communities. Overall, motor vehicle crashes accounted for most of the crashes with almost 97% of total crashes. This is expected as most trips in the region are typically made by motor vehicles. Motorcyclists, pedestrians, and bicyclists together account for about 3.3% of total crashes. On limited access facilities, like freeways and toll roads, people in cars and trucks were involved in 98.8% of all crashes, with pedestrians involved in 0.1% of crashes and motorcyclists involved in 1.1% of all crashes. There were no bicyclist involved crashes on limited access facilities reported during the analysis time frame.

While motor vehicle crashes accounted for the largest share of both overall crashes and KSI crashes, when vulnerable road users were involved in a crash (defined for the purposes of this memorandum as someone outside a motor vehicle, including a pedestrian, bicyclist, or motorcyclist) the risk of death or serious injury increased disproportionately. **Crashes involving vulnerable road users accounted for about 3% of overall crashes, 25% of serious injury crashes and 48% of fatal crashes** (see **Table 6**). In transportation disadvantaged communities, crashes involving pedestrians and bicyclists were even higher (**Table 9**) than for roads that are not in disadvantaged communities.

- **Pedestrians:** Pedestrians were involved in 1% of all crashes, 9% of crashes that resulted in a serious injury and 26% of crashes that resulted in a fatality (crashes involving a pedestrian where the pedestrian was unharmed or experienced minor injuries are underreported). **In transportation disadvantaged communities, pedestrians were involved in 35% of fatal crashes.** Pedestrians were also involved in 18 fatal crashes on limited access facilities. Most of these people were hit while on the side of the road with a disabled vehicle. Pedestrian coded crashes typically include skateboard, scooter and other micro-mobility devices, and the hospital injury data has shown a significant increase in "pedestrian" injuries that did not involve a motor vehicle (see **Table 14**). These are most likely injuries involving solo micro-mobility users.
- **Bicyclists:** People bicycling were involved in about 0.7% of all crashes, 4% of crashes that resulted in a serious injury and 4% of crashes that resulted in a fatality (crashes involving a bicyclist where the person bicycling was unharmed or experienced minor injuries are underreported). In transportation disadvantaged communities, bicyclists were involved in 5% of fatal crashes. Hospital injury data shows that an average of 64% of bicyclist hospitalizations do not involve a motor vehicle (**Table 13**).
- **Motorcyclist:** Motorcycle crashes comprised 1.4% of all crashes, 12% of crashes that resulted in a serious injury and 18% of crashes that resulted in a fatality. Approximately 12% of motorcyclist KSI crashes are single vehicle crashes.
- **Cars and Trucks:** Crashes involving cars and trucks comprised 97% of all crashes, 75% of crashes that resulted in a serious injury and 53% of crashes that resulted in a fatality.

Table 6: Crash Summary by Mode – MetroPlan Orlando Region (2018-2022)

Mode	No Injury	Injury	Serious Injury	Fatality	Total
Bicycle	380 (0.2%)	1,706 (1.9%)	289 (3.9%)	52 (3.8%)	2,427 (0.7%)
Pedestrian	409 (0.2%)	2,600 (2.9%)	702 (9.4%)	352 (25.8%)	4,063 (1.2%)
Motorcycle	992 (0.4%)	2,437 (2.7%)	871 (11.6%)	245 (17.9%)	4,545 (1.4%)
Motor vehicles (including trucks)	226,718 (99.2%)	83,214 (92.5%)	5,622 (75.1%)	717 (52.5%)	316,271 (96.6%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities; **Blue/Bold** indicates that crash type disproportionately results in a KSI.**Table 7: Crash Summary by Mode on Limited Access Roads in MetroPlan Orlando Region (2018-2022)**

Mode	No Injury	Injury	Serious Injury	Fatality	Total
Bicycle	1 (0%)	13 (0.1%)	2 (0.1%)	0 (0%)	16 (0%)
Pedestrian	10 (0%)	27 (0.2%)	18 (1.3%)	18 (8.4%)	73 (0.1%)
Motorcycle	93 (0.3%)	290 (2.2%)	137 (10.1%)	21 (9.8%)	541 (1.1%)
Motor vehicles (including trucks)	35,864 (99.7%)	12,973 (97.5%)	1,206 (88.5%)	175 (81.8%)	50,218 (98.8%)
Total	35,968	13,303	1,363	214	50,848

Source: Signal 4 Analytics

Table 8: Crash Summary by Mode on Non-Limited Access Roads in MetroPlan Orlando Region (2018-2022)

Mode	No Injury	Injury	Serious Injury	Fatality	Total
Bicycle	379 (0.2%)	1,693 (2.2%)	287 (4.7%)	52 (4.5%)	2,411 (0.9%)
Pedestrian	399 (0.2%)	2,573 (3.4%)	684 (11.2%)	334 (29%)	3,990 (1.4%)
Motorcycle	899 (0.5%)	2,147 (2.8%)	734 (12%)	224 (19.4%)	4,004 (1.4%)
Motor vehicles (including trucks)	190,854 (99.1%)	70,241 (91.6%)	4,416 (72.1%)	542 (47%)	266,053 (96.2%)
Total	192,531	76,654	6,121	1,152	276,458

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Table 9: Crash Summary by Mode on Non-Limited Access Roads in Transportation Disadvantaged Areas in MetroPlan Orlando Region (2018-2022)

Mode	No Injury	Injury	Serious Injury	Fatality	Total
Bicycle	197 (0.2%)	853 (2.2%)	161 (5%)	34 (5.4%)	1,245 (0.9%)
Pedestrian	216 (0.2%)	1,359 (3.4%)	433 (13.4%)	219 (35%)	2,227 (1.6%)
Motorcycle	461 (0.5%)	1,094 (2.8%)	365 (11.3%)	120 (19.2%)	2,040 (1.5%)
Motor vehicles (including trucks)	91,901 (99.1%)	36,313 (91.7%)	2,275 (70.3%)	253 (40.4%)	130,742 (96%)
Total	92,775	39,619	3,234	626	136,254

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; **Blue/Bold** indicates that crash type disproportionately results in a KSI as compared to non-limited access roads not in transportation disadvantaged communities.

Crashes by People Involved

The data in the prior section reflects crashes, which may involve multiple motor vehicles, people traveling by other modes, and result in numerous people in each crash being hurt, severely injured or killed. **Table 10** summarizes the number of people involved crashes by injury severity by year, with **Table 11** summarizing total injuries by mode of travel. The trend shows that the number of people killed in the MetroPlan Orlando region is trending higher, with 1,465 people killed in crashes between 2018 and 2022, 9,500 people seriously injured and almost 150,000 people sustaining a moderate or minor injury. Of people who were hurt or killed on non-limited access facilities, crashes that resulted in in 52% of injuries or fatalities occurred within or adjacent to a transportation disadvantaged community. Although only 25% of the regional population lives in a transportation disadvantaged community, **65% of bicyclist fatalities and 65% of pedestrian fatalities occur in transportation disadvantaged communities (Table 12).**

Table 10: Injury Summary by Year – MetroPlan Orlando Region

Year	Injury	Serious Injury	Fatality	Total
2018	31,407 (93%)	2,084 (6.2%)	278 (0.8%)	33,769
2019	32,878 (93.8%)	1,877 (5.4%)	288 (0.8%)	35,043
2020	25,068 (92.5%)	1,769 (6.5%)	271 (1%)	27,108
2021	31,099 (92.8%)	2,106 (6.3%)	309 (0.9%)	33,514
2022	28,469 (93.5%)	1,662 (5.5%)	319 (1%)	30,450
Total	148,921 (93.1%)	9,498 (5.9%)	1,465 (0.9%)	159,884

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 11: Total Injuries by Mode of Travel – MetroPlan Orlando Region (2018-2022)

Mode	Injury	Serious Injury	Fatality	Total
Bicycle	1,788 (1.2%)	293 (3.1%)	52 (3.5%)	2,133 (1.3%)
Pedestrian	2,874 (1.9%)	723 (7.6%)	359 (24.5%)	3,956 (2.5%)
Motorcycle	3,119 (2.1%)	945 (9.9%)	252 (17.2%)	4,316 (2.7%)
Motor vehicles (including trucks)	141,140 (94.8%)	7,537 (79.4%)	802 (54.7%)	149,479 (93.5%)
Total	148,921	9,498	1,465	159,884

Source: Signal 4 Analytics

Notes: Includes limited access facilities; **Blue/Bold** indicates that crash type disproportionately results in a KSI.

Table 12: Percent of Total Injuries by Mode of Travel in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Mode	Injury	Serious Injury	Fatality	Total
Bicycle	51%	56%	65%	52%
Pedestrian	54%	63%	65%	57%
Motorcycle	51%	51%	53%	51%
Motor vehicles (including trucks)	52%	51%	47%	52%
Total	52%	52%	54%	52%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; when limited access facilities are included, the percent of vehicle occupants who are injured or killed decreases from 52% to 51%, and the percent of pedestrians who are injured or killed decreases from 57% to 56% largely due to the amount of through travel on limited access facilities. Approximately 25% of the region's population lives in a transportation disadvantaged community.

Railroad Incidents (not involving a motor vehicle)

Data related to trespasser incidents between trains and bicyclists or pedestrians was obtained from the FDOT modal office for the period between October 2018 and March 2023. The data includes incidents that resulted in a fatality or severe injury, as well as near-misses. As mentioned previously, crash data at railroad crossings involving motor vehicles is included in the Signal 4 crash database, but incidents that do not involve motor vehicles are not reported to Signal 4. A full summary of the incidents by location is provided as **Attachment A**, with a summary of key findings presented below reflective of incidents between people walking or biking and trains operated by SunRail, CSX or Amtrak.

- 27 incidents that resulted in a serious injury or death and 55 near-misses that did not result in an injury were reported between October 2018 and March 2023, including:
 - 8 Injuries, with 2 suicide attempts
 - 19 fatalities, with 11 confirmed or apparent suicides
 - 55 near-misses that did not result in an injury

- Of the 27 KSI incidents, 9 (33%) occurred at a grade crossing and 18 (67%) occurred outside of a crossing area; of the near-miss incidents, 21 (38%) occurred at a crossing and 34 (62%) occurred outside of a crossing.
- Of the KSI incidents, 18 (67%) people were standing, sitting, kneeling, or lying on the railroad tracks, 4 (15%) were walking along the railroad tracks, 2 (7%) were walking across the railroad tracks, and the action was unknown in 3 (11%) of the incidents. Of the near-miss incidents, 22 (40%) people were standing, sitting, kneeling, or lying on the railroad tracks, 14 (25%) were walking along the railroad tracks, 14 (25%) were walking across the railroad tracks, and the action was unknown in 3 (9%) of the incidents.
- Frequency and type of railroad incidents by community:
 - 11 KSI and 22 near-misses in Orlando
 - 3 KSI and 8 near-misses in Winter Park
 - 3 KSI and 5 near-misses in unincorporated Osceola County
 - 3 KSI and 8 near-misses in Kissimmee
 - 2 KSI in Edgewood
 - 2 KSI and 2 near-misses in Longwood
 - 1 KSI and 4 near-misses in unincorporated Orange County
 - 1 KSI in Altamonte Springs
 - 1 KSI and 1 near-miss in Maitland
 - 5 near-misses in Sanford
 - 2 near-misses in Lake Mary

Bicycle and Pedestrian Emergency Room Admission

Data from the Florida Injury Surveillance System (FISS) includes deaths, emergency room visits and hospitalizations for people who were injured while walking and biking, as well as information for people who were injured or killed while walking or bicycling when a motor vehicle was not involved, as summarized in [Table 13](#) for bicyclist and [Table 14](#) for pedestrians. These tables show hospital data for Emergency Room (ER) visits, hospitalizations, and fatalities. Data from Law Enforcement (LE) is also shown for comparison purposes. Pedestrian hospitalization data may also include people using electric-scooters (e-scooter) and other mobility devices.

Table 13: Bicyclists Hospitalizations 2011 – 2021 – MetroPlan Orlando Region

Year	LE Fatal Bike Crash	Hospital Reported Fatalities - Motor Vehicle Involved	Hospital Reported Fatalities - Non-Motor Vehicle Involved	LE Incapacitating Bike Crashes	Hospitalizations: Motor Vehicle	Hospitalizations: Non-Motor Vehicle	ER: Motor Vehicle	ER: Non-Motor Vehicle
2011	12	11	3	53	57	140	376	1,736
2012	11	20	0	70	63	156	393	1,692
2013	15	13	3	91	54	151	458	1,636
2014	13	12	2	127	48	141	379	1,729
2015	18	14	4	160	56	137	535	1,533
2016	11	5	0	118	70	102	777	1,042
2017	13	10	5	83	72	82	791	1,323
2018	14	13	3	91	96	100	652	1,354
2019	12	13	3	66	78	125	430	1,040
2020	10	14	1	78	85	144	332	934
2021	17	12	5	75	98	125	-	-
% Change 2011-13 to...								
To 2014-16	11%	-30%	0%	89%	0%	-15%	38%	-15%
To 2017-20	-3%	-15%	50%	11%	43%	-24%	35%	-31%

Source: FISS and MetroPlan Orlando

Table 14: Pedestrian Hospitalizations 2011 – 2021 – MetroPlan Orlando Region

Year	LE Fatal Ped Crash	Hospital Reported Fatalities - Motor Vehicle Involved	Hospital Reported Fatalities - Non-Motor Vehicle Involved	LE Incapacitating Bike Ped Crashes	Hospitalizations: Motor Vehicle	Hospitalizations: Non-Motor Vehicle	ER: Motor Vehicle	ER: Non-Motor Vehicle
2011	62	46	4	125	141	15	606	84
2012	45	39	2	126	178	19	641	89
2013	55	37	7	160	146	18	684	73
2014	65	48	6	226	153	18	697	123
2015	64	41	4	234	121	22	640	202
2016	77	61	7	207	89	27	542	380
2017	88	70	6	156	108	30	523	434
2018	73	59	4	165	114	32	550	316
2019	89	68	8	171	136	30	429	218
2020	63	57	2	145	127	21	257	133
2021	81	85	6	176	178	29	-	-
% Change 2011-13 to...								
To 2014-16	27%	23%	31%	62%	-22%	29%	-3%	187%
to 2017-20	45%	56%	15%	16%	-22%	63%	-32%	236%

Source: FISS and MetroPlan Orlando

Some key findings include:

- About 64% of bicyclist hospital admissions (over 100 per year) do not involve a motor vehicle.
- There are about 3 bicyclist fatalities per year that do not involve a motor vehicle.
- Non-motor-vehicle pedestrian admissions have nearly doubled over the past decade from about 15 to 30 per year, with the increase corresponding to the increase in e-scooter use (and similar devices). The biggest increases in both admissions and ER visits for pedestrians without motor vehicles are in Orange County, which has the most e-scooter use, especially in Downtown Orlando and near UCF. ER visits in Orange County increased by 370% from 2011-13 to 2017-19.
- A drop in the percent of non-motor vehicle bicyclist admissions and ER visits during the same time periods could indicate a shift from bicycling to scootering.

Additional details related to bicycling and pedestrian hospital visits have been requested from local hospitals, but at the time this report was prepared, the data was not provided.

Crashes by Type

Table 15 summarizes the crashes based on the recorded crash type for all crashes where a crash type is known and **Table 16** summarizes the contributing action of the first driver for the crash categories that disproportionately result in KSIs. Following the table, a definition of each crash type is provided with a summary of key takeaways. This information can be used to identify appropriate strategies to implement at high crash locations that reduce the frequency and severity of crashes.

Table 15: Crash Summary by Type – MetroPlan Orlando Region (2018-2022)

Crash Type	No Injury	Injury	Serious Injury	Fatality	Total	Percent of Total Crashes	Percent of KSI
Angle	10,754	7,173	549	67	18,543	5.7%	7.0%
Animal	610	118	9	0	737	0.2%	0.1%
Backed Into	9,267	699	21	2	9,989	3.1%	0.3%
Bicycle	380	1706	289	52	2427	0.7%	3.9%
Head On	1,746	1,244	211	93	3,294	1.0%	3.4%
Left Entering	9,715	8,632	853	129	19,329	5.9%	11.1%
Left Leaving	4,460	3,138	292	48	7,938	2.4%	3.8%
Left Rear	4,517	2,460	171	23	7,171	2.2%	2.2%
Off Road	17,268	6,934	1,010	227	25,439	7.8%	14.0%
Opposing Sideswipe	1,737	462	33	2	2,234	0.7%	0.4%
Other	8,266	2,874	260	47	11,447	3.5%	3.5%
Parked vehicle	16,288	1,382	130	26	17,826	5.4%	1.8%
Pedestrian	409	2,600	702	352	4,063	1.2%	11.9%
Rear End	89,393	38,494	1,802	121	129,810	39.7%	21.7%
Right/Left	694	99	3	0	796	0.2%	0.0%
Right/Through	3,556	1,190	85	4	4,835	1.5%	1.0%
Right/U-Turn	139	28	0	0	167	0.1%	0.0%
Rollover	942	973	171	40	2,126	0.6%	2.4%
Same Direction Sideswipe	37,221	5,281	324	19	42,845	13.1%	3.9%
Solo vehicle–Cars/Trucks	5,355	2420	347	73	8,195	2.5%	4.7%
Solo vehicle–Motorcycle	38	372	121	14	545	0.2%	1.5%
Unknown	5,744	1,678	101	27	7,550	2.3%	1.4%
Grand Total	228,499	89,957	7,484	1,366	327,306	100%	100%

Source: Signal 4 Analytics; Notes: Includes limited access facilities; **Blue/Bold** indicates that crash type disproportionately results in a KSI or has a high share of KSI.

Table 16: KSI Crash Summary by Contributing Action of First Driver – MetroPlan Orlando Region^{1&2}

Crash Type	Angle	Bicycle	Head On	Left Turn	Off Road	Pedestrian	Rear End	Right Turn
Disregarded Other Road Markings	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Disregarded Other Traffic Sign	0.5%	0.3%	0.0%	0.1%	0.2%	0.0%	0.1%	0.0%
Drove Too Fast for Conditions	0.7%	0.0%	2.0%	0.0%	5.5%	0.2%	0.9%	0.0%
Exceeded Posted Speed	0.5%	0.0%	1.0%	1.0%	2.1%	1.0%	0.5%	0.0%
Failed to Keep in Proper Lane	1.0%	1.7%	23.8%	0.5%	13.8%	1.5%	1.5%	0.0%
Failed to Yield Right-of-Way	28.4%	24.4%	3.0%	61.0%	0.3%	11.8%	1.4%	62.2%
Followed Too Closely	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	0.0%
Improper Backing	0.0%	0.3%	0.0%	0.0%	0.2%	1.7%	0.0%	0.0%
Improper Passing	0.2%	1.4%	6.4%	0.5%	0.2%	0.4%	0.6%	1.1%
Improper Turn	1.9%	0.7%	0.7%	3.0%	0.6%	0.2%	0.3%	8.9%
No Contributing Action ²	7.6%	52.6%	4.4%	6.0%	8.6%	65.6%	3.3%	4.4%
Operated MV in Careless or Negligent Manner	9.5%	8.6%	21.8%	5.9%	42.2%	9.4%	77.7%	1.1%
Operated MV in Erratic, Reckless or Aggressive Manner	1.7%	0.0%	1.0%	0.3%	1.9%	0.8%	1.0%	1.1%
Other Contributing Action	6.1%	6.9%	5.0%	7.1%	13.7%	6.0%	6.6%	5.6%
Over-Correcting/Over-Steering	0.0%	0.3%	0.0%	0.0%	0.8%	0.1%	0.0%	0.0%
Ran Off Road	0.0%	0.0%	1.3%	0.0%	7.7%	0.4%	0.1%	0.0%
Ran Red Light	23.5%	0.0%	1.3%	9.7%	0.1%	0.0%	0.3%	5.6%
Ran Stop Sign	17.6%	2.1%	0.7%	4.6%	0.5%	0.3%	0.2%	10.0%
Swerved or Avoided	0.0%	0.0%	0.3%	0.0%	1.2%	0.6%	0.3%	0.0%
Wrong Side or Wrong Way	0.7%	0.7%	27.2%	0.3%	0.2%	0.0%	0.0%	0.0%

Source: Signal 4 Analytics

Notes: 1. Includes limited access facilities; **Blue/Bold** indicates that contributing action is involved in a disproportionate number of KSI crashes.

2. The data in this table reflects the contributing action of Driver 1. Typically, Driver #1 is the at-fault party, but not always. In some instances where a person driving hits a pedestrian or cyclist, and the reporting officer determined the pedestrian or bicyclist was at-fault, the crash report will note "No Contributing Action" for Driver 1.

Angle crashes are when two motor vehicles traveling perpendicularly collide, such as a person driving across an intersection colliding with a motor vehicle traveling on the intersecting street. Some angle crashes may be referred to as a T-bone crash. This crash type reflects 5.7% of all crashes and 7% of KSI crashes – crashes where someone is seriously injured or killed. The top contributing factors in KSI angle on crashes are failure to yield the right-of-way (28%), running a red light (24%), running a stop sign (18%) and operating the motor vehicle in a careless or negligent manner (10%). 7% of motorcyclist KSIs and 11% of motorist KSIs are angle-crash related.

Animal involves an animal, which could range from a small animal such as a cat or dog, that would be unlikely to cause significant injury to heavier animals, such as deer or bears. Overall, animals are involved in 0.2% of all crashes and 0.1% of KSI crashes.

Backed into involves a driver backing into another road user. This crash type reflects 3.1% of all crashes and 0.3% of KSI crashes. The low proportion of these crashes resulting in KSI is likely due to the slow speed at which most people back-up.

Bicycle crashes involve someone bicycling and another motorized road user, typically someone in a motor vehicle, but sometimes a motorcycle. Crashes between two people bicycling are not included in the dataset. This crash type reflects 0.7% of all crashes and **3.9% of KSI crashes**. When people bicycling are involved in a crash, they are more likely to be seriously injured or killed. The top motorist contributing factors in KSI bicycle involved crashes are failure to yield right-of-way (24%) and operating the motor vehicle in a careless or negligent manner (9%). For 53% of bicyclist involved KSI crashes, no contributing action is noted for the motor vehicle driver, indicating that the person bicycling likely failed to yield the right-of-way in those crashes.

Head-on crashes occur when two motor vehicles traveling in the opposite direction collide head-on. This crash type reflects 1.0% of all crashes and **3.4% of KSI crashes**. The top contributing factors in KSI head on crashes are wrong-way driving (27%), failure to keep in proper lane (24%) and operating the motor vehicle in a careless or negligent manner (21%). Head-on crashes account for about 5% of motor vehicle KSI crashes.

Left-turn crashes are categorized as **left entering** (Figure 1), which are crashes that occur when a motor vehicle turning left collides with a through motor vehicle in the opposite direction of travel with both motor vehicles traveling on the same road in opposite directions prior to the crash, **left leaving** (Figure 2), which are crashes that occur when a motor vehicle turning left collides with a through motor vehicle on the other road, and **left rear** (Figure 3), which are crashes that occur when one motor vehicle is making a left turn onto the same street as an approaching through motor vehicle. Overall, left-turn related crashes comprise about 11% of all crashes and **17% of KSI crashes**, with the left-entering crash type being the most prevalent. The top contributing factors in KSI left turn related crashes are failure to yield the right-of-way (61%) and running the red light or stop sign (15%). **30% of motorcyclist KSIs and 25% of motorist KSIs are left-turn related.**

Off-road crashes, also known as road departures, occur when the motor vehicle leaves the roadway. This crash type reflects 7.8% of all crashes and **14% of KSI crashes**. The top contributing factors in KSI off-road crashes are operating the motor vehicle in a careless or negligent manner (42%) and failure to keep in proper lane (14%).

Sideswipe crashes can occur between motor vehicles traveling in the same or opposite direction and involve an impact between the sides of the motor vehicles with no significant involvement of the front or rear of the motor vehicle. The impact then swipes along the surface of the motor vehicle parallel to the direction of travel. Opposite direction sideswipe crashes represent about 0.7% of total crashes, and 0.4% of KSI crashes. Same direction sideswipe crashes represent about 13.1% of total crashes, and 3.9% of KSI crashes. About 4% of motor vehicle KSI and 5% of motorcyclist KSIs are related to sideswipes. The top contributing factors in KSI sideswipe crashes are failure to keep in proper lane (25%) and operating the motor vehicle in a careless or negligent manner (22%).

Parked motor vehicle crashes occur when a motor vehicle collides with a parked motor vehicle. These accounted for 5.4% of total crashes and 1.8% of KSI crashes.

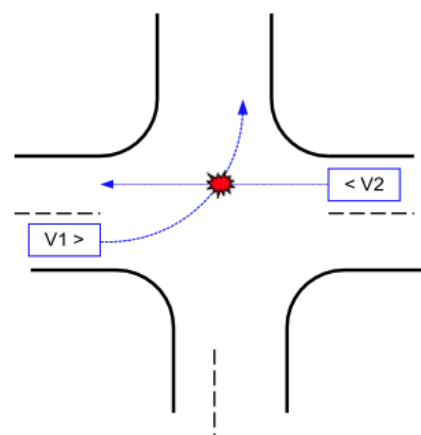


Figure 1: Left Entering Crash Type

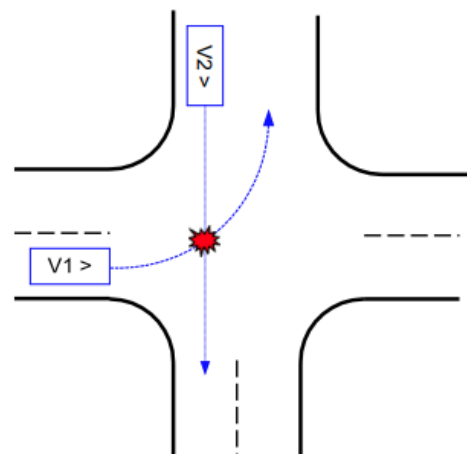


Figure 2: Left Leaving Crash Type

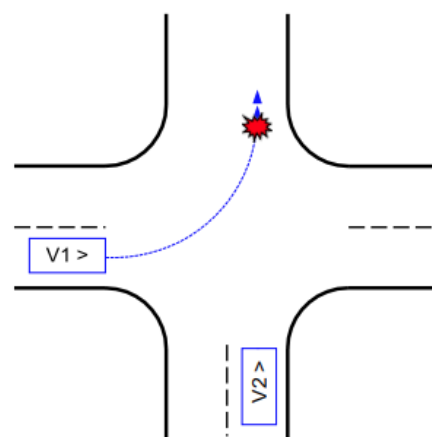


Figure 3: Left-Rear Crash Type

Pedestrian related crashes occur between a person walking and a motor vehicle driver, including motorcyclists. This crash type reflects 1.2% of all crashes and **11.9% of KSI crashes**. No contributing action by a driver is noted in 66% of KSI pedestrian crashes (likely meaning that the pedestrian failed to yield the right-of-way to the person driving), with a person driving failing to yield the right-of-way a contributing factor in 11.8% of KSI crashes. Operating a motor vehicle in a careless or negligent manner is a contributing factor in 9.4% of pedestrian KSI crashes. **71% of pedestrian KSI crashes are not at an intersection (Table 52).**

Rear-end crashes occur when a motor vehicle crashes into the motor vehicle in front of it. This crash type reflects 39.6% of all crashes and **21.7% of KSI crashes**. Rear-end crashes are the most common crash type in the region. 78% of rear-end KSI crashes are caused by people operating the motor vehicle in a careless or negligent manner, including driver inattention or distraction. Following too closely was a contributing action in 5.3% of rear-end KSI crashes. **16% of motorcyclist KSIs and 24% of motorist KSIs are rear-end related** which could involve a motorcyclist running into the back of a motor vehicle or a motor vehicle running into the back of a motorcyclist.

Right-turn crashes include **right/left** crashes where a right-turning and left-turning motor vehicle were entering the same road in the same direction; **right/through** when a right-turning motor vehicle turns in front of a motor vehicle traveling through, with both motor vehicles traveling in the same direction after then respective maneuvers; **right/U-turn**, when a motor vehicle is turning right at the same time a motor vehicle is making a U-turn into the same lane. Overall, right-turn related crashes comprise about 1.8% of all crashes and 1% of KSI crashes, with the right-through crash type being the most prevalent. The top contributing factors in KSI right-turn related crashes are failure to yield the right-of-way (62%), running a red light or stop sign (15%), or improper turning (6%).

Rollover crashes occur when a motor vehicle tips on its side or roof during a crash. Depending on the force of the crash, a motor vehicle may roll just once, or it may roll multiple times before coming to a stop. Rollover crashes represent about 0.6% of total crashes, and **2.4% of KSI crashes**. The top contributing factor in KSI rollover crashes is operating the motor vehicle in a careless or negligent manner (41%).

Single-motor vehicle crashes involve only one motor vehicle. Single-car and truck vehicle crashes account for about 2.5% of total crashes and **4.7% of KSI crashes**. Single-motorcyclist crashes account for about 0.2% of total crashes and **1.5% of KSI crashes**, 10% of motorcyclist KSI are single-vehicle crashes.

Time of Day

Crashes by time of day are summarized as percentages by the travel mode in [Table 17](#) for all crashes and [Table 18](#) for KSI crashes. Overall, crashes are most likely to occur between 3 and 6 PM, as that period typically reflects the busiest time on our roads. While crashes involving vulnerable road users are also high during this time, crashes involving people walking and motorcycling are also prevalent from 6 to 9 PM. Crashes involving bicyclists tend to occur throughout much of the day.

Table 17: All Crash Summary by Time of Day by Mode – MetroPlan Orlando Region

Time of Day	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
12-3 AM	4%	4%	6%	6%	1%
3-6 AM	3%	3%	3%	4%	3%
6-9 AM	12%	12%	9%	14%	16%
9-Noon	14%	14%	10%	10%	16%
Noon-3 PM	19%	19%	16%	12%	19%
3-6 PM	24%	24%	21%	18%	23%
6-9 PM	16%	16%	20%	23%	14%
9-Midnight	8%	8%	14%	13%	6%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; **Bold/Blue** indicates a disproportionate number of crashes occurs for this mode during the timeframe indicated.

KSI crashes are more likely to occur between 3 PM and midnight, with the percentage/number of KSI crashes involving vulnerable road users higher than for people in cars or trucks. Approximately 25% of pedestrian KSI crashes occur between 6 and 9 PM with another 22% occurring between 9 PM and midnight. Overall KSI crashes occur more frequently between 6 PM and 6 AM, indicating that darkness can be a contributing factor, in addition to other contributing factors, including less overall travel during that time period leading to faster speeds for people driving, and less light, which can make it difficult to see hazards in and along the roadway, including disabled vehicles or pedestrians.

Table 18: KSI Crash Summary by Time of Day by Mode – MetroPlan Orlando Region

Time of Day	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
12-3 AM	9%	9%	8%	10%	4%
3-6 AM	6%	7%	3%	7%	5%
6-9 AM	12%	14%	9%	10%	15%
9-Noon	11%	13%	9%	6%	14%
Noon-3 PM	13%	14%	14%	7%	14%
3-6 PM	16%	16%	19%	10%	15%
6-9 PM	17%	15%	19%	26%	19%
9-Midnight	15%	13%	19%	22%	12%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; **Bold/Blue** indicates a disproportionate number of KSI crashes occurs for this mode during the timeframe indicated.

Day of Week

Crashes by day of week are summarized as percentages by travel mode in [Table 19](#) for all crashes and [Table 20](#) for KSI crashes. During a typical week, there are a similar number of crashes observed to occur Monday through Thursday, with Friday being slightly higher than other days. The overall number of crashes is lower on Saturday and Sunday. While crashes involving vulnerable road users are also the highest on Friday, crashes involving bicyclists tend to be higher on weekdays and lower on weekends.

Table 19: All Crash Summary by Day of Week by Mode – MetroPlan Orlando Region

Day of Week	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Monday	15%	15%	12%	15%	16%
Tuesday	15%	15%	12%	15%	16%
Wednesday	15%	15%	14%	15%	16%
Thursday	15%	15%	15%	15%	17%
Friday	17%	17%	17%	17%	16%
Saturday	12%	12%	16%	12%	11%
Sunday	10%	10%	14%	11%	8%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Crashes that result in a severe injury or fatality are slightly more likely to occur on Friday and Saturday, except for bicyclists, which see the highest KSI crash rates on Thursdays and Saturdays. For bicyclist-involved crashes, the overall number of reported crashes involving a bicyclist is low compared to other modes so caution should be used when using this data. Alcohol may be a contributing factor in the slightly higher KSI crashes on Friday and Saturday as alcohol involved crashes are more likely to occur on a Friday or Saturday (see [Table 25](#)).

Table 20: KSI Crash Summary by Day of Week by Mode – MetroPlan Orlando Region

Day of Week	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Monday	14%	14%	12%	12%	16%
Tuesday	14%	14%	12%	15%	14%
Wednesday	14%	14%	13%	15%	13%
Thursday	14%	14%	15%	15%	17%
Friday	15%	15%	16%	16%	13%
Saturday	16%	15%	17%	15%	17%
Sunday	13%	13%	15%	12%	10%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Contextual Analysis

This section provides additional information related to road user behavior, the environmental conditions and the roadway conditions to provide additional context about why crashes are occurring.

Behavioral Factors

This section provides an overview of behavioral factors that contribute to crashes, including alcohol and drug impairment, aggressive driving, speeding, and occupant protection.

Alcohol Impairment

Table 21 summarizes crashes caused by alcohol impairment. These crashes include both when the alcohol level was reported as over the legal limit as well as when alcohol use was listed as a contributing crash factor in the crash report. Most crashes (98.5%) did not include an alcohol impaired driver. **Although only 1.5% of crashes involved alcohol impairment, alcohol involved crashes account for 3% of crashes where someone was seriously injured and 21% of fatal crashes in the region.**

Table 21: Crash Summary by Alcohol Impairment – MetroPlan Orlando Region

Alcohol Involved	No Injury	Injury	Serious Injury	Fatality	Total
Yes	2,569 (1.1%)	1,741 (1.9%)	229 (3.1%)	282 (20.6%)	4,821 (1.5%)
No	225,930 (98.9%)	88,216 (98.1%)	7,255 (96.9%)	1,084 (79.4%)	322,485 (98.5%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities, **Blue/Bold** indicates that behavioral factor disproportionately results in a KSI.

While the percent of crashes involving alcohol is slightly more likely to occur on non-limited access roads than on the road network overall, the percent of those crashes resulting in a fatality is slightly less than on the overall network, likely due to a slightly lower speed (**Table 22**). Alcohol is a factor in about 1.4% of all crashes and 15.7% of fatal crashes in transportation disadvantaged communities, a slightly lower rate than the regional average (**Table 23**). Of crashes on non-limited access roads, **51% of serious injury (95 of 187) and 44% of fatal crashes (98 of 224) involving alcohol** occur in transportation disadvantaged communities.

Table 22: Crash Summary by Alcohol Impairment on Non-Limited Access Facilities – MetroPlan Orlando Region

Alcohol Involved	No Injury	Injury	Serious Injury	Fatality	Total
Yes	2,338 (1.2%)	1,541 (2%)	187 (3.1%)	224 (19.4%)	4,290 (1.6%)
No	190,193 (98.8%)	75,113 (98%)	5,934 (96.9%)	928 (80.6%)	272,168 (98.4%)
Total	192,531	76,654	6,121	1,152	276,458

Source: Signal 4 Analytics

Notes: Does not include limited access facilities.

Table 23: Crash Summary by Alcohol Impairment on Non-Limited Access Facilities in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Alcohol Involved	No Injury	Injury	Serious Injury	Fatality	Total
Yes	1,064 (1.1%)	703 (1.8%)	95 (2.9%)	98 (15.7%)	1,960 (1.4%)
No	91,711 (98.9%)	38,916 (98.2%)	3,139 (97.1%)	528 (84.3%)	134,294 (98.6%)
Total	92,775	39,619	3,234	626	136,254

Source: Signal 4 Analytics

Notes: Does not include limited access facilities.

Crashes that involve alcohol are significantly more likely to result in a serious injury or fatality, as shown in [Table 24](#), which shows that about 6% of alcohol involved crashes resulted in a fatality, as compared to 0.4% of all crashes (see Table 2).

Table 24: Alcohol Involved Crashes by Severity by Year – MetroPlan Orlando Region

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	606 (55.6%)	365 (33.5%)	60 (5.5%)	58 (5.3%)	1,089
2019	582 (53.3%)	407 (37.3%)	46 (4.2%)	57 (5.2%)	1,092
2020	401 (49.6%)	324 (40.1%)	30 (3.7%)	53 (6.6%)	808
2021	507 (54.3%)	320 (34.3%)	49 (5.3%)	57 (6.1%)	933
2022	473 (52.6%)	325 (36.2%)	44 (4.9%)	57 (6.3%)	899
Total	2,569 (53.3%)	1,741 (36.1%)	229 (4.8%)	282 (5.8%)	4,821

Source: Signal 4 Analytics

Notes: Includes limited access facilities

As shown in [Table 25](#), alcohol involved crashes are more likely to occur on a Friday or Saturday, and as shown in [Table 26](#), are more likely to occur late in the evening or early morning hours.

Table 25: Alcohol Involved Crashes by Day of Week– MetroPlan Orlando Region

Day of Week	All Crashes	All KSI Crashes	All Crashes – Involving Alcohol	KSI Crashes Involving Alcohol
Monday	15%	14%	11%	13%
Tuesday	15%	14%	8%	6%
Wednesday	15%	14%	10%	10%
Thursday	15%	14%	11%	10%
Friday	17%	15%	16%	17%
Saturday	12%	16%	21%	23%
Sunday	10%	13%	22%	21%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities or parking lots, **Blue/Bold** indicates that behavioral factor disproportionately results in crashes and KSI crashes during these days of week.

Table 26: Alcohol Involved Crashes by Time of Day – MetroPlan Orlando Region

Day of Week	All Crashes	All Crashes KSI Crashes	All Crashes Involving Alcohol	All KSI Crashes Involving Alcohol
12-3 AM	9%	4%	26%	29%
3-6 AM	6%	3%	11%	16%
6-9 AM	12%	12%	4%	4%
9-Noon	11%	14%	2%	5%
Noon-3 PM	13%	19%	6%	8%
3-6 PM	16%	24%	10%	16%
6-9 PM	17%	16%	19%	16%
9-Midnight	15%	8%	23%	19%

Source: Signal 4 Analytics

Notes: Does not include limited access facilities or parking lots, **Blue/Bold** indicates that behavioral factor disproportionately results in crashes and KSI crashes during these time periods.

Drug Impairment

Table 21 summarizes crashes caused by drug impairment. Drugs can include illegal drugs, as well as prescription drugs. This finding is made when a drug test of a driver is positive, or a driver refused a test after being suspected of a drug impairment. Most crashes (99.5%) did not include a drug impaired driver. **Despite about 0.5% of crashes involving drug impairment, drug impaired crashes account for 16% of crashes where someone was killed in the region.**

Table 27: Crash Summary by Drug Impairment – MetroPlan Orlando Region

Drug Impaired Driver?	No Injury	Injury	Serious Injury	Fatality	Total
Yes	690 (0.3%)	506 (0.6%)	86 (1.1%)	212 (15.5%)	1,494 (0.5%)
No	227,809 (99.7%)	89,451 (99.4%)	7,398 (98.9%)	1,154 (84.5%)	325,812 (99.5%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities

The percent of crashes involving drugs on non-limited access roads is similar to the regional average, the percent of those crashes resulting in a fatality is slightly less than on the overall network, likely due to a slightly lower speed (**Table 28**). Drugs are a factor in about 0.4% of all crashes and 14.4% of fatal crashes in transportation disadvantaged communities, a slightly lower rate than the regional average (**Table 23**). Of crashes on non-limited access roads, **43% of serious injury (30 of 70) and 53% of fatal crashes (90 of 169) involving drugs** occur in transportation disadvantaged communities.

Table 28: Crash Summary by Drug Impairment on Non-Limited Access Facilities – MetroPlan Orlando Region

Drug Impaired Driver?	No Injury	Injury	Serious Injury	Fatality	Total
Yes	610 (0.3%)	435 (0.6%)	70 (1.1%)	169 (14.7%)	1,284 (0.5%)
No	191,921 (99.7%)	76,219 (99.4%)	6,051 (98.9%)	983 (85.3%)	275,174 (99.5%)
Total	192,531	76,654	6,121	1,152	276,458

Source: Signal 4 Analytics

Notes: Does not include limited access facilities.

Table 29: Crash Summary by Drug Impairment on Non-Limited Access Facilities in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Drug Impaired Driver?	No Injury	Injury	Serious Injury	Fatality	Total
Yes	281 (0.3%)	179 (0.5%)	30 (0.9%)	90 (14.4%)	580 (0.4%)
No	92,494 (99.7%)	39,440 (99.5%)	3,204 (99.1%)	536 (85.6%)	135,674 (99.6%)
Total	92,775	39,619	3,234	626	136,254

Source: Signal 4 Analytics

Notes: Does not include limited access facilities.

Crashes that involve drug impairment are significantly more likely to result in a serious injury or fatality, as shown in [Table 30](#), which shows that about **14% of drug involved crashes results in a fatality, as compared to 0.4% of all crashes** (see Table 2).

Table 30: Drug Impaired Driver Involved Crashes by Severity by Year – MetroPlan Orlando Region

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	179 (50.6%)	114 (32.2%)	17 (4.8%)	44 (12.4%)	354
2019	172 (49%)	104 (29.6%)	17 (4.8%)	58 (16.5%)	351
2020	109 (41.8%)	103 (39.5%)	16 (6.1%)	33 (12.6%)	261
2021	138 (45.7%)	108 (35.8%)	14 (4.6%)	42 (13.9%)	302
2022	92 (40.7%)	77 (34.1%)	22 (9.7%)	35 (15.5%)	226
Total	690 (46.2%)	506 (33.9%)	86 (5.8%)	212 (14.2%)	1,494

Source: Signal 4 Analytics

Notes: Includes limited access facilities

When both drugs and alcohol are factors in a crash, a serious injury or fatality is more likely to occur, as shown in [Table 31](#).

Table 31: Alcohol and Drug Involved Crashes by Severity by Year – MetroPlan Orlando Region

Year	No Injury	Injury	Serious Injury	Fatality	Total
2018	75 (41.7%)	64 (35.6%)	12 (6.7%)	29 (16.1%)	180
2019	70 (41.9%)	56 (33.5%)	7 (4.2%)	34 (20.4%)	167
2020	41 (35%)	51 (43.6%)	8 (6.8%)	17 (14.5%)	117
2021	54 (40.3%)	51 (38.1%)	9 (6.7%)	20 (14.9%)	134
2022	38 (36.2%)	38 (36.2%)	12 (11.4%)	17 (16.2%)	105
Total	278 (39.5%)	260 (37%)	48 (6.8%)	117 (16.6%)	703

Source: Signal 4 Analytics

Notes: Includes limited access facilities

A comparison of crash outcomes when alcohol or drugs, or when both alcohol and drugs are involved is presented in [Figure 4](#), which shows when alcohol or drugs are involved, a crash is more likely to result in an injury or fatality. When someone is under the influence of drugs or alcohol, their reaction time is slower than when not under the influence, contributing to worsening crash outcomes with drug and alcohol use.

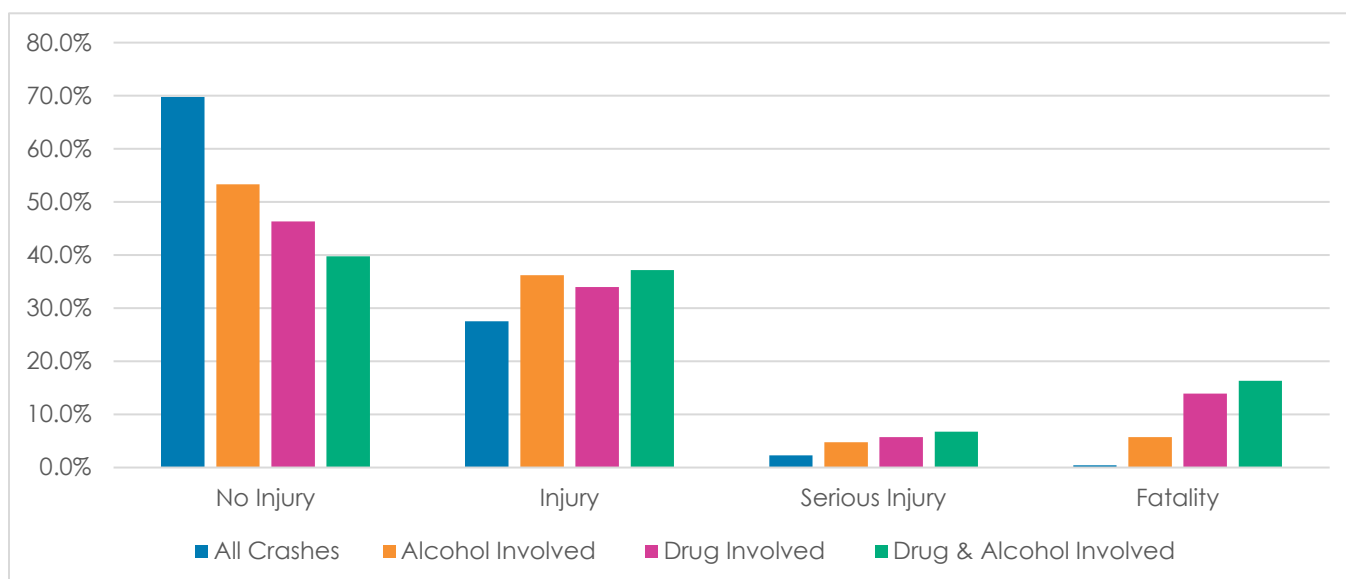


Figure 4: Drug and Alcohol Crash Severity Comparison

Speeding

Table 32 summarizes crashes where either exceeding the speed limit or driving too fast for the conditions was noted in the crash report. The approximately 6,000 crashes where speeding was noted as a factor made up about 1.8% of all crashes; however, **3.1% of the crashes listed as**

speeding-related resulted in a serious injury and 8% resulted in a fatality. As it can be difficult to prove speeding, the number of KSI crashes attributed to speeding is likely an undercount.

Table 32: Crash Summary by Reported Speeding – MetroPlan Orlando Region

Speeding?	No Injury	Injury	Serious Injury	Fatality	Total
Yes	3,616 (1.6%)	2,100 (2.3%)	230 (3.1%)	109 (8%)	6,055 (1.8%)
No	224,883 (98.4%)	87,857 (97.7%)	7,254 (96.9%)	1,257 (92%)	321,251 (98.2%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Of crashes that involve speeding, they tend to be more fatal for people outside of vehicles. Of speeding crashes, 15% result in the fatality of a pedestrian and 25% result in the fatality of a motorcyclist, as presented in [Table 33](#).

Table 33: Crash by Mode with Reported Speeding Non-Limited Access Roads – MetroPlan Orlando Region

Mode	No Injury	Injury	Serious Injury	Fatality	Total
Bicycle	0 (0%)	4 (0.3%)	0 (0%)	2 (2.1%)	6 (0.1%)
Pedestrian	17 (0.7%)	12 (0.8%)	7 (4.5%)	14 (14.9%)	50 (1.2%)
Motorcycle	14 (0.6%)	75 (5.3%)	43 (27.7%)	23 (24.5%)	155 (3.9%)
Motor Vehicles (including trucks)	2,321 (98.7%)	1,333 (93.6%)	105 (67.7%)	55 (58.5%)	3,814 (94.8%)
Total	2,352	1,424	155	94	4,025

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Crashes by Age

A crash analysis of speeding and impaired drivers by age was conducted, with the results presented in [Figure 5](#) and [Figure 6](#). Consistent with statewide and national data, younger drivers are more likely to be involved in speeding related and impaired crashes.

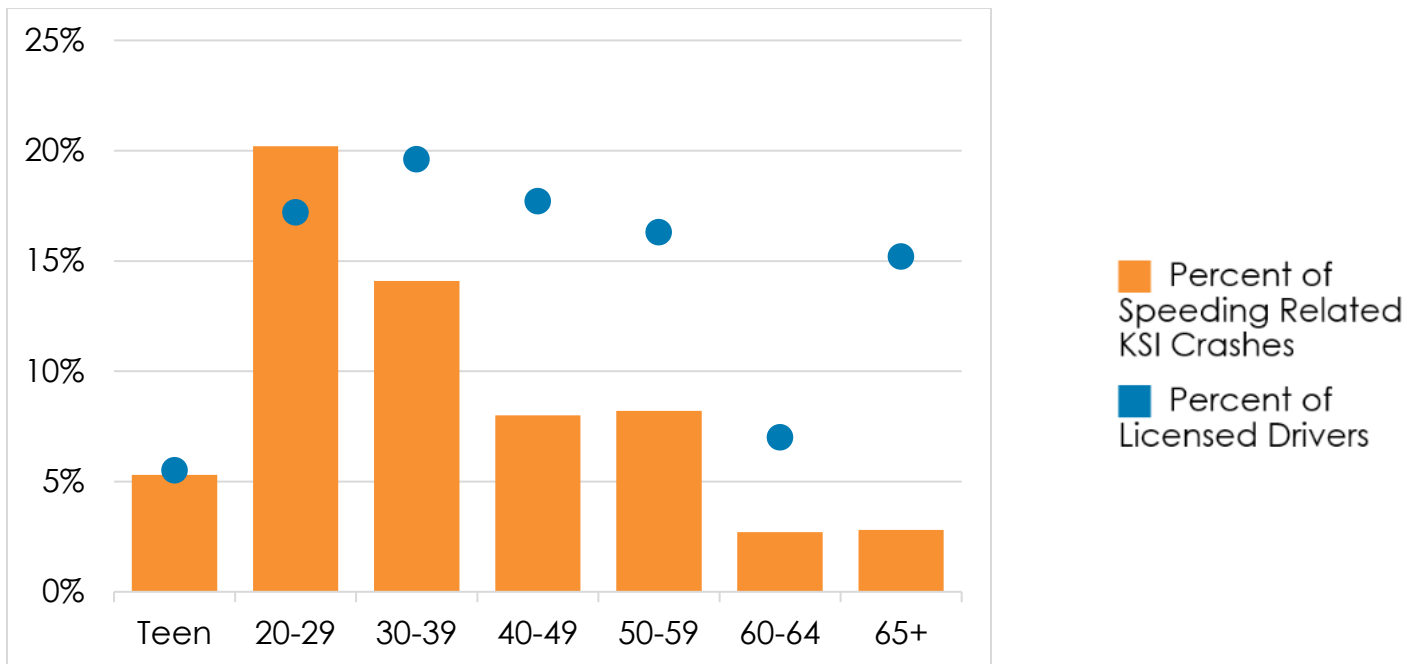


Figure 5: Speeding Related KSI Crashes by Age

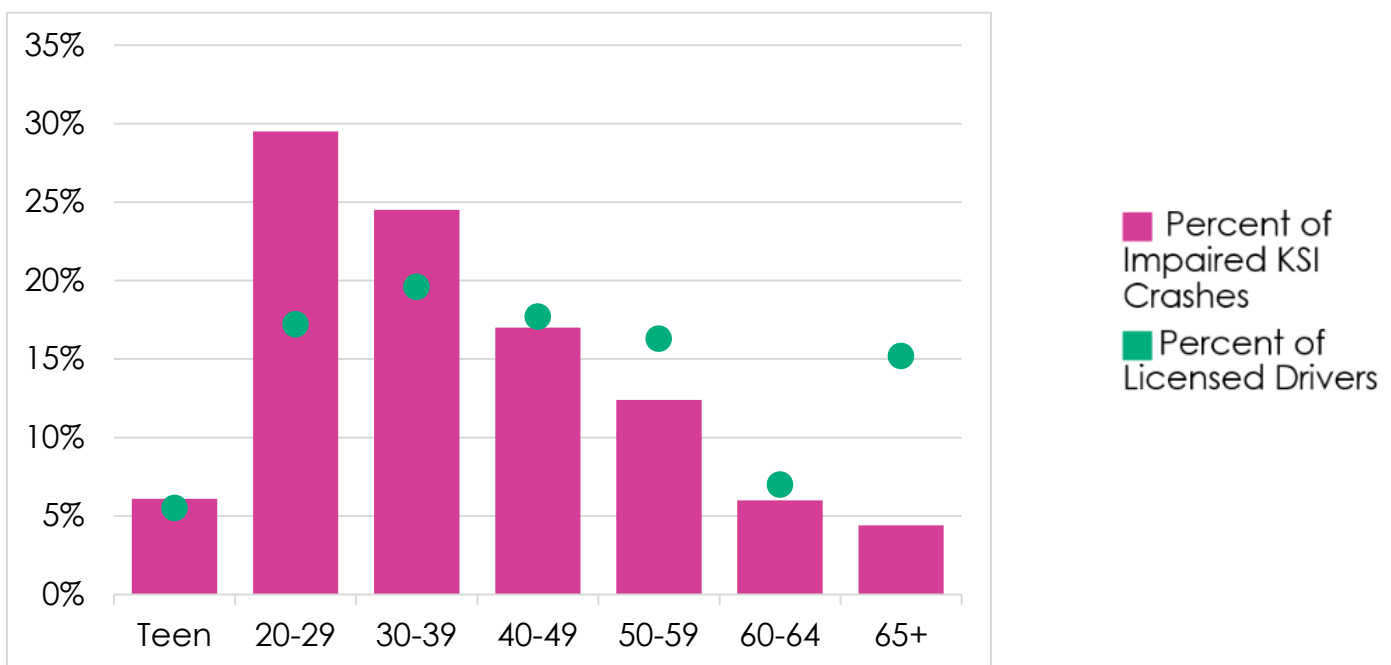


Figure 6: Impaired KSI Crashes by Age

Crashes that involve an aging driver (defined as a driver 65 or older) or teen driver are summarized in [Table 34](#) through [Table 37](#). Aging drivers comprise about 15.2% of licensed drivers (from Florida Department of Highway Safety and Motor Vehicles Licensed Drivers by County, January 1, 2022). in the region and are involved in about 14.4% of all crashes and 13.9% of KSI crashes. Aging drivers are less likely to be involved in a crash involving a vulnerable road user. Although the aging driver crash rates are proportional to the percentage of licensed drivers, it is likely that some people in the aging driver cohort maintain a license but do not drive frequently.

Table 34: All Crash Summary Aging Drivers by Mode – MetroPlan Orlando Region

Aging Driver?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	47,023 (14.4%)	45,767 (14.5%)	531 (11.7%)	447 (11%)	278 (11.5%)
No	280,283 (85.6%)	270,504 (85.5%)	4014 (88.3%)	3,616 (89%)	2,149 (88.5%)
Total	327,306	316,271	4,545	4,063	2,427

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 35: KSI Crash Summary Aging Drivers by Mode – MetroPlan Orlando Region

Aging Driver?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	1,233 (13.9%)	987 (15.6%)	128 (11.5%)	84 (8%)	34 (10%)
No	7,617 (86.1%)	5352 (84.4%)	988 (88.5%)	970 (92%)	307 (90%)
Total	8,850	6,339	1,116	1,054	341

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Teens comprise about 5.5% of licensed drivers in the region and are involved in 12.5% of all crashes and 10.8% of KSI crashes. Like aging drivers, they are more likely to be involved in a motor vehicle-to-motor vehicle crash than one with vulnerable road users. The inexperience of teen drivers is a large factor in their disproportionate representation in crashes.

Table 36: All Crash Summary Teen Drivers by Mode – MetroPlan Orlando Region

Teen Driver?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	40,931 (12.5%)	40,219 (12.7%)	411 (9%)	182 (4.5%)	119 (4.9%)
No	286,375 (87.5%)	276,052 (87.3%)	4,134 (91%)	3,881 (95.5%)	2,308 (95.1%)
Total	327,306	316,271	4,545	4,063	2,427

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 37: KSI Crash Summary Teen Drivers by Mode – MetroPlan Orlando Region

Teen Driver?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	953 (10.8%)	799 (12.6%)	85 (7.6%)	46 (4.4%)	23 (6.7%)
No	7,897 (89.2%)	5,540 (87.4%)	1,031 (92.4%)	1,008 (95.6%)	318 (93.3%)
Total	8,850	6,339	1,116	1,054	341

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Teen drivers and aging drivers were also less likely to be involved in crashes and KSI crashes on limited access facilities, potentially indicating a preference for travel on lower speed roadways.

Aggressive Driving

Table 38 summarizes crashes where aggressive driving was noted in the crash report. The approximately 8,700 crashes that involved aggressive driving comprise about 3% of all crashes; however, 5% of the crashes listed as aggressive driving related resulted in a serious injury and 10% resulted in a fatality.

Table 38: Crash Summary by Reported Aggressive Driving – MetroPlan Orlando Region

Aggressive Driving?	No Injury	Injury	Serious Injury	Fatality	Total
Yes	5,243 (2.3%)	3,026 (3.4%)	342 (4.6%)	139 (10.2%)	8,750 (2.7%)
No	223,256 (98.2%)	86,931 (97%)	7,142 (95.5%)	1,227 (89.8%)	318,556 (97.3%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Distracted Driving

Table 39 summarizes crashes where distracted driving was noted in the crash report. The approximately 83,000 crashes that involved distracted driving comprise about 25 % of all crashes; however, 30% of the crashes listed as distracted-driving related resulted in a serious injury and 18% resulted in a fatality.

Table 39: Crash Summary by Reported Distracted Driving – MetroPlan Orlando Region

Distracted Driving ?	No Injury	Injury	Serious Injury	Fatality	Total
Yes	51,924 (22.7%)	28,514 (31.7%)	2,295 (30.7%)	243 (17.8%)	82,976 (25.4%)
No	176,575 (77.3%)	61,443 (68.3%)	5,189 (69.3%)	1,123 (82.2%)	244,330 (74.6%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities

It should also be noted that multiple behavioral factors can collectively contribute to the occurrence of crashes. For example, a person driving under the influence of drugs may also be distracted and/or driving aggressively.

Occupant Protection: Seatbelts & Helmets

A crash summary by use of occupant protection is provided in **Table 40** for people in motor vehicles (seatbelts) and in **Table 41** for motorcyclists (helmet use). In all motor vehicle crashes, 98.3% of occupants were wearing a seatbelt. As seatbelt usage declines, more injuries occur, **with 38% of motor vehicle occupants who died in the MetroPlan Orlando region not wearing a seatbelt**. 49% of motorcyclist who died were wearing a FDOT compliant helmet; **43% of motorcyclists who died where not wearing a helmet**.

Table 40: Motor vehicle Crash Summary by Reported Occupant Seatbelt Use– MetroPlan Orlando Region

Occupant Protection Used	No Injury	Injury	Serious Injury	Fatality	Total
Yes	641,445 (98.7%)	136,840 (97.3%)	6,729 (89.3%)	438 (54.6%)	785,452 (98.3%)
No	4,368 (0.7%)	2,161 (1.5%)	521 (6.9%)	307 (38.3%)	7,357 (0.9%)
Unknown	4,175 (0.6%)	1,622 (1.2%)	289 (3.8%)	57 (7.1%)	6,143 (0.8%)
Total	649,988 (100%)	140,623 (100%)	7,539 (100%)	802 (100%)	798,952

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 41: Motorcycle Crash Summary by Helmet Use – MetroPlan Orlando Region

Occupant Protection Used	No Injury	Injury	Serious Injury	Fatality	Total
FDOT Compliant Helmet	460 (9.8%)	1,500 (48.6%)	455 (48.3%)	124 (49%)	2,539 (28.2%)
Other Helmet	17 (0.4%)	56 (1.8%)	21 (2.2%)	11 (4.3%)	105 (1.2%)
No Helmet	1,140 (24.2%)	826 (26.8%)	324 (34.4%)	109 (43.1%)	2,399 (26.7%)
Unknown	3,093 (65.7%)	705 (22.8%)	143 (15.2%)	9 (3.6%)	3,950 (43.9%)
Total	4,710 (100%)	3,087 (100%)	943 (100%)	253 (100%)	8,993 (100%)

Source: Signal 4 Analytics

Notes: Includes limited access facilities

For crashes that resulted in a fatality or serious injury, the responding officer likely made the determination of seatbelt and helmet use. For crashes with lower levels of severity, people involved in crashes may have self-reported wearing a seatbelt or helmet when they were not. For motorcyclist involved crashes, reporting of helmet use appears to decline with no injury or minor injury crashes.

Hit and Run

A hit and run crash is defined as the act of causing a traffic crash and failing to remain at the scene of the crash afterwards. Of all the reported crashes in the region, about 14% are classified as a hit and run, with that percentage increasing for crashes involving pedestrians and bicyclists, as shown in [Table 42](#). Approximately 20% of pedestrian KSI and 19% of bicyclist KSIs are classified as a hit and run, as shown in [Table 43](#). Hit and run crashes that occur in transportation disadvantaged communities are shown in [Table 44](#). **Pedestrian and bicyclists hit and run crashes are more likely to occur in a disadvantaged community than in other places, with approximately 72% of pedestrian hit and run KSIs and 70% of bicyclist hit and run KSIs occurring in transportation disadvantaged communities; only 25% of the population lives in a transportation disadvantaged community.**

Table 42: All Crash Summary Hit and Run by Mode – MetroPlan Orlando Region

Hit & Run?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	45,394 (13.9%)	43,588 (13.8%)	488 (10.7%)	896 (22.1%)	422 (17.4%)
No	281,912 (86.1%)	272,683 (86.2%)	4,057 (89.3%)	3,167 (77.9%)	2,005 (82.6%)
Total	327,306	316,271	4,545	4,063	2,427

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 43: KSI Crash Summary Hit and Run by Mode – MetroPlan Orlando Region

Hit & Run?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	783 (8.8%)	454 (7.2%)	59 (5.3%)	206 (19.5%)	64 (18.8%)
No	8,067 (91.2%)	5,885 (92.8%)	1,057 (94.7%)	848 (80.5%)	277 (81.2%)
Total	8,850	6,339	1,116	1,054	341

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 44: KSI Crash Summary Hit and Run by Mode in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Hit & Run?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	448 (11.6%)	228 (9%)	27 (5.6%)	148 (22.7%)	45 (23.1%)
No	3,412 (88.4%)	2,300 (91%)	458 (94.4%)	504 (77.3%)	150 (76.9%)
Total	3,860	2,528	485	652	195

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Commercial Motor Vehicle

Commercial motor vehicles include those with a gross motor vehicle weight greater than 26,001 pounds or that have three or more axles regardless of weight. Of all the reported crashes in the region, about 6% involve a commercial motor vehicle ([Table 45](#)), with about 6% of KSI crashes involving a commercial motor vehicle. People in motor vehicles were more likely to be involved in fatal and severe injury crashes that involve a commercial motor vehicle, as shown in [Table 46](#). KSI crashes involving commercial vehicles are less likely to occur in transportation disadvantaged communities, although motorcycle and bicycle involved KSI crashes with commercial vehicles are slightly overrepresented in transportation disadvantaged communities, as shown in [Table 47](#).

Table 45: All Crash Summary Commercial Motor Vehicle by Mode – MetroPlan Orlando Region

Commercial Motor vehicle Involved?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	20,377 (6.2%)	20,151 (6.4%)	95 (2.1%)	91 (2.2%)	40 (1.6%)
No	306,929 (93.8%)	296,120 (93.6%)	4,450 (97.9%)	3,972 (97.8%)	2,387 (98.4%)
Total	327,306	316,271	4,545	4,063	2,427

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 46: KSI Crash Summary Commercial Motor Vehicle by Mode – MetroPlan Orlando Region

Commercial Motor vehicle Involved?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	530 (6%)	456 (7.2%)	28 (2.5%)	34 (3.2%)	12 (3.5%)
No	8,320 (94%)	5883 (92.8%)	1088 (97.5%)	1020 (96.8%)	329 (96.5%)
Total	8,850	6,339	1,116	1,054	341

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 47: KSI Crash Summary Commercial Motor Vehicle by Mode in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Commercial Motor vehicle Involved?	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Yes	184 (4.8%)	145 (5.7%)	16 (3.3%)	13 (2%)	10 (5.1%)
No	3676 (95.2%)	2383 (94.3%)	469 (96.7%)	639 (98%)	185 (94.9%)
Total	3,860	2,528	485	652	195

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Environmental Factors

Crash outcomes were also evaluated based on environmental factors, such as road conditions and lighting conditions.

Road Surface Condition

Table 48 summarizes crash outcomes by road surface conditions. Overall, all crashes, including KSI crashes, were more likely to occur on dry roads than other road conditions. This finding is similar for disadvantaged communities.

Table 48: Crash Summary by Road Surface Condition – MetroPlan Orlando Region

Road Surface Condition	No Injury	Injury	Serious Injury	Fatality	Total
Dry	198,872 (87%)	78,102 (86.8%)	6,580 (87.9%)	1,212 (88.7%)	284,766 (87%)
Ice/Frost	7 (0%)	3 (0%)	(0%)	(0%)	10 (0%)
Mud, Dirt, Gravel	102 (0%)	19 (0%)	2 (0%)	2 (0.1%)	125 (0%)
Oil	9 (0%)	10 (0%)	(0%)	(0%)	19 (0%)
Other	67 (0%)	19 (0%)	5 (0.1%)	5 (0.4%)	96 (0%)
Sand	15 (0%)	4 (0%)	(0%)	(0%)	19 (0%)
Unknown	589 (0.3%)	48 (0.1%)	11 (0.1%)	1 (0.1%)	649 (0.2%)
Water (standing/ moving)	44 (0%)	19 (0%)	(0%)	1 (0.1%)	64 (0%)
Wet	28,794 (12.6%)	11,733 (13%)	886 (11.8%)	145 (10.6%)	41,558 (12.7%)
Total	228,499	89,957	7,484	1,366	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Lighting Condition

Table 49 summarizes crashes by reported lighting condition for all modes of travel. While most crashes occur during daylight hours, crashes that occur under dark conditions, either lighted or unlighted, are more likely to result in a serious injury or a fatality. As shown in **Table 50**, crashes involving a person walking, bicycling, or motorcycling are more likely to occur at night than crashes involving only people in motor vehicles. Crashes in transportation disadvantaged communities are also more likely to occur at night than in non-transportation disadvantaged communities, as shown in **Table 51**.

Table 49: Crash Summary by Lighting Conditions – MetroPlan Orlando Region

Lighting Condition	No Injury	Injury	Serious Injury	Fatality	Total
Dark - Lighted	42,745 (18.7%)	19,665 (21.9%)	2,151 (28.7%)	556 (40.7%)	65,117 (19.9%)
Dark - Not Lighted	8,173 (3.6%)	4,179 (4.6%)	647 (8.6%)	267 (19.5%)	13,266 (4.1%)
Dark - Unknown Lighting	585 (0.3%)	206 (0.2%)	6 (0.1%)	2 (0.1%)	799 (0.2%)
Dawn	3,861 (1.7%)	1,602 (1.8%)	148 (2%)	44 (3.2%)	5,655 (1.7%)
Daylight	164,995 (72.2%)	60,996 (67.8%)	4,272 (57.1%)	455 (33.3%)	230,718 (70.5%)
Dusk	7,315 (3.2%)	3,258 (3.6%)	250 (3.3%)	37 (2.7%)	10,860 (3.3%)
Other	115 (0.1%)	17 (0%)	4 (0.1%)	5 (0.4%)	141 (0%)
Unknown	710 (0.3%)	34 (0%)	6 (0.1%)	(0%)	750 (0.2%)
Total	228,499 (69.8%)	89,957 (27.5%)	7,484 (2.3%)	1,366 (0.4%)	327,306

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 50: Crash Summary by Lighting Conditions – Pedestrians, Bicyclists and Motorcyclists – MetroPlan Orlando Region

Lighting Condition	No Injury	Injury	Serious Injury	Fatality	Total
Dark – Lighted	381 (21.4%)	1,413 (21%)	598 (32.1%)	292 (45%)	2,684 (24.3%)
Dark – Not Lighted	78 (4.4%)	403 (6%)	194 (10.4%)	146 (22.5%)	821 (7.4%)
Dark – Unknown Lighting	3 (0.2%)	18 (0.3%)	3 (0.2%)	1 (0.2%)	25 (0.2%)
Dawn	29 (1.6%)	146 (2.2%)	30 (1.6%)	27 (4.2%)	232 (2.1%)
Daylight	1,223 (68.7%)	4,495 (66.7%)	963 (51.7%)	160 (24.7%)	6,841 (62%)
Dusk	62 (3.5%)	260 (3.9%)	70 (3.8%)	20 (3.1%)	412 (3.7%)
Other	1 (0.1%)	3 (0%)	1 (0.1%)	3 (0.5%)	8 (0.1%)
Unknown	4 (0.2%)	5 (0.1%)	3 (0.2%)	0 (0%)	12 (0.1%)
Total	1,781 (16.1%)	6,743 (61.1%)	1,862 (16.9%)	649 (5.9%)	11,035

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 51: Crash Summary by Lighting Conditions in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Lighting Condition	No Injury	Injury	Serious Injury	Fatality	Total
Dark – Lighted	18,516 (20%)	8,864 (22.4%)	1,021 (31.6%)	293 (46.8%)	28,694 (21.1%)
Dark – Not Lighted	2,683 (2.9%)	1,443 (3.6%)	233 (7.2%)	106 (16.9%)	4,465 (3.3%)
Dark – Unknown Lighting	255 (0.3%)	95 (0.2%)	4 (0.1%)	1 (0.2%)	355 (0.3%)
Dawn	1,493 (1.6%)	644 (1.6%)	49 (1.5%)	16 (2.6%)	2,202 (1.6%)
Daylight	66,622 (71.8%)	27,126 (68.5%)	1,821 (56.3%)	197 (31.5%)	95,766 (70.3%)
Dusk	2,920 (3.1%)	1,424 (3.6%)	103 (3.2%)	11 (1.8%)	4,458 (3.3%)
Other	42 (0%)	7 (0%)	1 (0%)	2 (0.3%)	52 (0%)
Unknown	244 (0.3%)	16 (0%)	2 (0.1%)	(0%)	262 (0.2%)
Total	92,775 (68.1%)	39,619 (29.1%)	3,234 (2.4%)	626 (0.5%)	136,254

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Road Factors

This section of the report provides crash information by characteristics of the road, such as the crash location (intersection or segment), number of lanes, speed limit, and type of road. This section focuses on crashes that occurred on the surface road system, and as such, limited access and toll facilities are excluded from this analysis.

Crash Location (Intersection vs Segment)

At a high-level, a crash location can either be at an intersection (or within the intersection influence area) or along a road segment. As summarized in [Table 52](#), about 25% of all crashes occurred at an intersection, with crashes occurring at intersections disproportionately resulting in a serious injury or fatality, as shown in [Table 53](#). About 70% of pedestrian involved crashes occur at non-intersection locations, with 73% of pedestrian crashes that result in serious injury or fatality occurring at a non-intersection location. The percent of pedestrian KSI crashes at non-intersection locations is slightly higher in transportation disadvantaged communities ([Table 55](#)).

Table 52: All Crash Summary by Location by Mode – MetroPlan Orlando Region

Location	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Intersection	82,062 (25.1%)	78,455 (24.8%)	1,292 (28.4%)	1,211 (29.8%)	1,104 (45.5%)
Segment	245,244 (74.9%)	237,816 (75.2%)	3,253 (71.6%)	2,852 (70.2%)	1,323 (54.5%)
Total	327,306	316,271	4,545	4,063	2,427

Source: Signal 4 Analytics

Notes: Includes limited access facilities

Table 53: KSI Crash Summary by Location by Mode – MetroPlan Orlando Region

Location	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Intersection	2,860 (39.3%)	2,059 (41.5%)	391 (40.8%)	272 (26.7%)	138 (40.7%)
Segment	4,413 (60.7%)	2,899 (58.5%)	567 (59.2%)	746 (73.3%)	201 (59.3%)
Total	7,273	4,958	958	1,018	339

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Table 54: KSI Crash Summary by Location by Mode in Transportation Disadvantaged Communities – MetroPlan Orlando Region

Location	All Crashes	Motor vehicles	Motorcyclist	Pedestrians	Bicyclists
Intersection	1,537 (39.8%)	1,108 (43.8%)	188 (38.8%)	158 (24.2%)	83 (42.6%)
Segment	2,323 (60.2%)	1,420 (56.2%)	297 (61.2%)	494 (75.8%)	112 (57.4%)
Total	3,860	2,528	485	652	195

Source: Signal 4 Analytics

Notes: Does not include limited access facilities

Posted Speed Limit

The number of reported crashes by the speed limit of the road where the crash occurred is summarized in **Table 55**, and compared to the miles of road in the analysis area with that posted speed limit. Crashes disproportionately occur on roads with higher speeds – **roads with a posted speed limit 40 miles per hour or greater represent about 13% of the total centerline miles in the region, and account for 63% of all crashes and 72.4% of KSI crashes**, as shown in **Table 56**.

Table 55: All Crash Summary by Posted Speed Limit by Mode – MetroPlan Orlando Region

Mode	25 or less	30-35	40-45	50-55	60+	Total
% of Centerline miles with Posted Speed Limit	79.4%	7.2%	8.8%	3.0%	1.5%	100%
Motor vehicles	408 (8.5%)	861 (17.9%)	2,788 (58%)	654 (13.6%)	99 (2.1%)	250,381
Motorcyclist	93 (9.9%)	185 (19.6%)	527 (55.8%)	127 (13.5%)	12 (1.3%)	3,893
Pedestrian	97 (10.4%)	174 (18.6%)	555 (59.3%)	109 (11.6%)	1 (0.1%)	3,385
Bicyclist	43 (13.2%)	71 (21.8%)	178 (54.8%)	31 (9.5%)	2 (0.6%)	2,302
All modes combined	34,262 (13.2%)	63,078 (24.3%)	137,537 (52.9%)	24,131 (9.3%)	953 (0.4%)	259,961

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total crashes does not sum to total non-limited access crashes as presented in Table 3 as posted speed limit data is not readily available for all roadways.

Table 56: KSI Crash Summary by Posted Speed Limit by Mode – MetroPlan Orlando Region

Mode	25 or less	30-35	40-45	50-55	60+	Total
% of Centerline miles with Posted Speed Limit	79.4%	7.2%	8.8%	3.0%	1.5%	100%
Motor vehicles	32,797 (13.1%)	60,872 (24.3%)	132,490 (52.9%)	23,310 (9.3%)	912 (0.4%)	4,810
Motorcyclist	479 (12.3%)	847 (21.8%)	2,116 (54.4%)	417 (10.7%)	34 (0.9%)	944
Pedestrian	610 (18%)	808 (23.9%)	1,713 (50.6%)	252 (7.4%)	2 (0.1%)	936
Bicyclist	376 (16.3%)	551 (23.9%)	1,218 (52.9%)	152 (6.6%)	5 (0.2%)	325
All modes combined	641 (9.1%)	1,291 (18.4%)	4,048 (57.7%)	921 (13.1%)	114 (1.6%)	7,015

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total KSI crashes does not sum to total non-limited access crashes as presented in Table 3 as posted speed limit data is not readily available for all roadways.

Number of Travel Lanes

The number of reported crashes by the number of travel lanes on the road where the crash occurred is summarized in [Table 57](#), and compared to the centerline miles of road in the analysis area with that number of lanes. KSI Crashes disproportionately occur on roads with more lanes, as shown in [Table 58](#). For example, 4 lane roadways are about 6.5% of all roadways and where 39% of all crashes and 41% of KSI crashes occur. Crash outcomes by number of lanes are closely correlated with crashes by speed as multilane roads tend to have higher speed limits and higher operating speeds than 2-lane roads.

Table 57: All Crash Summary by Number of Travel Lanes by Mode – MetroPlan Orlando Region

Mode	2	4	6+	Total
% of Centerline miles with number of lanes	91.8%	6.5%	1.7%	100%
Motor vehicles	87213 (34.8%)	96,320 (38.5%)	66,848 (26.7%)	250,381
Motorcyclist	1401 (36%)	1,565 (40.2%)	927 (23.8%)	3,893
Pedestrian	1239 (36.6%)	1,225 (36.2%)	921 (27.2%)	3,385
Bicyclist	842 (36.6%)	910 (39.5%)	550 (23.9%)	2,302
All modes combined	90695 (34.9%)	100,020 (38.5%)	69,246 (26.6%)	259,961

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total crashes does not sum to total non-limited access crashes as presented in Table 3 as number of travel lane data is not readily available for all roadways.

Table 58: KSI Crash Summary by Number of Travel Lanes by Mode – MetroPlan Orlando Region

Mode	2	4	6+	Total
% of Centerline miles with number of lanes	91.8%	6.5%	1.7%	100%
Motor vehicles	1,528 (31.8%)	1,985 (41.3%)	1,297 (27%)	4,810
Motorcyclist	330 (35%)	391 (41.4%)	223 (23.6%)	944
Pedestrian	244 (26.1%)	347 (37.1%)	345 (36.9%)	936
Bicyclist	115 (35.4%)	133 (40.9%)	77 (23.7%)	325
All modes combined	2,217 (31.6%)	2,856 (40.7%)	1,942 (27.7%)	7,015

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total KSI crashes does not sum to total non-limited access crashes as presented in Table 3 as number of travel lane data is not readily available for all roadways.

Median Type

The number of reported crashes by the median type of the road where the crash occurred is summarized in [Table 57](#) for all crashes and [Table 58](#) for KSI crashes, and compared to the centerline miles of road in the analysis with that type of median. For roadways with no median, they are more

likely to be 2-lane, low speed roadways, where roadways with paved or grass medians are more likely to have multiple lane and posted speed limits.

Table 59: All Crash Summary by Median Type by Mode – MetroPlan Orlando Region¹

Mode	None	Grass	Multiple ²	Paved ³	Other ⁴	Total
% of Centerline miles	88.1%	8.3%	0.3%	3.2%	0.1%	100%
Motor vehicles	92,114 (36.8%)	77,706 (31%)	7,547 (3%)	69,936 (27.9%)	3,024 (1.2%)	250,327
Motorcyclist	1497 (38.5%)	1239 (31.8%)	109 (2.8%)	1,009 (25.9%)	39 (1%)	3,893
Pedestrian	1504 (44.4%)	910 (26.9%)	67 (2%)	869 (25.7%)	35 (1%)	3,385
Bicyclist	964 (41.9%)	692 (30.1%)	47 (2%)	563 (24.5%)	36 (1.6%)	2,302
All modes combined	96,079 (37%)	80,547 (31%)	7,770 (3%)	72,377 (27.8%)	3,134 (1.2%)	259,907

Source: Signal 4 Analytics

Notes: 1. Does not include limited access facilities; Total crashes does not sum to total non-limited access crashes as presented in Table 3 as median type data is not readily available for all roadways. 2. One some roadway segments, multiple median types are present along the length of a roadway, such as grass median on segments, transitioning to a paved median at an intersection. 3. A paved median could either concrete or asphalt and includes 1) a raised paved median, or 2) non-raised medians where road markings do not allow for automobile travel. 4. Other medians could include brick, gravel or a bridge structure.

Table 60: KSI Crash Summary by Median Type by Mode – MetroPlan Orlando Region

Mode	None	Grass	Multiple	Paved	Other	Total
% of Centerline miles	88.1%	8.3%	0.3%	3.2%	0.1%	100%
Motor vehicles	1,668 (34.7%)	1,750 (36.4%)	123 (2.6%)	1,246 (25.9%)	23 (0.5%)	4,810
Motorcyclist	356 (37.7%)	309 (32.7%)	25 (2.6%)	247 (26.2%)	7 (0.7%)	944
Pedestrian	345 (36.9%)	288 (30.8%)	28 (3%)	268 (28.6%)	7 (0.7%)	936
Bicyclist	134 (41.2%)	100 (30.8%)	3 (0.9%)	84 (25.8%)	4 (1.2%)	325
All modes combined	2,503 (35.7%)	2,447 (34.9%)	179 (2.6%)	1,845 (26.3%)	41 (0.6%)	7,015

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total KSI crashes does not sum to total non-limited access crashes as presented in Table 3 as median type data is not readily available for all roadways.

Functional Classification

The number of reported crashes by the functional classification of the road where the crash occurred is summarized in [Table 61](#), and compared to the miles of road in the analysis with that functional classification. Crashes disproportionately occur on arterial and major collector-roads with the proportion of all crashes and KSI crashes increasing as the functional classification becomes a higher level, as shown in [Table 62](#). This finding is consistent with the finding that crashes disproportionately occur on roads with a higher posted speed limit and more travel lanes.

Table 61: All Crash Summary by Functional Classification by Mode – MetroPlan Orlando Region

Mode	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local/Other	Total
% of Centerline miles with Functional Classification	4.1%	4.0%	7.2%	1.9%	82.8%	100%
Motor vehicles	91,625 (35.1%)	65,443 (25%)	50,840 (19.4%)	6,135 (2.3%)	47,366 (18.1%)	261,409
Motorcyclist	1,456 (36.7%)	996 (25.1%)	796 (20.1%)	98 (2.5%)	617 (15.6%)	3,963
Pedestrian	1,225 (35.5%)	800 (23.2%)	674 (19.5%)	89 (2.6%)	667 (19.3%)	3,455
Bicyclist	753 (32.5%)	583 (25.2%)	501 (21.6%)	98 (4.2%)	382 (16.5%)	2,317
All modes combined	95,059 (35.1%)	67,822 (25%)	52,811 (19.5%)	6,420 (2.4%)	49,032 (18.1%)	271,144

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total crashes does not sum to total non-limited access crashes as presented in Table 3 as functional classification data is not readily available for all roadways.

Table 62: KSI Crash Summary by Functional Classification by Mode – MetroPlan Orlando Region

Mode	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local/Other	Total
% of Centerline miles with Functional Classification	4.1%	4.0%	7.2%	1.9%	82.8%	100%
Motor vehicles	1,688 (34.5%)	1,439 (29.4%)	1018 (20.8%)	117 (2.4%)	631 (12.9%)	4,893
Motorcyclist	349 (36.7%)	255 (26.8%)	198 (20.8%)	30 (3.2%)	118 (12.4%)	950
Pedestrian	428 (45.2%)	234 (24.7%)	152 (16.1%)	22 (2.3%)	111 (11.7%)	947
Bicyclist	112 (34.3%)	74 (22.6%)	75 (22.9%)	12 (3.7%)	54 (16.5%)	327
All modes combined	2,577 (36.2%)	2,002 (28.1%)	1,443 (20.3%)	181 (2.5%)	914 (12.8%)	7,117

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total KSI crashes does not sum to total non-limited access crashes as presented in Table 3 as functional classification data is not readily available for all roadways.

Context Classification

All roads maintained by the Florida Department of Transportation (FDOT) have also been assigned a context classification to reflect the land use and transportation context through which the road traverses. The respective context classification is based on the roadway function as well as the surrounding land uses. A brief description of each context classification is provided below. For more information, please refer to the FDOT Context Classification Guide at

- **C1 – Natural:** Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions. Design speed ranges from 55-70 mph.
- **C2 – Rural:** Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands. Design speed ranges from 55-70 mph.
- **C2T – Rural Town:** Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns. Design speed ranges from 25-45 mph.
- **C3R – Suburban Residential:** Mostly residential uses within large blocks and a disconnected or sparse roadway network. Design speed ranges from 35-55 mph.
- **C3C – Suburban Commercial:** Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network. Design speed ranges from 35-55 mph.
- **C4 – Urban General:** Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway. Design speed ranges from 30-45 mph.
- **C5 – Urban Center:** Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of a civic or economic center of a community, town, or city. Design speed ranges from 25-35 mph.
- **C6 – Urban Core:** Areas with the highest densities and building heights, and within FDOT classified Large Urbanized Areas (population >1,000,000). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadway, and are within a well-connected roadway network. Design speed ranges from 25-30 mph.

For FDOT roads where a context classification has been assigned, the number of reported crashes by context classification is summarized in **Table 63**. Crashes disproportionately occur on Suburban Commercial Corridors (C3C) as these are roads that typically carry large volumes of motor vehicle traffic, provide direct access to land uses, serve transit, and accommodate people walking and bicycling. The percent of KSI crashes for people walking, bicycling, and motorcycling is also disproportionally higher on C3C roads, as shown in **Table 64**.

Table 63: All Crash Summary by Functional Classification by Mode – MetroPlan Orlando Region

Mode	C1	C2	C2T	C3C	C3R	C4	C5	C6	Total
% of Centerline miles with Context Class	1.0%	20.9%	0.2%	48.3%	16.7%	10.6%	1.0%	0.5%	100%
Motor vehicles	206 (0.2%)	2,659 (2%)	86 (0.1%)	91804 (68.6%)	11,416 (8.5%)	23,715 (17.7%)	2372 (1.8%)	1487 (1.1%)	133,745
Motorcyclist	8 (0.4%)	55 (2.7%)	3 (0.1%)	1363 (65.8%)	224 (10.8%)	354 (17.1%)	44 (2.1%)	19 (0.9%)	2,070
Pedestrian	0 (0%)	10 (0.6%)	4 (0.2%)	1224 (68.3%)	118 (6.6%)	375 (20.9%)	30 (1.7%)	32 (1.8%)	1,793
Bicyclist	0 (0%)	8 (0.7%)	2 (0.2%)	803 (69.8%)	112 (9.7%)	195 (16.9%)	12 (1%)	19 (1.7%)	1,151
All modes combined	214 (0.2%)	2,732 (2%)	95 (0.1%)	95194 (68.6%)	11,870 (8.6%)	24,639 (17.8%)	2,458 (1.8%)	1,557 (1.1%)	138,759

Source: Signal 4 Analytics

Notes: Only includes FDOT non-limited access roads that have been assigned a context classification.

Table 64: KSI Crash Summary by Functional Classification by Mode – MetroPlan Orlando Region

Mode	C1	C2	C2T	C3C	C3R	C4	C5	C6	Total
% of Centerline miles with Context Class	1.0%	20.9%	0.2%	48.3%	16.7%	10.6%	1.0%	0.5%	100%
Motor vehicles	2 (0.4%)	19 (3.9%)	1 (0.2%)	315 (63.9%)	70 (14.2%)	71 (14.4%)	12 (2.4%)	3 (0.6%)	493
Motorcyclist	0 (0%)	5 (0.9%)	0 (0%)	419 (71.7%)	37 (6.3%)	107 (18.3%)	9 (1.5%)	7 (1.2%)	584
Pedestrian	0 (0%)	1 (0.6%)	1 (0.6%)	121 (75.2%)	18 (11.2%)	20 (12.4%)	0 (0%)	0 (0%)	161
Bicyclist	17 (0.5%)	193 (5.2%)	6 (0.2%)	2,510 (68.1%)	445 (12.1%)	457 (12.4%)	39 (1.1%)	19 (0.5%)	3,686
All modes combined	15 (0.6%)	168 (6.9%)	4 (0.2%)	1,655 (67.6%)	320 (13.1%)	259 (10.6%)	18 (0.7%)	9 (0.4%)	2,448

Source: Signal 4 Analytics

Notes: Only includes FDOT non-limited access roads that have been assigned a context classification.

Traffic Volumes

The number of reported crashes by the volume of traffic on the road where the crash occurred is summarized in [Table 65](#) for roads where traffic volume data is available. Crashes disproportionately occur on roads with higher traffic volumes, with the proportion of KSI crashes increasing as the traffic volumes increase, as shown in [Table 66](#).

Table 65: All Crash Summary by Traffic Volumes by Mode – MetroPlan Orlando Region

Mode	Less than 15,000	15,000-30,000	More than 30,000	Total
Motor vehicles	50,384 (23.5%)	70,400 (32.8%)	94,045 (43.8%)	214,829
Motorcyclist	855 (25.5%)	1,145 (34.1%)	1,354 (40.4%)	3,354
Pedestrian	683 (24.5%)	857 (30.7%)	1,251 (44.8%)	2,791
Bicyclist	534 (27.5%)	609 (31.4%)	798 (41.1%)	1,941
All modes combined	52,456 (23.5%)	73,011 (32.8%)	97,448 (43.7%)	222,915

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total crashes does not sum to total non-limited access crashes as presented in Table 3 as traffic count data is not readily available for all roadways.

Table 66: KSI Crash Summary by Traffic Volume by Mode – MetroPlan Orlando Region

Mode	Less than 15,000	15,000-30,000	More than 30,000	Total
Motor vehicles	1,055 (24.7%)	1,477 (34.5%)	1,746 (40.8%)	4,278
Motorcyclist	229 (27.3%)	298 (35.5%)	312 (37.2%)	839
Pedestrian	149 (17.8%)	260 (31.1%)	427 (51.1%)	836
Bicyclist	72 (26.2%)	85 (30.9%)	118 (42.9%)	275
All modes combined	1,505 (24.2%)	2,120 (34%)	2,603 (41.8%)	6,228

Source: Signal 4 Analytics

Notes: Does not include limited access facilities; Total KSI crashes does not sum to total non-limited access crashes as presented in Table 3 as functional classification data is not readily available for all roadways.

Systemic Matrices

Based on the crash type, behavior, environmental and road factors, the travel modes, and factors involved in a disproportionate number of fatal and severe injury crashes was identified, as presented in [Attachment B](#) for the MetroPlan Orlando region, [Attachment C](#) for Orange County, [Attachment D](#) for Osceola County and [Attachment E](#) for Seminole County. While similar analyses were prepared for each individual jurisdiction, the small relative sample size in many local communities can skew some of the analysis results.

For this analysis, only crashes on non-limited access facilities and where sufficient roadway information was available were included in the analysis. Parking lot crashes were also excluded, with the resulting regional analysis reflecting 260,000 crashes (94% of the total non-limited access crashes) and 7,015 KSI crashes (98% of all non-limited access KSI crashes). Therefore, some of the information presented in these tables may be slightly different than the information presented in the tables in this report due to this difference in data sets, although the overall conclusions remain the same.

Data is presented in the following tables:

- All Crash Matrix – Raw number of total crashes by each factor
- All KSI Crash Matrix – Raw number of KSI crashes by each factor
- % of All Crashes that Resulted in a KSI – Shows the percentage of overall crashes that resulted in a KSI.

- % of KSI – Shows of only KSI, what percentage of total KSIs each factor represents.
- % of Car and Truck KSI – Of KSI crashes involving only people in cars and trucks, the most prevalent factors.
- % of Motorcycle KSI – Of KSI crashes involving motorcyclists, the most prevalent factors.
- % of Pedestrian KSI – Of KSI crashes involving pedestrians, the most prevalent factors.
- % of Bicyclist KSI – Of KSI crashes involving bicyclists, the most prevalent factors.

The information is cross tabulated by the following factors:

- Crash Type
- Alcohol Related
- Hit and Run
- Aggressive Driving
- Distracted Driving
- Intersection Related
- Drug Related
- Aging Driver
- Teen Driver
- Day of Week
- Time of Day
- Lighting Condition
- Number of Lanes
- Number of Turn Lanes
- Posted Speed Limit
- Roadway Classification
- Average Annual Daily Traffic
- Context Classification
- Presence of Bike Lane or Pave Shoulder
- Presence of Sidewalks
- Median Presence

Some key findings that build on the findings presented previously include:

- Crashes involving a variety of behavioral and contextual factors are more likely to be fatal on non-limited access roadways with a posted speed limit of 40 MPH or greater, including hit and run, alcohol and drug related crashes, aging and teen drivers, and bicycle and pedestrian involved crashes. KSI crashes occur more frequently on high-speed roadways.
- The FDOT Context Classification C3C – Commercial Corridor is associated with a disproportionate number of KSI crashes for all travel modes as these roadways tend to have a high-level of multimodal activity as well as high-speeds. Left-turn, rear-end and pedestrian KSI crashes are most prevalent on this roadway type.
- While overall crash trends are similar across each of the three counties that comprise the MetroPlan Orlando region, there are some subtle differences:
 - **Hit and Run** KSI crashes as a percent of overall KSI crashes are more prevalent in **Orange County** (10.3%), as compared to the regional average (9.2%), Osceola County (6.2%) and Seminole County (5.8%)

- **Alcohol Related** KSI crashes as a percent of overall KSI crashes occur more frequently in Osceola (7.5%) and Seminole Counties (6.6%), than Orange County (5.2%) with a regional average of 5.7%.
- **Teen Driver** KSI crashes as a percent of overall KSI crashes occur at a similar rate in all counties: Orange County is 11.6%, Osceola County is 12.4% and Seminole County is 10.2%. The regional average is 11.6%.
- **Aging Driver** KSI crashes occur more frequently as a percent of overall KSI crashes in Seminole County (18.7%) with Osceola County a close second (16.4%), as compared to the regional average (14.9%) and Orange County (14.0%).
- **Pedestrian** involved KSI crashes occur more frequently as a percent of overall KSI crashes in Seminole County (17.1%), as compared to Orange County (13.4%), the regional average (13.3%), and Osceola County (10.8%).

Attachments:

Attachment A: FDOT Modal Office Crash Data

Attachment A-1: Trespasser Near Misses

Attachment A-2: Trespasser Incidents (Results in a KSI)

Attachment B: MetroPlan Orlando Regional Systemic Crash Matrix

1. All Crash Matrix
2. All KSI Crash Matrix
3. Percent of All Crashes that Resulted in a KSI
4. Percent of KSI for All Crashes
5. Percent of Car and Truck KSI
6. Percent of Motorcycle KSI
7. Percent of Pedestrian KSI
8. Percent of Bicyclist KSI

Attachment C: Orange County Systemic Crash Matrix

- Same List as Regional

Attachment D: Osceola County Systemic Crash Matrix

- Same List as Regional

Attachment E: Seminole County Systemic Crash Matrix

- Same List as Regional

Attachment A-1
Railroad Near Misses
MetroPlan Orlando Region

CFRC Trespasser Near Misses 2018 - 2023 YTD

Date				Time	Location				Operator	Rev.?	Trespasser Action	Description of Incident / Employee or Subcontractor
Day	M	D	Y	Hr & Min	Milepost	Description	Jurisdiction	At crossing?				
Fri	4	28	2023	06:32	805.09	Near Garden St.	Osceola County	N	SunRail	Y	Standing	Pedestrian trespasser loitering in the area south of Garden St. in Osceola County. Walking around and standing on tracks.
Thu	4	27	2023	17:06	767.80	Between CR 46A and Airport Blvd.	Sanford	N	SunRail	Y	Walking Along	Homeless pedestrian trespasser walking along tracks pulling wagon just north of Airport Blvd. Stepped off tracks at last second as SunRail train approached.
Mon	4	24	2023	18:18	798.50	Between Fourth St. and Taft Vineland Rd.	Orange County	N	SunRail	Y	Walking Along	Pedestrian trespasser walking in the gauge of the tracks. Stepped off tracks at last second as SunRail train approached.
Tue	2	28	2023	20:12	800.83	Between S. Orange Ave. Overpass and E. Wetherbee Rd.	Orange County	N	SunRail	Y	Sitting	Pedestrian trespasser sitting on rail just south of the Orange Ave. overpass. Trespasser got up and walked off the tracks at the last second as SunRail train approached.
Thu	2	23	2023	16:59	788.97	Near Magnolia Ave.	Orlando	N	SunRail	Y	Walking Across	Homeless pedestrian trespasser crossing the tracks to reach a homeless encampment between Magnolia Ave. and Orange Ave. Cleared tracks before SunRail train passed.
Wed	1	11	2023	20:05	789.62	Near Concord St.	Orlando	N	SunRail	Y	Sitting	Pedestrian trespasser sitting on rail just north of Concord St. in Orlando. Trespasser got up and walked off the tracks at the last second as SunRail train approached. Trespasser said to be possibly intoxicated.
Mon	12	26	2022	16:25	809.30	Between S. Clyde Ave. and Jack Calhoun Dr.	Kissimmee	N	SunRail	Y	Walking Across	Homeless pedestrian trespasser crossing the tracks to reach a homeless encampment south of the John Young Pkwy. Overpass. Cleared tracks before SunRail train passed.
Fri	12	2	2022	08:54	791.20	Columbia St.	Orlando	N	SunRail	Y	Walking Across	Pedestrian trespasser crossing the tracks just north of the Columbia St. crossing in Orlando. Cleared tracks before SunRail train passed.
Wed	11	30	2022	07:55	777.68	E. Church Ave.	Longwood	Y	SunRail	Y	Walking Across	Pedestrian trespasser crossing the tracks on the south edge of the Church Ave. crossing in Longwood. Trespasser ignored warning lights, bells, and gates.
Fri	9	23	2022	15:39	798.50	Between Fourth St. and Taft Vineland Rd.	Orange County	N	SunRail	Y	Walking Along	Pedestrian trespasser walking in the gauge of the tracks. Stepped off tracks at last second as SunRail train approached.
Wed	8	31	2022	07:40	786.60	Near S. Denning Dr.	Winter Park	N	SunRail	Y	Standing	Pedestrian trespasser loitering in the area S. Denning Dr., Minnesota Ave., and Holt Ave. in Winter Park. Mental health issues. SunRail train applied emergency braking to avoid hitting trespasser.
Wed	6	15	2022	08:21	790.40	Near Church St.	Orlando	N	SunRail	Y	Walking Along	Pedestrian trespasser walking along tracks between the Church St. station NB platform and the South St. crossing.
Fri	6	3	2022	16:00	804.70	Near Osceola Pkwy.	Osceola County	N	SunRail	Y	Unknown	Pedestrian trespasser on tracks near the Osceola Pkwy. Overpass.
Fri	3	25	2022	12:30	791.77	Near Kaley St.	Orlando	N	SunRail	Y	Sitting	Pedestrian trespasser sitting against rail just south of the Kaley St. crossing. Trespasser scooted out of the foul at the last second.
Fri	3	18	2022	15:45	786.06	Near Fairbanks Ave.	Winter Park	N	SunRail	Y	Walking Along	Pedestrian Trespasser walking in the gauge of the tracks from Lyman Ave. towards Fairbanks Ave. in Winter Park. Trespasser stepped of tracks at the last second.
Fri	3	11	2022	20:13	786.42	Near Minnesota Ave.	Winter Park	N	SunRail	Y	Sitting	Pedestrian trespasser sitting in the gauge of the tracks just south of the Minnesota Ave. crossing. Trespasser got up and cleared the tracks before the train passed and appeared intoxicated.
Tue	12	21	2021	20:39	773.09	Lake Mary Station	Lake Mary	N	SunRail	Y	Walking Along	Pedestrian trespassers walking down the tracks towards the Lake Mary Station.
Mon	11	29	2021	15:58	788.97	Magnolia Ave.	Orlando	Y	SunRail	Y	Walking Across	Pedestrian Trespasser walking across the tracks at the Magnolia Ave. crossing in Orlando. Trespasser walked around warning gate and ignored lights and bells.

Attachment A-1
Railroad Near Misses
MetroPlan Orlando Region

CFRC Trespasser Near Misses 2018 - 2023 YTD

CFRC Trespasser Near Misses 2018 - 2023 YTD												
Date				Time	Location				Operator	Rev.?	Trespasser Action	Description of Incident / Employee or Subcontractor
Day	M	D	Y	Hr & Min	Milepost	Description	Jurisdiction	At crossing?				
Thu	11	4	2021	07:26	789.99	Robinson St.	Orlando	Y	SunRail	Y	Standing	Pedestrian trespasser stood in front of train at the Robinson St. grade crossing in Orlando. Train stopped short of trespasser.
Tue	11	2	2021	17:27	789.81	LYNX Central Station	Orlando	Y	SunRail	Y	Walking Across	Pedestrian trespasser walked out in front of train at the LYNX Central Station north pedestrian crossing as the train was departing the station.
Thu	10	28	2021	16:46	784.70	Near N Denning Dr.	Winter Park	Y	SunRail	Y	Walking Along	Homeless pedestrian trespasser walking in the gauge of the tracks. Trespasser steeped away from tracks before train passed.
Mon	10	11	2021	18:17	789.50	Colonial Dr.	Orlando	Y	SunRail	Y	Standing	Pedestrian trespasser walked out in front of train at the Colonial Dr. crossing and then stopped and stood in front of train. Trespasser moved on at last second.
Fri	10	8	2021	08:41	766.00	Between SR 46 Overpass and McCracken Rd.	Sanford	Y	SunRail	Y	Standing	Pedestrian trespasser standing on the tracks refusing to move. Possible attempted suicide. Same individual and location from 9/21/21.
Tue	9	21	2021	07:11	766.00	Between SR 46 Overpass and McCracken Rd.	Sanford	Y	SunRail	Y	Standing	Pedestrian trespasser standing on the tracks refusing to move. Possible attempted suicide.
Tue	9	7	2021	16:38	773.09	Lake Mary Station	Lake Mary	Y	SunRail	Y	Walking Across	Pedestrian trespasser walked out in front of SunRail train entering the Lake Mary Station at the south station pedestrian crossing. Trespasser was on the phone and distracted. Upon noticing the train, the trespasser jumped backwards out of the way.
Mon	8	30	2021	19:35	807.49	Between Magnolia St. and East Oak St.	Kissimmee	N	SunRail	Y	Standing	Pedestrian trespasser attempted to lay down in front of train. Attempted suicide.
Fri	8	20	2021	18:30	790.49	Near South St.	Orlando	N	SunRail	Y	Standing	Pedestrian trespasser standing on tracks.
Tue	8	17	2021	14:27	804.60	Near Tupperware Station	Osceola County	N	SunRail	Y	Walking Along	Pedestrian trespasser walking down tracks towards the Tupperware Station.
Thu	7	29	2021	14:22	808.17	Near Monument Ave.	Kissimmee	Y	SunRail	Y	Walking Across	Pedestrian trespasser crossing at the Monument Ave. crossing in Kissimmee. Trespasser was elderly and walking at slow rate.
Thu	7	15	2021	19:48	787.99	Princeton St.	Orlando	Y	SunRail	Y	Walking Across	Pedestrian trespasser walked out in front of train at the Princeton St. crossing in Orlando. Trespasser ignored warning gate, lights, and bells.
Tue	7	13	2021	19:48	789.40	Between Marks St. and Colonial Dr.	Orlando	N	SunRail	Y	Walking Along	Homeless pedestrian trespasser walking within the foul of the tracks between Marks St. and Colonial Dr. in Orlando. Train was able to stop before contacting individual.
Tue	7	6	2021	05:45	766.00	Between SR 46 Overpass and McCracken Rd.	Sanford	N	SunRail	Y	Walking Along	Pedestrian trespasser walking down tracks near the SR 46 overpass and Amtrak auto train facility.
Wed	6	30	2021	06:35	784.10	Near Orlando Ave. Overpass	Orlando	N	SunRail	Y	Unknown	Two pedestrian trespassers fouling the tracks near the Orlando Ave. overpass.
Mon	3	22	2021	15:38	786.06	Fairbanks Ave.	Winter Park	Y	SunRail	Y	Standing	Two pedestrian trespassers reported playing chicken with a SunRail train at the Fairbanks Ave. crossing in Winter Park.
Wed	2	3	2021	18:12	786.06	Fairbanks Ave.	Winter Park	Y	SunRail	Y	Walking Along	Pedestrian trespasser jaywalking across Fairbanks Ave. at the grade crossing in front of approaching SunRail train.
Wed	11	18	2020	22:34	789.81	Near Livingston St.	Orlando	N	SunRail	Y	Standing	Pedestrian trespasser standing between the LYNX Central Station platforms on the tracks. Stood by intertrack fence as train passed.
Wed	11	11	2020	08:31	787.79	Rollins St.	Orlando	Y	SunRail	Y	Standing	Pedestrian trespasser stood in front of train at the Rollins St. grade crossing in Orlando. Trespasser moved at last second. Possible attempted suicide.

Attachment A-1
Railroad Near Misses
MetroPlan Orlando Region

CFRC Trespasser Near Misses 2018 - 2023 YTD

CFRC Trespasser Near Misses 2018 - 2023 YTD												
Date				Time	Location				Operator	Rev.?	Trespasser Action	Description of Incident / Employee or Subcontractor
Day	M	D	Y	Hr & Min	Milepost	Description	Jurisdiction	At crossing?				
Thu	10	8	2020	21:36	809.36	Between Clyde Ave. and Pleasant Hill Rd.	Kissimmee	N	SunRail	Y	Unknown	Pedestrian trespasser reported on tracks.
Mon	5	18	2020	18:29	793.20	Between Drennen St. and Holden Ave.	Orlando	N	SunRail	Y	Sitting	Pedestrian trespasser sitting in the gauge of the tracks. SunRail train stopped and the visually intoxicated trespasser attempted to board the train.
Wed	4	22	2020	08:12	767.41	Near Country Club Rd.	Sanford	N	SunRail	Y	Walking Along	Pedestrian trespasser walking down the tracks near the Country Club Rd. grade crossing in Sanford. Train stopped and trespasser ran off.
Tue	3	10	2020	14:57	790.29	Pine St.	Orlando	Y	SunRail	Y	Standing	Pedestrian trespasser running around in circles over the Pine St. crossing in Orlando. The trespasser momentarily stopped and stood in from of the train and then ran off.
Fri	2	14	2020	17:05	787.73	Rollins St.	Orlando	Y	SunRail	Y	Walking Across	Pedestrian trespasser walked in front of train at the Rollins St. crossing in Orlando. Elderly person. Froze when observing train and backed up.
Thu	2	13	2020	17:07	800.75	Wetherbee Rd.	Orange County	Y	SunRail	Y	Riding Across	Pedestrian trespassers (Kids on bikes) rode around the warning gates and in front of a SunRail train at the Wetherbee Rd. crossing.
Wed	1	15	2020	19:35	806.50	Between Donegan Ave. and Vine St.	Osceola County	N	SunRail	Y	Sitting	Pedestrian trespassers (teenagers) sitting on tracks. Moved forward just enough to not get hit by train.
Wed	1	15	2020	16:50	792.03	Grant St.	Orlando	N	SunRail	Y	Walking Along	Pedestrian trespasser walking down tracks towards the Grant St. crossing in Orlando. Upon seeing train, the trespasser ran off the tracks towards the Target store.
Tue	1	14	2020	06:55	790.20	Near Central Blvd.	Orlando	N	SunRail	Y	Standing	Pedestrian trespasser standing in the gauge of the tracks.
Wed	1	8	2020	16:29	789.16	Near Orange Ave.	Orlando	N	SunRail	Y	Walking Along	Pedestrian trespasser walking down the tracks between the Magnolia Ave. and Orange Ave. crossings.
Sun	2	10	2019	14:24	789.48	Colonial Dr.	Orlando	Y	Amtrak	Y	Standing	Pedestrian trespasser standing in the middle of the tracks at Colonial Dr. Amtrak train was able to stop and the trespasser was very hostile towards the train crew.
Tue	1	22	2019	12:53	808.22	Near Ruby Ave.	Kissimmee	N	SunRail	Y	Laying	Pedestrian trespasser laying on tracks just north of Ruby Avenue in Kissimmee. Train was able to stop just short of trespasser.
Thu	1	10	2019	19:08	805.70	Garden St.	Osceola County	Y	SunRail	Y	Walking Across	Pedestrian trespasser walked out in front of train at the Garden St. crossing in Osceola County. Trespasser ignored warning gate, lights, and bells.
Fri	12	21	2018	13:19	782.84	Lake Ave.	Maitland	Y	SunRail	Y	Walking Across	Mobility scooter stalled or got stuck over the tracks at the Lake Ave. grade crossing. Rider got off scooter and pulled it out of the path of the train.
Thu	11	1	2018	14:50	807.80	Near Park St.	Kissimmee	N	SunRail	Y	Standing	Homeless pedestrian trespasser stood in the middle of the tracks in front of train. Camp set up beside tracks.
Wed	10	31	2018	16:20	809.00	Between Clyde Ave. and Pleasant Hill Rd.	Kissimmee	N	SunRail	Y	Walking Across	Pedestrian trespasser crossed the tracks in front of train.
Tue	10	23	2018	12:52	776.12	CR 427	Longwood	Y	SunRail	Y	Unknown	Pedestrian trespasser fouling tracks at the CR-427 grade crossing in Longwood.
Fri	10	5	2018	09:23	809.80	Between Clyde Ave. and Pleasant Hill Rd.	Kissimmee	N	SunRail	Y	Unknown	Pedestrian trespasser fouling tracks.

Attachment A-2
Railroad Incidents
MetroPlan Orlando Region

CFRC Trespasser Incidents 2018 - 2023 YTD															
Date				Time	Location				Operator	Rev.?	Fatality or Injury/Illness		Trespasser Action	Suicide?	Description of Incident / Employee or Subcontractor
Day	M	D	Y	Hr & Min	Milepost	Description	Jurisdiction	At crossing?							
Thu	4	13	2023	05:45	789.10	Near Orange Ave.	Orlando	No	SunRail	Y	Fatality	1	Kneeling	Apparent	SunRail train struck pedestrian trespasser kneeling in the gauge of the track just north of the Orange Ave. grade crossing in Orlando.
Sun	7	24	2022	03:05	805.90	Near Carroll St.	Osceola County	No	CSX	Y	Fatality	1	Lying	Apparent	CSX train struck pedestrian trespasser lying on the tracks just south of Carrol St. in Osceola County.
Mon	6	6	2022	18:52	794.50	Near Mary Jess Rd.	Edgewood	No	SunRail	Y	Injury	1	Sitting	No	SunRail train struck a pedestrian trespasser sitting on the tracks just south of Mary Jess Rd. in Edgewood. Trespasser noticed train at last second and attempted to get up and move out of the way.
Sun	6	5	2022	00:23	807.23	Near Vine St.	Kissimmee	No	CSX	Y	Fatality	1	Sitting	Apparent	CSX train struck pedestrian trespasser sitting on the tracks near the Vine St. grade crossing in Kissimmee.
Sun	1	30	2022	13:08	789.77	LYNX Central Station North Ped Crossing	Orlando	Yes	Amtrak	Y	Injury	1	Walking Across	No	Amtrak train struck pedestrian trespasser walking across the LYNX Central Station north pedestrian crossing. The individual ignored warning lights and bells and walked out Infront of the approaching Amtrak train. The individual appeared distracted and did not appear to be trying to beat the train.
Thu	12	30	2021	16:19	790.05	Jefferson St.	Orlando	Yes	SunRail	Y	Fatality	1	Standing	Yes	SunRail train struck pedestrian trespasser standing at the Jefferson St. grade crossing in Orlando. The trespasser ran out Infront of the train at the last second.
Mon	9	13	2021	02:00	807.40	Near Magnolia St.	Kissimmee	No	CSX	Y	Fatality	1	Unknown	Unknown	CSX train struck pedestrian trespasser near the Magnolia St. grade crossing in Kissimmee.
Wed	7	14	2021	15:55	790.24	Near Central Blvd.	Orlando	No	SunRail	Y	Fatality	1	Standing	Yes	SunRail train struck pedestrian trespasser standing in the gauge of the track near the Central Blvd. grade crossing in Orlando. The trespasser walked out Infront of the train at the last second.
Tue	7	6	2021	08:31	776.30	Between CR 427 and Georgia Ave.	Longwood	No	None	N	Fatality	1	Hanging	Yes	Trespasser found hanging from signal mast.
Tue	3	30	2021	15:48	791.60	Between Columbia St. and Kaley St.	Orlando	No	SunRail	Y	Fatality	1	Sitting	No	SunRail train struck pedestrian trespasser sitting outside the gauge of the rail but fouling the tracks. After investigation, the trespasser was found to be under the influence of drugs.
Wed	2	24	2021	21:45	786.17	Holt Ave.	Winter Park	Yes	CSX	Y	Fatality	1	Walking Across	No	CSX train struck pedestrian trespasser at the S Pennsylvania Ave and Holt Ave. grade crossing in Winter Park. Trespasser was elderly and assumed to be attempting to cross the tracks.

Attachment A-2
Railroad Incidents
MetroPlan Orlando Region

CFRC Trespasser Incidents 2018 - 2023 YTD															
Date				Time	Location				Operator	Rev.?	Fatality or Injury/Illness		Trespasser Action	Suicide?	Description of Incident / Employee or Subcontractor
Day	M	D	Y	Hr & Min	Milepost	Description	Jurisdiction	At crossing?							
Wed	1	6	2021	06:55	810.80	Between Jack Calhoun Dr. and Crestridge Dr.	Osceola County	No	Unknown	Unknown	Fatality	1	Unknown	Unknown	Deceased body found in the gauge of the tracks at milepost 810.8 near the Hoagland Ave. overpass. No report from trains of a trespasser. Cause of death unknown.
Mon	8	10	2020	05:58	781.15	Near Ballard St.	Altamonte Springs	No	SunRail	Y	Fatality	1	Sitting	Apparent	SunRail train struck pedestrian trespasser sitting in the gauge of the tracks just north of the Ballard St. grade crossing in Altamonte Springs.
Fri	12	13	2019	22:52	791.40	Between Columbia St. and Kaley St.	Orlando	No	SunRail	Y	Fatality	1	Walking Along	No	SunRail train struck pedestrian trespasser walking down the gauge of the tracks. Trespasser was walking the same direction as the train.
Fri	11	22	2019	20:57	777.68	Church Ave.	Longwood	Yes	Amtrak	Y	Fatality	1	Unknown	Yes	Amtrak train struck a pedestrian trespasser at the Church Ave. grade crossing in Longwood.
Mon	10	28	2019	06:22	808.15	Monument Ave.	Kissimmee	Yes	SunRail	Y	Fatality	1	Standing	Yes	SunRail train struck a pedestrian trespasser standing on the Monument Ave. grade crossing in Kissimmee. Trespasser ran out in front of train at the last second and stood over the tracks.
Tue	9	17	2019	08:48	791.50	Between Columbia St. and Kaley St.	Orlando	No	SunRail	Y	Injury	1	Standing	No	SunRail train struck a pedestrian trespasser standing next to the tracks, just within the foul.
Tue	6	4	2019	08:17	792.30	Near Michigan St.	Orlando	No	SunRail	Y	Fatality	1	Sitting	Yes	SunRail train struck a pedestrian trespasser just south of the Michigan St. grade crossing in Orlando. The trespasser walked out Infront of the train at the last second and sat in the gauge of the tracks.
Fri	5	10	2019	09:41	783.66	Palmetto Ave.	Maitland	Yes	SunRail	Y	Fatality	1	Standing	Yes	SunRail train struck a pedestrian trespasser at the Palmetto Ave. grade crossing (Lake Lilly Park) in Maitland. The trespasser ran out Infront of the train at the last second and stood over the tracks.
Thu	2	28	2019	17:52	795.57	Lancaster Ave.	Orange County	Yes	SunRail	Y	Fatality	1	Standing	Apparent	SunRail train struck a pedestrian trespasser standing with a bicycle at the Lancaster Rd. grade crossing. Trespasser rode bike into crossing Infront of train and stood up over the tracks.
Mon	2	18	2019	10:04	794.87	Between Mary Jess Rd. and Oakridge Rd.	Edgewood	No	SunRail	Y	Fatality	1	Walking Along	No	SunRail train struck pedestrian trespasser walking down the gauge of the tracks. Trespasser was walking the same direction as the train.
Tue	1	29	2019	15:12	784.50	Between Lake Ave. and N. Denning Dr.	Winter Park	No	SunRail	Y	Injury	1	Walking Along	No	SunRail train struck pedestrian trespasser walking along side the tracks, just within the foul.
Wed	1	2	2019	16:58	792.10	Near Grant St.	Orlando	No	SunRail	Y	Injury	1	Standing	No	SunRail train struck a shopping cart just south of the Grant St. grade crossing in Orlando. Homeless trespasser handling cart was hit by the cart and injured.

Attachment A-2
Railroad Incidents
MetroPlan Orlando Region

CFRC Trespasser Incidents 2018 - 2023 YTD															
Date				Time	Location				Operator	Rev.?	Fatality or Injury/Illness		Trespasser Action	Suicide?	Description of Incident / Employee or Subcontractor
Day	M	D	Y	Hr & Min	Milepost	Description	Jurisdiction	At crossing?							
Fri	12	7	2018	06:20	790.30	Near Pine St.	Orlando	No	SunRail	Y	Fatality	1	Standing	No	SunRail train struck pedestrian trespasser just north of Pine St. Trespasser was standing between the wall/fence for the Orlando Urban Trail and the tracks.
Wed	12	5	2018	19:04	791.02	Gore St.	Orlando	Yes	SunRail	Y	Injury	1	Standing	No	SunRail train struck pedestrian trespasser at the Gore St. grade crossing. Trespasser was standing on a bicycle and appeared to be slumped over and passed out.
Wed	11	14	2018	18:25	810.75	Between Pleasant Hill Rd. and Crestridge Dr.	Osceola County	No	SunRail	Y	Fatality	1	Standing	No	SunRail train struck pedestrian trespasser south of Pleasant Hill Road (now Jack Calhoun Dr). Trespasser was standing just within the foul of the tracks.
Fri	10	12	2018	15:37	786.06	Fairbanks Ave.	Winter Park	Yes	SunRail	Y	Injury	1	Riding Along	Apparent	SunRail train struck pedestrian trespasser riding a bicycle at the Fairbanks Ave. grade crossing in Winter Park. Trespasser rode out in front of train from the west side of the crossing then turned and rode down the tracks in the same direction of travel as the train.

Attachment B-1
MetroPlan Orlando Region
All Crashes 2018 -2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes				25 or less	30-35	40-45	50-55	60+														
		2-3	4-5	6-8	None	1 to 2	3+	0-25	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	
Type	Angle	8995	6029	2486	7111	9387	1547	3909	6302	6517	757	25	3953	3757	4974	689	379	4293	5558	4282	3668	3	122	10	4116	
	Animal	334	225	43	371	212	22	60	81	252	128	81	197	120	167	34	3	84	287	161	70	0	84	0	72	
	Bicycle	842	910	550	723	1394	200	376	551	1218	152	5	753	583	501	98	17	365	534	609	798	0	8	2	803	
	Head On	1482	1009	464	1361	1478	245	540	814	1296	267	38	863	643	779	96	18	685	851	840	702	7	66	1	760	
	Left Turn	12807	14946	5871	7712	23368	2900	3544	10072	17915	2066	27	8189	10098	9185	1278	341	4889	8749	10800	9353	15	344	9	9912	
	Off Road	8805	5086	2118	9692	6604	755	4748	3539	6318	1212	192	3638	3185	3477	710	202	5839	4046	3759	3263	34	292	10	3319	
	Other	18417	9857	5457	23922	14649	2651	12499	7861	11521	1715	135	8284	6260	5979	932	377	19390	6760	7076	7712	12	294	6	7812	
	Pedestrian	1239	1225	921	1151	1976	328	610	808	1713	252	2	1225	800	674	89	24	643	683	857	1251	0	10	4	1224	
	Rear End	25714	41535	36007	19858	66388	17788	4306	21791	63746	13238	175	47641	29481	18790	1667	519	5936	16921	31039	49829	106	1013	46	47737	
	Right Turn	1718	2316	1588	1136	3622	963	529	1323	3319	440	11	1836	1760	1189	157	46	733	1107	1636	2231	1	34	0	2287	
	Rollover	618	517	265	655	659	105	162	299	572	233	134	573	283	304	43	17	199	458	371	381	3	136	0	356	
	Sideswipe	7937	13939	11675	7312	20827	5883	2340	7840	20073	3188	110	15429	9275	5610	526	185	2997	5300	9865	15757	32	284	7	14659	
Unknown	1787	2426	1801	1633	3623	933	639	1797	3077	483	18	2478	1577	1182	101	50	801	1202	1716	2433	1	45	0	2137		
Alcohol Related	Y	1663	1418	1006	1646	2082	497	801	940	1947	371	28	1474	898	821	145	38	849	950	999	1399	6	65	1	1436	
	N	89032	98602	68240	80991	152105	33823	33461	62138	135590	23760	925	93585	66924	51990	6275	2140	46005	51506	72012	96049	208	2667	94	93758	
Hit and Run	Y	13415	12211	9436	13932	19236	4489	6799	8193	17025	2969	76	12426	8583	6553	757	300	9038	6702	8870	12838	17	225	6	12143	
	N	77280	87809	59810	68705	134951	29831	27463	54885	120512	21162	877	82633	59239	46258	5663	1878	37816	45754	64141	84610	197	2507	89	83051	
Aggressive Driving	Y	2337	2415	1411	2232	3466	633	958	1705	2959	518	23	2225	1434	1322	186	58	1106	1376	1770	2044	7	89	0	2002	
	N	88358	97605	67835	80405	150721	33687	33304	61373	134578	23613	930	92834	66388	51489	6234	2120	45748	51080	71241	95404	207	2643	95	93192	
Distracted Driving	Y	22744	27095	18675	20043	41233	9075	7593	14944	38621	7079	277	24925	18922	13914	1615	644	10331	12808	20286	26512	69	875	31	25871	
	N	67951	72925	50571	62594	112954	25245	26669	48134	98916	17052	676	70134	48900	38897	4805	1534	36523	39648	52725	70936	145	1857	64	69323	
Intersection Related	Y	30778	32147	17298	18896	50727	10988	9683	23147	41324	5976	93	25055	20988	19588	2849	923	11208	19914	23770	25136	47	806	26	28670	
	N	59917	67873	51948	63741	103460	23332	24579	39931	96213	18155	860	70004	46834	33223	3571	1255	35646	32542	49241	72312	167	1926	69	66524	
Drug Related	Y	465	428	333	447	681	143	195	247	638	134	12	460	277	245	44	14	231	283	289	458	2	20	0	448	
	N	90230	99592	68913	82190	153506	34177	34067	62831	136899	23997	941	94599	67545	52566	6376	2164	46623	52173	72722	96990	212	2712	95	94746	
Aging Driver	Y	13225	15957	10450	11770	24315	5451	4758	9877	21553	3331	113	15322	10254	7933	1002	354	6671	8142	11084	15428	36	432	12	15321	
	N	77470	84063	58796	70867	129872	28869	29504	53201	115984	20800	840	79737	57568	44878	5418	1824	40183	44314	61927	82020	178	2300	83	79873	
Teenage Driver	Y	11864	13397	8871	10306	20922	4227	4106	7768	18884	3278	96	11886	8992	7312	1118	303	5844	7092	9686	12679	28	394	18	12332	
	N	78831	86623	60375	72331	133265	30093	30156	55310	118653	20853	857	83173	58830	45499	5302	1875	41010	45364	63325	84769	186	2338	77	82862	
Day of the Week	Monday	13490	15051	10363	12151	23299	5107	4966	9286	20907	3601	144	14461	10134	7854	965	305	6838	7936	10866	14738	34	410	17	14530	
	Tuesday	13742	15484	10590	12355	23788	5319	5038	9547	21382	3709	140	14691	10537	8018	1003	296	6917	8000	11153	15210	34	393	17	14750	
	Wednesday	13701	15447	10343	12510	23539	5186	5065	9630	21148	3531	117	14488	10342	8160	989	317	6939	8052	11144	14890	28	408	10	14573	
	Thursday	13789	15613	10732	12478	24100	5223	5057	9821	21408	3726	122	14789	10482	8192	1059	355	6924	8252	11169	15222	39	389	15	14683	
	Friday	15115	17168	11727	13688	26470	5780	5532	10680	23568	4090	140	16375	11426	8983	1040	366	7748	8809	12452	16713	43	451	21	16334	
	Saturday	11187	11780	8724	10436	18366	4303	4581	7763																	

Attachment B-1
MetroPlan Orlando Region
All Crashes 2018 -2022

Mode:	All Collisions	Context Classification					Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																				
		C3R	C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	481	2070	250	156	10837	13282	1697	2531	16217	1210	83	1687	2995	12828	9709	3961	293	3427	118
	Animal	57	6	1	1	384	309	50	243	578	22	2	271	106	225	304	221	10	64	3
	Bicycle	112	195	12	19	1166	1562	221	519	2119	165	18	132	260	1910	964	692	47	563	36
	Head On	148	298	23	23	1758	2093	284	578	2755	178	22	387	482	2086	1633	590	38	669	23
	Left Turn	1924	2895	228	103	18550	23612	3711	6301	30876	2565	183	2953	4721	25950	14146	10113	864	8239	258
	Off Road	751	749	77	58	11761	11722	1122	3165	15238	696	75	2902	3114	9993	8273	4643	324	2634	130
	Other	983	2979	354	336	28446	25742	2853	5136	31607	1930	194	3914	5000	24817	19150	7226	613	6415	318
	Pedestrian	118	375	30	32	1662	2288	396	701	3057	296	32	248	387	2750	1504	910	67	869	35
	Rear End	5475	9853	861	358	38585	60257	17926	25073	87815	13882	1559	7775	12789	82692	26600	37103	3840	34158	1532
	Right Turn	280	401	32	13	2673	3794	797	1031	4925	644	53	348	672	4602	1772	1628	203	1975	44
	Rollover	77	118	13	8	708	852	160	388	1294	102	4	395	217	788	615	484	32	263	6
	Sideswipe	1284	3767	481	359	13149	21087	5124	7340	29296	3844	411	2656	4034	26861	9212	11227	1269	11275	559
	Unknown	180	933	96	91	2706	3934	891	1189	5291	655	68	413	706	4895	2197	1749	170	1826	72
Alcohol Related	Y	197	359	39	35	2087	2714	534	839	3640	396	51	463	600	3024	1715	1216	114	993	49
	N	11673	24280	2419	1522	130298	167820	34698	53356	227428	25793	2653	23618	34883	197373	94364	79331	7656	71384	3085
Hit and Run	Y	1242	3630	375	308	19711	24278	6224	6224	31248	3459	355	2997	4681	27384	14855	9317	920	9569	394
	N	10628	21009	2083	1249	112674	146256	47971	47971	199820	22730	2349	21084	30802	173013	81224	71230	6850	62808	2740
Aggressive Driving	Y	278	620	65	30	3240	3914	1476	1476	5530	569	64	636	983	4544	2462	1971	140	1494	95
	N	11592	24019	2393	1527	129145	166620	52719	52719	225538	25620	2640	23445	34500	195853	93617	78576	7630	70883	3039
Distracted Driving	Y	3544	5330	481	174	33976	44613	14530	14530	60853	7069	592	6718	9378	52418	24123	22424	2183	19156	615
	N	8326	19309	1977	1383	98409	125921	39665	39665	170215	19120	2112	17363	26105	147979	71956	58123	5587	53221	2519
Intersection Related	Y	4408	7631	782	512	37729	54069	15141	15141	71364	8187	672	6813	11628	61782	30930	23483	2329	22410	1061
	N	7462	17008	1676	1045	94656	116465	39054	39054	159704	18002	2032	17268	23855	138615	65149	57064	5441	49967	2073
Drug Related	Y	71	80	7	5	638	784	278	278	1084	129	13	153	179	894	455	403	41	315	12
	N	11799	24559	2451	1552	131747	169750	53917	53917	229984	26060	2691	23928	35304	199503	95624	80144	7729	72062	3122
Aging Driver	Y	1887	4195	445	164	19044	26012	8274	8274	35183	3986	463	3137	5213	31282	14339	12184	1101	11429	569
	N	9983	20444	2013	1393	113341	144522	45921	45921	195885	22203	2241	20944	30270	169115	81740	68363	6669	60948	2565
Teenage Driver	Y	1941	2464	213	87	17978	21572	7981	7981	30248	3535	349	2828	4880	26424	12012	11213	954	9520	427
	N	9929	22175	2245	1470	114407	148962	46214	46214	200820	22654	2355	21253	30603	173973	84067	69334	6816	62857	2707
Day of the Week	Monday	1779	3696	368	231	19492	25504	8208	8208	34643	3846	415	3575	5336	29993	14360	12033	1164	10874	469
	Tuesday	1803	3888	391	197	19989	26043	8316	8316	35295	4094	427	3658	5421	30737	14513	12230	1193	11369	502
	Wednesday	1863	3833	369	225	19926	25977	8360	8360	35257	3816	418	3424	5394	30673	14713	12141	1130	11021	476
	Thursday	1832	3947	403	229	20264	26270	8420	8420	35702	4047	385	3599	5358	31177	14763	12402	1220	11252	494
	Friday	2020	4149	403	235	22282	28725	9299	9299	39103	4461	446	4032	5932	34046	16176	13699	1247	12306	568
	Saturday	1373	2918	294	236	16591	20879	6411	6411	28050	3299	342	3113	4329	24249	11667	9919	1019	8720	358
	Sunday	1200	2208	230	204	13841	17136	5181	5181	23018	2626	271	2680	3713	19522	9887	8123	797	6835	267
Time of Day	12-3 AM	458	1077	130	205	5815	7473	2025	2025	9880	1032	96	1289	1692	8027	4659	3177	404	2657	108
	3-6 AM	333	606	85	92	3713	4824	1442	1442	6476	761	61	1023	1077	5198	2894	2248	243	1842	68
	6-9 AM	1744	2708	285	155	15971	21267	6918	6918	28996	3092	344	3337	4759	24336	12110	10090	979	8816	430
	9-Noon	1518	3730	357	207	18004	23472	7082	7082	31400	3555	355	3151	4723	27436	12999	10712	1017	10138	439
	Noon-3 PM	2162	5450	515	257	25711	33026	10237	10237	44403	5052	541	4153	6530	39313	18358	15103	1322	14579	623
	3-6 PM	2748	6039	596	281	31048	40214	13420	13420	55092	6083	616	5201	8149	48441	22810	19312	1764	17127	769
	6-9 PM	1927	3327	314	176	21215	26456	8751	8751	36131	4261	452	3613	5552	31679	14654	13029	1255	11428	470
	9-Midnight	980	1702	176	184	10908	13802	4320	4320	18690	2353	239	2314	3001	15967	7595	6876	786	5790	227
Lighting Conditions	Dark - Lighted	2108	4970	553	557	25570	33806	10036	10036	45071	5738	603	3778	6663	40971	17907	16266	1833	14785	608
	Dark - Not Lighted	738	307	25	13	5871	6302	2777	2777	9496	839	66	2794	2104	5503	4942	3328	336	1739	54
	Dark - Unknown Lighting	29	63	4	5	397	434	109	109	557	52	4	72	110	431	354	122	19	110	8
	Dawn	248	313	41	13	2135	2745	971	971	3829	443	51	529	678	3116	1609	1369	134	1152	56
	Daylight	8329	18364	1781	935	93276	121089	38474	38474	163904	18250	1898	16061	24628	143363	67792	56590	5182	52151	2301
	Dusk	393	589	50	29	4518	5594	1745	1745	7556	845	80	742	1178	6561	3000	2754	259	2365	103
	Other	7	5	0	0	70	73	19	19	93	12	1	10	20	76	47	32	3	22	2
	Unknown	18	28	4	5	539	484	62	62	553	10	1	92	101	371	420	85	4	53	2

Attachment B-1
Limited access facilites, parking lots and roadways for which contextual data was not available were not included in this analysis.

Attachment B-2
MetroPlan Orlando Region
All KSI Crashes 2018 -2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				Context Classification			
All		3 Lanes or Less	4-5 Lanes	6+ Lanes		Turn Lanes		25 or less	30-35	40-45	50-55	60+																	
		2-3	4-5	6-8	None	1 to 2	3+	0-25	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R	C4	C5	C6
Type	Angle	272	208	114	208	344	54	104	170	267	48	5	159	134	154	24	16	119	171	150	153	0	13	1	180	26	41	2	5
	Animal	4	3	0	4	3	0	2	0	1	3	1	2	1	1	1	0	2	3	2	0	0	2	0	1	0	0	0	0
	Bicycle	115	133	77	102	195	30	43	71	178	31	2	112	74	75	12	3	51	72	85	118	0	1	1	121	18	20	0	0
	Head On	147	82	33	152	103	8	14	43	121	64	20	100	59	69	11	2	22	104	76	60	3	29	0	60	24	17	0	0
	Left Turn	451	696	349	281	1100	120	85	298	940	169	4	428	522	372	34	15	130	348	530	484	4	38	1	508	110	80	8	0
	Off Road	316	355	126	437	354	37	128	156	408	91	14	213	225	179	21	12	178	189	253	199	4	19	0	180	56	22	5	1
	Other	284	271	198	309	405	67	118	149	375	90	21	273	180	150	26	6	146	181	202	250	2	22	1	227	43	68	7	5
	Pedestrian	244	347	345	267	580	100	97	174	555	109	1	428	234	152	22	1	110	149	260	427	0	5	0	419	37	107	9	7
	Rear End	234	540	542	282	832	210	19	137	923	221	16	636	429	193	14	11	41	159	412	705	2	31	2	612	98	77	4	0
	Right Turn	19	40	31	16	63	12	5	17	53	14	1	31	30	21	2	1	6	17	30	38	1	1	0	37	3	4	0	0
	Rollover	57	42	18	74	40	5	12	22	44	21	18	45	18	28	5	1	22	49	23	25	1	17	0	23	11	3	1	0
Sideswipe	55	93	85	67	143	24	10	37	132	46	8	114	68	30	7	2	13	42	68	109	0	10	0	109	11	12	2	1	
Unknown	19	46	24	23	63	3	4	17	51	14	3	36	28	19	2	0	4	21	29	35	0	5	0	33	8	6	1	0	
Alcohol Related	Y	134	171	95	173	204	26	39	79	211	54	17	158	92	89	16	4	44	116	105	136	3	22	0	130	29	26	3	1
	N	2083	2685	1847	2049	4021	644	602	1212	3837	867	97	2419	1910	1354	165	66	800	1389	2015	2467	14	171	6	2380	416	431	36	18
Hit and Run	Y	194	240	213	182	409	62	67	119	381	76	4	260	174	124	12	8	75	113	187	273	0	6	0	248	26	58	3	3
	N	2023	2616	1729	2040	3816	608	574	1172	3667	845	110	2317	1828	1319	169	62	769	1392	1933	2330	17	187	6	2262	419	399	36	16
Aggressive Driving	Y	148	147	69	136	213	19	46	102	177	34	5	125	75	101	12	3	52	104	106	105	2	6	0	96	25	34	4	3
	N	2069	2709	1873	2086	4012	651	595	1189	3871	887	109	2452	1927	1342	169	67	792	1401	2014	2498	15	187	6	2414	420	423	35	16
Distracted Driving	Y	614	832	526	582	1208	210	146	317	1183	287	39	698	620	402	41	23	216	408	636	726	6	73	3	677	150	96	7	1
	N	1603	2024	1416	1640	3017	460	495	974	2865	634	75	1879	1382	1041	140	47	628	1097	1484	1877	11	120	3	1833	295	361	32	18
Intersection Related	Y	945	1152	748	646	1914	291	254	617	1631	326	17	936	836	655	81	30	313	673	862	980	5	65	3	1020	202	179	19	14
	N	1272	1704	1194	1576	2311	379	387	674	2417	595	97	1641	1166	788	100	40	531	832	1258	1623	12	128	3	1490	243	278	20	5
Drug Related	Y	77	98	61	88	129	21	19	33	139	35	10	97	62	45	6	4	24	58	63	91	2	12	0	76	21	16	1	0
	N	2140	2758	1881	2134	4096	649	622	1258	3909	886	104	2480	1940	1398	175	66	820	1447	2057	2512	15	181	6	2434	424	441	38	19
Aging Driver	Y	340	441	263	302	650	114	84	194	597	151	18	396	303	211	28	7	121	246	308	386	4	42	1	383	73	65	5	3
	N	1877	2415	1679	1920	3575	556	557	1097	3451	770	96	2181	1699	1232	153	63	723	1259	1812	2217	13	151	5	2127	372	392	34	16
Teenage Driver	Y	258	345	212	235	515	74	76	142	482	111	4	254	250	172	27	10	111	177	232	298	1	14	3	284	58	28	3	2
	N	1959	2511	1730	1987	3710	596	565	1149	3566	810	110	2323	1752	1271	154	60	733	1328	1888	2305	16	179	3	2226	387	429	36	17
Day of the Week	Monday	350	362	244	319	560	90	91	174	553	119	19	334	267	215	24	9	120	228	277	335	3	27	1	341	68	50	5	3
	Tuesday	290	406	286	306	608	84	89	172	570	132	19	355	290	196	27	7	123	194	312	365	3	24	2	363	53	53	2	2
	Wednesday	305	400	288	304	622	83	90	198	571	120	14	377	260	208	28	12	124	218	276	384	1	31	1	348	64	73	7	1
	Thursday	311	422	275	311	616	97	90	179	602	124	13	367	300	209	19	13	116	209	300	390	2	27	0	365	56	78	7	2
	Friday	353	427	306	348	645	112	108	198	624	141	15	402	318	211	30	13	131	245	333	390	5	29	1	379	70	77	5	2
	Saturday	309	468	305	322	657	115	92	198	631	142	19	411	308	222	26	10	117	213	339	416	0	29	0	391	73	77	7	5
	Sunday	299	371	238	312	517	89	81	172	497	143	15	331	259	182	27	6	113	198	283	323	3	26	1	323	61	49	6	4
Time of Day	12-3 AM	176	247	178	212	322	70	49	111	331	94	16	254	171	113	11	2	53	129	182	237	1	18	0	232	43	58	4	5
	3-6 AM	138	159	132	170	215	48	34	83	231	67	14	178	118	66	14	5	52	87	127	165	2</							

Attachment B-2
MetroPlan Orlando Region
All KSI Crashes 2018 -2022

Mode:	All Collisions		Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																
		None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	338	406	82	106	529	62	3	85	96	413	288	169	10	123	4
	Animal	4	3	1	3	7	0	0	5	1	1	4	3	0	0	0
	Bicycle	166	210	37	78	293	26	6	33	30	262	134	100	3	84	4
	Head On	130	159	13	90	257	4	1	84	50	128	155	58	5	44	0
	Left Turn	752	983	216	297	1323	164	9	162	215	1119	530	522	31	408	5
	Off Road	541	532	54	211	759	35	3	153	123	521	313	321	21	138	4
	Other	406	487	85	181	691	59	3	117	108	528	308	249	21	169	6
	Pedestrian	363	601	121	214	825	98	13	65	99	772	345	288	28	268	7
	Rear End	498	718	258	340	1097	202	17	144	154	1018	270	522	46	471	7
	Right Turn	45	51	9	30	82	8	0	9	10	71	15	37	1	37	0
	Rollover	63	69	5	43	113	3	1	46	15	56	49	46	3	18	1
	Sideswipe	89	125	42	66	196	34	3	26	23	184	68	98	6	58	3
	Unknown	36	50	13	26	79	10	0	14	8	67	24	34	4	27	0
Alcohol Related	Y	189	239	48	113	364	34	2	88	50	262	161	143	15	79	2
	N	3242	4155	888	1572	5887	671	57	855	882	4878	2342	2304	164	1766	39
Hit and Run	Y	309	439	132	132	592	54	1	56	72	519	270	173	13	185	6
	N	3122	3955	1553	1553	5659	651	58	887	860	4621	2233	2274	166	1660	35
Aggressive Driving	Y	198	219	91	91	324	39	1	54	68	242	159	126	5	72	2
	N	3233	4175	1594	1594	5927	666	58	889	864	4898	2344	2321	174	1773	39
Distracted Driving	Y	987	1235	455	455	1744	211	17	306	261	1405	668	726	64	504	10
	N	2444	3159	1230	1230	4507	494	42	637	671	3735	1835	1721	115	1341	31
Intersection Related	Y	1344	1796	606	606	2489	335	21	318	375	2152	1032	953	60	785	15
	N	2087	2598	1079	1079	3762	370	38	625	557	2988	1471	1494	119	1060	26
Drug Related	Y	110	144	63	63	213	21	2	48	36	152	92	90	5	49	0
	N	3321	4250	1622	1622	6038	684	57	895	896	4988	2411	2357	174	1796	41
Aging Driver	Y	490	632	263	263	918	114	12	161	137	746	376	351	25	284	8
	N	2941	3762	1422	1422	5333	591	47	782	795	4394	2127	2096	154	1561	33
Teenage Driver	Y	431	497	207	207	718	92	5	79	129	607	262	292	19	234	8
	N	3000	3897	1478	1478	5533	613	54	864	803	4533	2241	2155	160	1611	33
Day of the Week	Monday	471	593	237	237	861	86	9	130	132	694	358	317	30	243	8
	Tuesday	496	601	263	263	891	86	5	135	125	722	351	340	16	270	5
	Wednesday	483	642	207	207	873	109	11	132	140	721	356	352	20	258	7
	Thursday	487	628	254	254	900	98	10	128	130	750	360	335	25	284	4
	Friday	537	674	254	254	948	129	9	140	141	805	392	373	26	289	6
	Saturday	512	675	260	260	961	112	9	139	145	798	365	388	37	289	3
	Sunday	445	581	210	210	817	85	6	139	119	650	321	342	25	212	8
Time of Day	12-3 AM	243	353	159	159	530	66	5	94	80	427	192	216	19	168	6
	3-6 AM	198	263	105	105	380	46	3	79	61	289	145	174	13	94	3
	6-9 AM	438	548	214	214	778	97	8	125	103	655	305	309	23	241	5
	9-Noon	398	526	178	178	722	80	5	110	102	595	262	283	18	241	3
	Noon-3 PM	481	599	195	195	817	80	8	111	130	664	342	297	18	247	1
	3-6 PM	559	709	260	260	995	95	9	126	140	833	427	380	28	258	6
	6-9 PM	640	758	303	303	1096	118	9	144	162	917	447	408	34	326	8
Lighting Conditions	9-Midnight	474	638	271	271	933	123	12	154	154	760	383	380	26	270	9
	Dark - Lighted	958	1360	476	476	1880	256	23	166	249	1744	685	771	67	612	24
	Dark - Not Lighted	360	382	284	284	698	64	6	249	153	366	330	277	21	138	2
	Dark - Unknown Lighting	3	5	1	1	6	0	0	0	0	6	1	2	0	1	2
	Dawn	67	84	32	32	118	18	0	27	16	93	52	43	1	40	0
	Daylight	1914	2420	833	833	3342	344	28	469	480	2765	1350	1287	80	985	12
	Dusk	123	136	55	55	196	21	2	27	32	160	78	64	8	68	1
	Other	2	4	1	1	5	2	0	1	2	4	1	3	2	1	0
Unknown	Unknown	4	3	3	3	6	0	0	4	0	2	6	0	0	0	0

Attachment B-3
MetroPlan Orlando Region
Percent of All Crashes that Result in a KSI 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	3.0%	3.4%	4.6%	2.9%	3.7%	3.5%	2.7%	2.7%	4.1%	6.3%	20.0%	4.0%	3.6%	3.1%	3.5%	4.2%	2.8%	3.1%	3.5%	4.2%	0.0%	10.7%	10.0%	4.4%	5.4%
	Animal	1.2%	1.3%	0.0%	1.1%	1.4%	0.0%	3.3%	0.0%	0.4%	2.3%	1.2%	1.0%	0.8%	0.6%	2.9%	0.0%	2.4%	1.0%	1.2%	0.0%	-	2.4%	-	1.4%	0.0%
	Bicycle	13.7%	14.6%	14.0%	14.1%	14.0%	15.0%	11.4%	12.9%	14.6%	20.4%	40.0%	14.9%	12.7%	15.0%	12.2%	17.6%	14.0%	13.5%	14.0%	14.8%	-	12.5%	50.0%	15.1%	16.1%
	Head On	9.9%	8.1%	7.1%	11.2%	7.0%	3.3%	2.6%	5.3%	9.3%	24.0%	52.6%	11.6%	9.2%	8.9%	11.5%	11.1%	3.2%	12.2%	9.0%	8.5%	42.9%	43.9%	0.0%	7.9%	16.2%
	Left Turn	3.5%	4.7%	5.9%	3.6%	4.7%	4.1%	2.4%	3.0%	5.2%	8.2%	14.8%	5.2%	5.2%	4.1%	2.7%	4.4%	2.7%	4.0%	4.9%	5.2%	26.7%	11.0%	11.1%	5.1%	5.7%
	Off Road	3.6%	7.0%	5.9%	4.5%	5.4%	4.9%	2.7%	4.4%	6.5%	7.5%	7.3%	5.9%	7.1%	5.1%	3.0%	5.9%	3.0%	4.7%	6.7%	6.1%	11.8%	6.5%	0.0%	5.4%	7.5%
	Other	1.5%	2.7%	3.6%	1.3%	2.8%	2.5%	0.9%	1.9%	3.3%	5.2%	15.6%	3.3%	2.9%	2.5%	2.8%	1.6%	0.8%	2.7%	2.9%	3.2%	16.7%	7.5%	16.7%	2.9%	4.4%
	Pedestrian	19.7%	28.3%	37.5%	23.2%	29.4%	30.5%	15.9%	21.5%	32.4%	43.3%	50.0%	34.9%	29.3%	22.6%	24.7%	4.2%	17.1%	21.8%	30.3%	34.1%	-	50.0%	0.0%	34.2%	31.4%
	Rear End	0.9%	1.3%	1.5%	1.4%	1.3%	1.2%	0.4%	0.6%	1.4%	1.7%	9.1%	1.3%	1.5%	1.0%	0.8%	2.1%	0.7%	0.9%	1.3%	1.4%	1.9%	3.1%	4.3%	1.3%	1.8%
	Right Turn	1.1%	1.7%	2.0%	1.4%	1.7%	1.2%	0.9%	1.3%	1.6%	3.2%	9.1%	1.7%	1.7%	1.8%	1.3%	2.2%	0.8%	1.5%	1.8%	1.7%	100.0%	2.9%	-	1.6%	1.1%
	Rollover	9.2%	8.1%	6.8%	11.3%	6.1%	4.8%	7.4%	7.4%	7.7%	9.0%	13.4%	7.9%	6.4%	9.2%	11.6%	5.9%	11.1%	10.7%	6.2%	6.6%	33.3%	12.5%	-	6.5%	14.3%
	Sideswipe	0.7%	0.7%	0.7%	0.9%	0.7%	0.4%	0.4%	0.5%	0.7%	1.4%	7.3%	0.7%	0.7%	0.5%	1.3%	1.1%	0.4%	0.8%	0.7%	0.7%	0.0%	3.5%	0.0%	0.7%	0.9%
	Unknown	1.1%	1.9%	1.3%	1.4%	1.7%	0.3%	0.6%	0.9%	1.7%	2.9%	16.7%	1.5%	1.8%	1.6%	2.0%	0.0%	0.5%	1.7%	1.7%	1.4%	0.0%	11.1%	-	1.5%	4.4%
Alcohol Related	Y	8.1%	12.1%	9.4%	10.5%	9.8%	5.2%	4.9%	8.4%	10.8%	14.6%	60.7%	10.7%	10.2%	10.8%	11.0%	10.5%	5.2%	12.2%	10.5%	9.7%	50.0%	33.8%	0.0%	9.1%	14.7%
	N	2.3%	2.7%	2.7%	2.5%	2.6%	1.9%	1.8%	2.0%	2.8%	3.6%	10.5%	2.6%	2.9%	2.6%	2.6%	3.1%	1.7%	2.7%	2.8%	2.6%	6.7%	6.4%	6.4%	2.5%	3.6%
Hit and Run	Y	1.4%	2.0%	2.3%	1.3%	2.1%	1.4%	1.0%	1.5%	2.2%	2.6%	5.3%	2.1%	2.0%	1.9%	1.6%	2.7%	0.8%	1.7%	2.1%	2.1%	0.0%	2.7%	0.0%	2.0%	2.1%
	N	2.6%	3.0%	2.9%	3.0%	2.8%	2.0%	2.1%	2.1%	3.0%	4.0%	12.5%	2.8%	3.1%	2.9%	3.0%	3.3%	2.0%	3.0%	3.0%	2.8%	8.6%	7.5%	6.7%	2.7%	3.9%
Aggressive Driving	Y	6.3%	6.1%	4.9%	6.1%	6.1%	3.0%	4.8%	6.0%	6.0%	6.6%	21.7%	5.6%	5.2%	7.6%	6.5%	5.2%	4.7%	7.6%	6.0%	5.1%	28.6%	6.7%	-	4.8%	9.0%
	N	2.3%	2.8%	2.8%	2.6%	2.7%	1.9%	1.8%	1.9%	2.9%	3.8%	11.7%	2.6%	2.9%	2.6%	2.7%	3.2%	1.7%	2.7%	2.8%	2.6%	7.2%	7.1%	6.3%	2.6%	3.6%
Distracted Driving	Y	2.7%	3.1%	2.8%	2.9%	2.9%	2.3%	1.9%	2.1%	3.1%	4.1%	14.1%	2.8%	3.3%	2.9%	2.5%	3.6%	2.1%	3.2%	3.1%	2.7%	8.7%	8.3%	9.7%	2.6%	4.2%
	N	2.4%	2.8%	2.8%	2.6%	2.7%	1.8%	1.9%	2.0%	2.9%	3.7%	11.1%	2.7%	2.8%	2.7%	2.9%	3.1%	1.7%	2.8%	2.8%	2.6%	7.6%	6.5%	4.7%	2.6%	3.5%
Intersection Related	Y	3.1%	3.6%	4.3%	3.4%	3.8%	2.6%	2.6%	2.7%	3.9%	5.5%	18.3%	3.7%	4.0%	3.3%	2.8%	3.3%	2.8%	3.4%	3.6%	3.9%	10.6%	8.1%	11.5%	3.6%	4.6%
	N	2.1%	2.5%	2.3%	2.5%	2.2%	1.6%	1.6%	1.7%	2.5%	3.3%	11.3%	2.3%	2.5%	2.4%	2.8%	3.2%	1.5%	2.6%	2.6%	2.2%	7.2%	6.6%	4.3%	2.2%	3.3%
Drug Related	Y	16.6%	22.9%	18.3%	19.7%	18.9%	14.7%	9.7%	13.4%	21.8%	26.1%	83.3%	21.1%	22.4%	18.4%	13.6%	28.6%	10.4%	20.5%	21.8%	19.9%	100.0%	60.0%	-	17.0%	29.6%
	N	2.4%	2.8%	2.7%	2.6%	2.7%	1.9%	1.8%	2.0%	2.9%	3.7%	11.1%	2.6%	2.9%	2.7%	2.7%	3.0%	1.8%	2.8%	2.8%	2.6%	7.1%	6.7%	6.3%	2.6%	3.6%
Aging Driver	Y	2.6%	2.8%	2.5%	2.6%	2.7%	2.1%	1.8%	2.0%	2.8%	4.5%	15.9%	2.6%	3.0%	2.7%	2.8%	2.0%	1.8%	3.0%	2.8%	2.5%	11.1%	9.7%	8.3%	2.5%	3.9%
	N	2.4%	2.9%	2.9%	2.7%	2.8%	1.9%	1.9%	2.1%	3.0%	3.7%	11.4%	2.7%	3.0%	2.7%	2.8%	3.5%	1.8%	2.8%	2.9%	2.7%	7.3%	6.6%	6.0%	2.7%	3.7%
Teenage Driver	Y	2.2%	2.6%	2.4%	2.3%	2.5%	1.8%	1.9%	1.8%	2.6%	3.4%	4.2%	2.1%	2.8%	2.4%	2.4%	3.3%	1.9%	2.5%	2.4%	2.4%	3.6%	3.6%	16.7%	2.3%	3.0%
	N	2.5%	2.9%	2.9%	2.7%	2.8%	2.0%	1.9%	2.1%	3.0%	3.9%	12.8%	2.8%	3.0%	2.8%	2.9%	3.2%	1.8%	2.9%	3.0%	2.7%	8.6%	7.7%	3.9%	2.7%	3.9%
Day of the Week	Monday	2.6%	2.4%	2.4%	2.6%	2.4%	1.8%	1.8%	1.9%	2.6%	3.3%	13.2%	2.3%	2.6%	2.7%	2.5%	3.0%	1.8%	2.9%	2.5%	2.3%	8.8%	6.6%	5.9%	2.3%	3.8%
	Tuesday	2.1%	2.6%	2.7%	2.5%	2.6%	1.6%	1.8%	1.8%	2.7%	3.6%	13.6%	2.4%	2.8%	2.4%	2.7%	2.4%	1.8%	2.4%	2.8%	2.4%	8.8%	6.1%	11.8%	2.5%	2.9%
	Wednesday	2.2%	2.6%	2.8%	2.4%	2.6%	1.6%	1.8%	2.1%	2.7%	3.4%	12.0%	2.6%	2.5%	2.5%	2.8%	3.8%	1.8%	2.7%	2.5%	2.6%	3.6%	7.6%	10.0%	2.4%	3.4%
	Thursday	2.3%	2.7%	2.6%	2.5%	2.6%	1.9%	1.8%	1.8%	2.8%	3.3%	10.7%	2.5%	2.9%	2.6%	1.8%	3.7%	1.7%	2.5%	2.7%	2.6%	5.1%	6.9%	0.0%	2.5%	3.1%
	Friday	2.3%	2.5%	2.6%	2.5%	2.4%	1.9%	2.0%	1.9%	2.6%	3.4%	10.7%	2.5%	2.8%	2.3%	2.9%	3.6%	1.7%	2.8%	2.7%	2.3%	11.6%	6.4%	4.8%	2.3%	3.5%
	Saturday	2.8%	4.0%	3.5%	3.1%	3.6%	2.7%	2.0%	2.6%	3.9%	4.9%	12.8%	3.6%	3.8%	3.5%	3.6%	3.4%	1.9%	3.5%	3.8%	3.6%	0.0%	8.3%	0.0%	3.5%	5.3%
	Sunday	3.1%	3.9%	3.5%	3.5%	3.5%	2.6%	2.0%	2.7%	3.9%	5.6%	10.6%	3.7%	3.9%	3.4%	4.2%	2.5%	2.2%	3.7%	3.9%	3.6%	21.4%	7.8%	10.0%	3.6%	5.1%
Time of Day	12-3 AM	3.9%	6.6%	6.4%	4.8%	5.8%	5.0%	2.3%	4.0%	6.7%	8.7%	18.8%	6.9%	6.3%	4.9%	4.1%	2.3%	2.3%	5.4%	6.2%	6.5%	10.0%	13.4%	0.0%	6.6%	9.4%
	3-6 AM	4.7%	6.2%	7.3%	6.1%	5.7%	5.1%	2.8%	5.2%	6.5%	8.2%	13.6%	6.9%	6.6%	4.7%	6.8%	7.8%	3.6%	5.6%	6.5%	6.6%	25.0%	13.2%	0.0%	6.0%	8.7%
	6-9 AM	2.4%	2.9%	2.9%	2.5%	2.9%	2.0%	1.7%	2.2%	2.9%	3.5%	13.5%	2.4%	3.1%	3.0%	3.0%	2.7%	2.1%	2.8%	2.9%	2.7%	15.4%	8.0%	7.7%	2.6%	3.0%
	9-Noon	2.0%	2.5%	2.4%	2.2%	2.3%	1.8%	1.8%	1.7%	2.5%	3.4%	13.8%	2.2%	2.6%	2.2%	2.7%	2.1%	1.5%	2.4%	2.3%	2.3%	12.5%	8.9%	7.7%	2.2%	3.2%
	Noon-3 PM	1.8%	1.9%	1.7%	1.7%	1.9%	1.1%	1.4%	1.5%	2.0%	2.4%	4.4%	1.6%	2.1%	2.0%	2.1%	2.7%	1.3%	2.0%	2.1%	1.6%	2.3%	4.0%	0.0%	1.7%	2.4%
	3-6 PM	1.8%	1.8%	1.7%	2.0%	1.8%	1.0%	1.6%	1.3%	1.9%	2.1%	9.9%	1.7%	1.8%	1.9%	2.1%	2.3%	1.4%	2.0%	2.0%	1.5%	3.7%	4.0%	3.8%	1.6%	2.8%
	6-9 PM	2.7%	3.2%	3.1%	3.0%	3.0%	2.3%	2.0%	2.2%	3.3%	4.2%	9.3%	3.1%	3.2%	2.9%	3.2%	4.4%	2.1%	3.0%	3.3%	3.0%	8.8%	6.1%	5.6%	2.9%	3.4%
	9-Midnight	4.4%	5.4%	5.3%	4.7%	5.4%	3.7%	2.8%	3.7%	5.7%	7.3%	14.5%	5.8%	5.3%	4.9%	3.9%	6.5%	2.8%	5.5%	4.8%	5.7%	0.0%	10.2%	50.0%	5.5%	8.0%
Lighting Conditions	Dark - Lighted	3.1%	4.5%	5.0%	3.9%	4.5%	3.2%	2.4%	3.3%	4.9%	5.6%	17.3%	4.8%	4.5%	3.9%	3.7%	5.8%	2.3%	3.8%	4.3%	4.9%	5.9%	7.7%	22.2%	4.5%	5.8%
	Dark - Not Lighted	6.5%	8.7%	7.7%	7.1%	7.7%	6.2%	2.9%	6.3%	7.8%	10.4%	14.5%	9.6%	7.5%	7.1%	7.1%	4.6%	4.1%	8.5%	8.3%	7.5%	13.3%	13.2%	12.5%	8.1%	9.9%
	Dark - Unknown Lighting	0.6%	1.2%	2.0%	0.9%	1.1%	0.0%	1.0%	0.0%	1.9%	0.0%	-	2.0%	0.8%	0.7%	0.0%	0.0%	0.5%	0.6%	1.5%	1.3%	-	0.0%	-	0.7%	0.0%
	Dawn	3.2%	3.3%	2.8%	3.1%	3.3%	2.2%	2.4%	2.6%	3.3%	3.7%	11.6%	2.7%	3.2%	4.0%	3.8%	2.9%	2.2%	3.7%	3.2%	3.0%	14.3%	11.8%	0.0%	2.9%	2.8%
	Daylight	1.9%	2.1%	2.0%	2.0%	2.1%	1.4%	1.6%	1.5%	2.2%	2.7%	9.9%	1.8%	2.3%	2.1%	2.3%	2.5%	1.5%	2.2%	2.2%	1.9%	6.5%	5.0%	4.2%	1.9%	2.8%
	Dusk	2.5%	2.6%	2.6%	2.9%	2.5%	2.3%	2.2%	1.7%	3.0%	2.5%	4.5%	2.4%	2.9%	2.5%	2.3%	2.9%	2.5%	2.3%	3.0%	2.3%	14.3%	5.3%	0.0%	2.5%	2.0%
	Other	4.2%	3.0%	16.0%	3.2%	8.2%	12.5%	0.0%	9.5%	8.3%	11.1%	-	10.5%	4.5%	9.1%	0.0%	-	0.0%	8.0%	0.0%	13.9%	-	-	-	13.2%	0.0%
	Unknown	1.2%	1.0%	0.0%	0.6%	2.0%	0.0%	0.3%	2.0%	2.1%	0.0%	25.0%	2.9%	0.0%	2.4%	0.0%	0.0%	0.5%	2.6%	0.0%	1.8%	-	25.0%	-	1.8%	0.0%

Attachment B-3
MetroPlan Orlando Region
Percent of All Crashes that Result in a KSI 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	2.0%	0.8%	3.2%	3.1%	3.1%	4.8%	4.2%	3.3%	5.1%	3.6%	5.0%	3.2%	3.2%	3.0%	4.3%	3.4%	3.6%	3.4%
	Animal	0.0%	0.0%	0.0%	1.0%	1.0%	2.0%	1.2%	1.2%	0.0%	0.0%	1.8%	0.9%	0.4%	1.3%	1.4%	0.0%	0.0%	0.0%
	Bicycle	10.3%	0.0%	0.0%	14.2%	13.4%	16.7%	15.0%	13.8%	15.8%	33.3%	25.0%	11.5%	13.7%	13.9%	14.5%	6.4%	14.9%	11.1%
	Head On	5.7%	0.0%	0.0%	7.4%	7.6%	4.6%	15.6%	9.3%	2.2%	4.5%	21.7%	10.4%	6.1%	9.5%	9.8%	13.2%	6.6%	0.0%
	Left Turn	2.8%	3.5%	0.0%	4.1%	4.2%	5.8%	4.7%	4.3%	6.4%	4.9%	5.5%	4.6%	4.3%	3.7%	5.2%	3.6%	5.0%	1.9%
	Off Road	2.9%	6.5%	1.7%	4.6%	4.5%	4.8%	6.7%	5.0%	5.0%	4.0%	5.3%	3.9%	5.2%	3.8%	6.9%	6.5%	5.2%	3.1%
	Other	2.3%	2.0%	1.5%	1.4%	1.9%	3.0%	3.5%	2.2%	3.1%	1.5%	3.0%	2.2%	2.1%	1.6%	3.4%	3.4%	2.6%	1.9%
	Pedestrian	28.5%	30.0%	21.9%	21.8%	26.3%	30.6%	30.5%	27.0%	33.1%	40.6%	26.2%	25.6%	28.1%	22.9%	31.6%	41.8%	30.8%	20.0%
	Rear End	0.8%	0.5%	0.0%	1.3%	1.2%	1.4%	1.4%	1.2%	1.5%	1.1%	1.9%	1.2%	1.2%	1.0%	1.4%	1.2%	1.4%	0.5%
	Right Turn	1.0%	0.0%	0.0%	1.7%	1.3%	1.1%	2.9%	1.7%	1.2%	0.0%	2.6%	1.5%	1.5%	0.8%	2.3%	0.5%	1.9%	0.0%
	Rollover	2.5%	7.7%	0.0%	8.9%	8.1%	3.1%	11.1%	8.7%	2.9%	25.0%	11.6%	6.9%	7.1%	8.0%	9.5%	9.4%	6.8%	16.7%
	Sideswipe	0.3%	0.4%	0.3%	0.7%	0.6%	0.8%	0.9%	0.7%	0.9%	0.7%	1.0%	0.6%	0.7%	0.7%	0.9%	0.5%	0.5%	0.5%
	Unknown	0.6%	1.0%	0.0%	1.3%	1.3%	1.5%	2.2%	1.5%	1.5%	0.0%	3.4%	1.1%	1.4%	1.1%	1.9%	2.4%	1.5%	0.0%
Alcohol Related	Y	7.2%	7.7%	2.9%	9.1%	8.8%	9.0%	13.5%	10.0%	8.6%	3.9%	19.0%	8.3%	8.7%	9.4%	11.8%	13.2%	8.0%	4.1%
	N	1.8%	1.5%	1.2%	2.5%	2.5%	2.6%	2.9%	2.6%	2.6%	2.1%	3.6%	2.5%	2.5%	2.5%	2.9%	2.1%	2.5%	1.3%
Hit and Run	Y	1.6%	0.8%	1.0%	1.6%	1.8%	2.1%	2.1%	1.9%	1.6%	0.3%	1.9%	1.5%	1.9%	1.8%	1.9%	1.4%	1.9%	1.5%
	N	1.9%	1.7%	1.3%	2.8%	2.7%	3.2%	3.2%	2.8%	2.9%	2.5%	4.2%	2.8%	2.7%	2.7%	3.2%	2.4%	2.6%	1.3%
Aggressive Driving	Y	5.5%	6.2%	10.0%	6.1%	5.6%	6.2%	6.2%	5.9%	6.9%	1.6%	8.5%	6.9%	5.3%	6.5%	6.4%	3.6%	4.8%	2.1%
	N	1.8%	1.5%	1.0%	2.5%	2.5%	3.0%	3.0%	2.6%	2.6%	2.2%	3.8%	2.5%	2.5%	2.5%	3.0%	2.3%	2.5%	1.3%
Distracted Driving	Y	1.8%	1.5%	0.6%	2.9%	2.8%	3.1%	3.1%	2.9%	3.0%	2.9%	4.6%	2.8%	2.7%	2.8%	3.2%	2.9%	2.6%	1.6%
	N	1.9%	1.6%	1.3%	2.5%	2.5%	3.1%	3.1%	2.6%	2.6%	2.0%	3.7%	2.6%	2.5%	2.6%	3.0%	2.1%	2.5%	1.2%
Intersection Related	Y	2.3%	2.4%	2.7%	3.6%	3.3%	4.0%	4.0%	3.5%	4.1%	3.1%	4.7%	3.2%	3.5%	3.3%	4.1%	2.6%	3.5%	1.4%
	N	1.6%	1.2%	0.5%	2.2%	2.2%	2.8%	2.8%	2.4%	2.1%	1.9%	3.6%	2.3%	2.2%	2.3%	2.6%	2.2%	2.1%	1.3%
Drug Related	Y	20.0%	14.3%	0.0%	17.2%	18.4%	22.7%	22.7%	19.6%	16.3%	15.4%	31.4%	20.1%	17.0%	20.2%	22.3%	12.2%	15.6%	0.0%
	N	1.8%	1.6%	1.2%	2.5%	2.5%	3.0%	3.0%	2.6%	2.6%	2.1%	3.7%	2.5%	2.5%	2.5%	2.9%	2.3%	2.5%	1.3%
Aging Driver	Y	1.5%	1.1%	1.8%	2.6%	2.4%	3.2%	3.2%	2.6%	2.9%	2.6%	5.1%	2.6%	2.4%	2.6%	2.9%	2.3%	2.5%	1.4%
	N	1.9%	1.7%	1.1%	2.6%	2.6%	3.1%	3.1%	2.7%	2.7%	2.1%	3.7%	2.6%	2.6%	2.6%	3.1%	2.3%	2.6%	1.3%
Teenage Driver	Y	1.1%	1.4%	2.3%	2.4%	2.3%	2.6%	2.6%	2.4%	2.6%	2.4%	2.8%	2.6%	2.3%	2.2%	2.6%	2.0%	2.5%	1.9%
	N	1.9%	1.6%	1.2%	2.6%	2.6%	3.2%	3.2%	2.8%	2.7%	2.3%	4.1%	2.6%	2.6%	2.7%	3.1%	2.3%	2.6%	1.2%
Day of the Week	Monday	1.4%	1.4%	1.3%	2.4%	2.3%	2.9%	2.9%	2.5%	2.2%	2.2%	3.6%	2.5%	2.3%	2.5%	2.6%	2.6%	2.2%	1.7%
	Tuesday	1.4%	0.5%	1.0%	2.5%	2.3%	3.2%	3.2%	2.5%	2.1%	1.2%	3.7%	2.3%	2.3%	2.4%	2.8%	1.3%	2.4%	1.0%
	Wednesday	1.9%	1.9%	0.4%	2.4%	2.5%	2.5%	2.5%	2.5%	2.9%	2.6%	3.9%	2.6%	2.4%	2.4%	2.9%	1.8%	2.3%	1.5%
	Thursday	2.0%	1.7%	0.9%	2.4%	2.4%	3.0%	3.0%	2.5%	2.4%	2.6%	3.6%	2.4%	2.4%	2.4%	2.7%	2.0%	2.5%	0.8%
	Friday	1.9%	1.2%	0.9%	2.4%	2.3%	2.7%	2.7%	2.4%	2.9%	2.6%	3.5%	2.4%	2.4%	2.4%	2.7%	2.1%	2.3%	1.1%
	Saturday	2.6%	2.4%	2.1%	3.1%	3.2%	4.1%	4.1%	3.4%	3.4%	2.6%	4.5%	3.3%	3.3%	3.1%	3.9%	3.6%	3.3%	0.8%
	Sunday	2.2%	2.6%	2.0%	3.2%	3.4%	4.1%	4.1%	3.5%	3.2%	2.2%	5.2%	3.2%	3.3%	3.2%	4.2%	3.1%	3.1%	3.0%
Time of Day	12-3 AM	5.4%	3.1%	2.4%	4.2%	4.7%	7.9%	7.9%	5.4%	6.4%	5.2%	7.3%	4.7%	5.3%	4.1%	6.8%	4.7%	6.3%	5.6%
	3-6 AM	4.3%	9.4%	1.1%	5.3%	5.5%	7.3%	7.3%	5.9%	6.0%	4.9%	7.7%	5.7%	5.6%	5.0%	7.7%	5.3%	5.1%	4.4%
	6-9 AM	1.9%	1.8%	0.0%	2.7%	2.6%	3.1%	3.1%	2.7%	3.1%	2.3%	3.7%	2.2%	2.7%	2.5%	3.1%	2.3%	2.7%	1.2%
	9-Noon	1.3%	1.4%	1.4%	2.2%	2.2%	2.5%	2.5%	2.3%	2.3%	1.4%	3.5%	2.2%	2.2%	2.0%	2.6%	1.8%	2.4%	0.7%
	Noon-3 PM	1.1%	0.4%	1.2%	1.9%	1.8%	1.9%	1.9%	1.8%	1.6%	1.5%	2.7%	2.0%	1.7%	1.9%	2.0%	1.4%	1.7%	0.2%
	3-6 PM	1.2%	1.0%	0.7%	1.8%	1.8%	1.9%	1.9%	1.8%	1.6%	1.5%	2.4%	1.7%	1.7%	1.9%	2.0%	1.6%	1.5%	0.8%
	6-9 PM	2.1%	1.0%	1.7%	3.0%	2.9%	3.5%	3.5%	3.0%	2.8%	2.0%	4.0%	2.9%	2.9%	3.1%	3.1%	2.7%	2.9%	1.7%
	9-Midnight	3.9%	3.4%	1.1%	4.3%	4.6%	6.3%	6.3%	5.0%	5.2%	5.0%	6.7%	5.1%	4.8%	5.0%	5.5%	3.3%	4.7%	4.0%
Lighting Conditions	Dark - Lighted	3.8%	3.8%	2.0%	3.7%	4.0%	4.7%	4.7%	4.2%	4.5%	3.8%	4.4%	3.7%	4.3%	3.8%	4.7%	3.7%	4.1%	3.9%
	Dark - Not Lighted	6.2%	0.0%	0.0%	6.1%	6.1%	10.2%	10.2%	7.4%	7.6%	9.1%	8.9%	7.3%	6.7%	6.7%	8.3%	6.3%	7.9%	3.7%
	Dark - Unknown Lighting	3.2%	0.0%	0.0%	0.8%	1.2%	0.9%	0.9%	1.1%	0.0%	0.0%	0.0%	0.0%	1.4%	0.3%	1.6%	0.0%	0.9%	25.0%
	Dawn	1.6%	4.9%	0.0%	3.1%	3.1%	3.3%	3.3%	3.1%	4.1%	0.0%	5.1%	2.4%	3.0%	3.2%	3.1%	0.7%	3.5%	0.0%
	Daylight	1.3%	0.8%	0.9%	2.1%	2.0%	2.2%	2.2%	2.0%	1.9%	1.5%	2.9%	1.9%	1.9%	2.0%	2.3%	1.5%	1.9%	0.5%
	Dusk	2.0%	2.0%	0.0%	2.7%	2.4%	3.2%	3.2%	2.6%	2.5%	2.5%	3.6%	2.7%	2.4%	2.6%	2.3%	3.1%	2.9%	1.0%
	Other	0.0%	-	-	2.9%	5.5%	5.3%	5.3%	5.4%	16.7%	0.0%	10.0%	10.0%	5.3%	2.1%	9.4%	66.7%	4.5%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.7%	0.6%	4.8%	4.8%	1.1%	0.0%	0.0%	4.3%	0.0%	0.5%	1.4%	0.0%	0.0%	0.0%	0.0%

Attachment B-4
MetroPlan Orlando Region
Percent of All KSI Crashes 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
								0-25	30-35	40-45	50-55	60+														
		2-3	4-5	6-8																						
Type	Angle	3.9%	3.0%	1.6%	2.9%	4.8%	0.8%	1.5%	2.4%	3.8%	0.7%	0.1%	2.2%	1.9%	2.2%	0.3%	0.2%	1.7%	2.7%	2.4%	2.5%	0.0%	0.2%	0.0%	2.5%	0.4%
	Animal	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Bicycle	1.6%	1.9%	1.1%	1.4%	2.7%	0.4%	0.6%	1.0%	2.5%	0.4%	0.0%	1.6%	1.0%	1.1%	0.2%	0.0%	0.7%	1.2%	1.4%	1.9%	0.0%	0.0%	0.0%	1.7%	0.3%
	Head On	2.1%	1.2%	0.5%	2.1%	1.4%	0.1%	0.2%	0.6%	1.7%	0.9%	0.3%	1.4%	0.8%	1.0%	0.2%	0.0%	0.3%	1.7%	1.2%	1.0%	0.0%	0.4%	0.0%	0.8%	0.3%
	Left Turn	6.4%	9.9%	5.0%	3.9%	15.5%	1.7%	1.2%	4.2%	13.4%	2.4%	0.1%	6.0%	7.3%	5.2%	0.5%	0.2%	1.8%	5.6%	8.5%	7.8%	0.1%	0.5%	0.0%	7.1%	1.5%
	Off Road	4.5%	5.1%	1.8%	6.1%	5.0%	0.5%	1.8%	2.2%	5.8%	1.3%	0.2%	3.0%	3.2%	2.5%	0.3%	0.2%	2.5%	3.0%	4.1%	3.2%	0.1%	0.3%	0.0%	2.5%	0.8%
	Other	4.0%	3.9%	2.8%	4.3%	5.7%	0.9%	1.7%	2.1%	5.3%	1.3%	0.3%	3.8%	2.5%	2.1%	0.4%	0.1%	2.1%	2.9%	3.2%	4.0%	0.0%	0.3%	0.0%	3.2%	0.6%
	Pedestrian	3.5%	4.9%	4.9%	3.8%	8.1%	1.4%	1.4%	2.5%	7.9%	1.6%	0.0%	6.0%	3.3%	2.1%	0.3%	0.0%	1.5%	2.4%	4.2%	6.9%	0.0%	0.1%	0.0%	5.9%	0.5%
	Rear End	3.3%	7.7%	7.7%	4.0%	11.7%	3.0%	0.3%	2.0%	13.2%	3.2%	0.2%	8.9%	6.0%	2.7%	0.2%	0.2%	0.6%	2.6%	6.6%	11.3%	0.0%	0.4%	0.0%	8.6%	1.4%
	Right Turn	0.3%	0.6%	0.4%	0.2%	0.9%	0.2%	0.1%	0.2%	0.8%	0.2%	0.0%	0.4%	0.4%	0.3%	0.0%	0.0%	0.1%	0.3%	0.5%	0.6%	0.0%	0.0%	0.0%	0.5%	0.0%
	Rollover	0.8%	0.6%	0.3%	1.0%	0.6%	0.1%	0.2%	0.3%	0.6%	0.3%	0.3%	0.6%	0.3%	0.4%	0.1%	0.0%	0.3%	0.8%	0.4%	0.4%	0.0%	0.2%	0.0%	0.3%	0.2%
	Sideswipe	0.8%	1.3%	1.2%	0.9%	2.0%	0.3%	0.1%	0.5%	1.9%	0.7%	0.1%	1.6%	1.0%	0.4%	0.1%	0.0%	0.2%	0.7%	1.1%	1.8%	0.0%	0.1%	0.0%	1.5%	0.2%
Unknown	0.3%	0.7%	0.3%	0.3%	0.9%	0.0%	0.1%	0.2%	0.7%	0.2%	0.0%	0.5%	0.4%	0.3%	0.0%	0.0%	0.1%	0.3%	0.5%	0.6%	0.0%	0.1%	0.0%	0.5%	0.1%	
Alcohol Related	Y	1.9%	2.4%	1.4%	2.4%	2.9%	0.4%	0.6%	1.1%	3.0%	0.8%	0.2%	2.2%	1.3%	1.3%	0.2%	0.1%	0.6%	1.9%	1.7%	2.2%	0.0%	0.3%	0.0%	1.8%	0.4%
	N	29.7%	38.3%	26.3%	28.8%	56.5%	9.0%	8.6%	17.3%	54.7%	12.4%	1.4%	34.0%	26.8%	19.0%	2.3%	0.9%	11.2%	22.3%	32.4%	39.6%	0.2%	2.4%	0.1%	33.4%	5.8%
Hit and Run	Y	2.8%	3.4%	3.0%	2.6%	5.7%	0.9%	1.0%	1.7%	5.4%	1.1%	0.1%	3.7%	2.4%	1.7%	0.2%	0.1%	1.1%	1.8%	3.0%	4.4%	0.0%	0.1%	0.0%	3.5%	0.4%
	N	28.8%	37.3%	24.6%	28.7%	53.6%	8.5%	8.2%	16.7%	52.3%	12.0%	1.6%	32.6%	25.7%	18.5%	2.4%	0.9%	10.8%	22.4%	31.0%	37.4%	0.2%	2.6%	0.1%	31.8%	5.9%
Aggressive Driving	Y	2.1%	2.1%	1.0%	1.9%	3.0%	0.3%	0.7%	1.5%	2.5%	0.5%	0.1%	1.8%	1.1%	1.4%	0.2%	0.0%	0.7%	1.7%	1.7%	1.7%	0.0%	0.1%	0.0%	1.3%	0.4%
	N	29.5%	38.6%	26.7%	29.3%	56.4%	9.1%	8.5%	16.9%	55.2%	12.6%	1.6%	34.5%	27.1%	18.9%	2.4%	0.9%	11.1%	22.5%	32.3%	40.1%	0.2%	2.6%	0.1%	33.9%	5.9%
Distracted Driving	Y	8.8%	11.9%	7.5%	8.2%	17.0%	3.0%	2.1%	4.5%	16.9%	4.1%	0.6%	9.8%	8.7%	5.6%	0.6%	0.3%	3.0%	6.6%	10.2%	11.7%	0.1%	1.0%	0.0%	9.5%	2.1%
	N	22.9%	28.9%	20.2%	23.0%	42.4%	6.5%	7.1%	13.9%	40.8%	9.0%	1.1%	26.4%	19.4%	14.6%	2.0%	0.7%	8.8%	17.6%	23.8%	30.1%	0.2%	1.7%	0.0%	25.8%	4.1%
Intersection Related	Y	13.5%	16.4%	10.7%	9.1%	26.9%	4.1%	3.6%	8.8%	23.3%	4.6%	0.2%	13.2%	11.7%	9.2%	1.1%	0.4%	4.4%	10.8%	13.8%	15.7%	0.1%	0.9%	0.0%	14.3%	2.8%
	N	18.1%	24.3%	17.0%	22.1%	32.5%	5.3%	5.5%	9.6%	34.5%	8.5%	1.4%	23.1%	16.4%	11.1%	1.4%	0.6%	7.5%	13.4%	20.2%	26.1%	0.2%	1.8%	0.0%	20.9%	3.4%
Drug Related	Y	1.1%	1.4%	0.9%	1.2%	1.8%	0.3%	0.3%	0.5%	2.0%	0.5%	0.1%	1.4%	0.9%	0.6%	0.1%	0.1%	0.3%	0.9%	1.0%	1.5%	0.0%	0.2%	0.0%	1.1%	0.3%
	N	30.5%	39.3%	26.8%	30.0%	57.6%	9.1%	8.9%	17.9%	55.7%	12.6%	1.5%	34.8%	27.3%	19.6%	2.5%	0.9%	11.5%	23.2%	33.0%	40.3%	0.2%	2.5%	0.1%	34.2%	6.0%
Aging Driver	Y	4.8%	6.3%	3.7%	4.2%	9.1%	1.6%	1.2%	2.8%	8.5%	2.2%	0.3%	5.6%	4.3%	3.0%	0.4%	0.1%	1.7%	3.9%	4.9%	6.2%	0.1%	0.6%	0.0%	5.4%	1.0%
	N	26.8%	34.4%	23.9%	27.0%	50.2%	7.8%	7.9%	15.6%	49.2%	11.0%	1.4%	30.6%	23.9%	17.3%	2.1%	0.9%	10.2%	20.2%	29.1%	35.6%	0.2%	2.1%	0.1%	29.9%	5.2%
Teenage Driver	Y	3.7%	4.9%	3.0%	3.3%	7.2%	1.0%	1.1%	2.0%	6.9%	1.6%	0.1%	3.6%	3.5%	2.4%	0.4%	0.1%	1.6%	2.8%	3.7%	4.8%	0.0%	0.2%	0.0%	4.0%	0.8%
	N	27.9%	35.8%	24.7%	27.9%	52.1%	8.4%	8.1%	16.4%	50.8%	11.5%	1.6%	32.6%	24.6%	17.9%	2.2%	0.8%	10.3%	21.3%	30.3%	37.0%	0.2%	2.5%	0.0%	31.3%	5.4%
Day of the Week	Monday	5.0%	5.2%	3.5%	4.5%	7.9%	1.3%	1.3%	2.5%	7.9%	1.7%	0.3%	4.7%	3.8%	3.0%	0.3%	0.1%	1.7%	3.7%	4.4%	5.4%	0.0%	0.4%	0.0%	4.8%	1.0%
	Tuesday	4.1%	5.8%	4.1%	4.3%	8.5%	1.2%	1.3%	2.5%	8.1%	1.9%	0.3%	5.0%	4.1%	2.8%	0.4%	0.1%	1.7%	3.1%	5.0%	5.9%	0.0%	0.3%	0.0%	5.1%	0.7%
	Wednesday	4.3%	5.7%	4.1%	4.3%	8.7%	1.2%	1.3%	2.8%	8.1%	1.7%	0.2%	5.3%	3.7%	2.9%	0.4%	0.2%	1.7%	3.5%	4.4%	6.2%	0.0%	0.4%	0.0%	4.9%	0.9%
	Thursday	4.4%	6.0%	3.9%	4.4%	8.7%	1.4%	1.3%	2.6%	8.6%	1.8%	0.2%	5.2%	4.2%	2.9%	0.3%	0.2%	1.6%	3.4%	4.8%	6.3%	0.0%	0.4%	0.0%	5.1%	0.8%
	Friday	5.0%	6.1%	4.4%	4.9%	9.1%	1.6%	1.5%	2.8%	8.9%	2.0%	0.2%	5.6%	4.5%	3.0%	0.4%	0.2%	1.8%	3.9%	5.3%	6.3%	0.1%	0.4%	0.0%	5.3%	1.0%
	Saturday	4.4%	6.7%	4.3%	4.5%	9.2%	1.6%	1.3%	2.8%	9.0%	2.0%	0.3%	5.8%	4.3%	3.1%	0.4%	0.1%	1.6%	3.4%	5.4%	6.7%	0.0%	0.4%	0.0%	5.5%	1.0%
	Sunday	4.3%	5.3%	3.4%	4.4%	7.3%	1.3%	1.2%	2.5%	7.1%	2.0%	0.2%	4.7%	3.6%	2.6%	0.4%	0.1%	1.6%	3.2%	4.5%	5.2%	0.0%	0.4%	0.0%	4.5%	0.9%
Time of Day	12-3 AM	2.5%	3.5%	2.5%	3.0%	4.5%	1.0%	0.7%	1.6%	4.7%	1.3%	0.2%	3.6%	2.4%	1.6%	0.2%	0.0%	0.7%	2.1%	2.9%	3.8%	0.0%	0.3%	0.0%	3.3%	0.6%
	3-6 AM	2.0%	2.3%	1.9%	2.4%	3.0%	0.7%	0.5%	1.2%	3.3%	1.0%	0.2%	2.5%	1.7%	0.9%	0.2%	0.1%	0.7%	1.4%	2.0%	2.6%	0.0%	0.3%	0.0%	2.1%	0.4%
	6-9 AM	4.1%	5.2%	3.3%	3.5%	7.9%	1.1%	1.0%	2.3%	7.3%	1.7%	0.3%	4.0%	3.8%	2.8%	0.4%	0.1%	1.5%	3.1%	4.2%	5.2%	0.1%	0.5%	0.0%	4.3%	0.7%
	9-Noon	3.5%	4.7%	3.2%	3.6%	6.7%	1.3%	1.3%	2.1%	6.5%	1.5%	0.2%	4.1%	3.3%	2.1%	0.3%	0.1%	1.5%	2.7%	3.6%	5.0%	0.1%	0.4%	0.0%	4.0%	0.7%
	Noon-3 PM	4.3%	5.3%	3.3%	4.0%	8.1%	1.0%	1.3%	2.7%	7.4%	1.4%	0.1%	4.3%	3.8%	2.7%	0.4%	0.2%	1.8%	3.2%	4.6%	5.0%	0.0%	0.3%	0.0%	4.4%	0.7%
	3-6 PM	5.3%	6.3%	4.0%	5.2%	9.4%	1.1%	1.7%	2.8%	9.3%	1.7%	0.2%	5.4%	4.1%	3.5%	0.4%	0.2%	2.0%	4.1%	5.6%	5.8%	0.0%	0.3%	0.0%	5.2%	1.1%
	6-9 PM	5.3%	7.2%	4.9%	5.2%	10.5%	1.7%	1.5%	3.0%	10.5%	2.3%	0.2%	6.4%	4.8%	3.6%	0.4%	0.2%	2.0%	3.9%	6.3%	7.3%	0.0%	0.3%	0.0%	6.0%	0.9%
	9-Midnight	4.6%	6.1%	4.5%	4.4%	9.2%	1.5%	1.2%	2.8%	8.8%	2.3%	0.2%	5.9%	4.2%	3.0%	0.3%	0.2%	1.5%	3.7%	4.8%	7.0%	0.0%	0.3%	0.0%	6.0%	1.1%
Lighting Conditions	Dark - Lighted	7.5%	12.6%	10.7%	8.2%	19.0%	3.4%	2.3%	6.1%	18.5%	3.7%	0.1%	12.5%	8.7%	5.7%	0.6%	0.3%	2.9%	5.9%	10.2%	15.5%	0.0%	0.3%	0.0%	12.1%	1.7%
	Dark - Not Lighted	4.9%	4.3%	1.7%	4.8%	5.3%	0.7%	0.7%	1.6%	5.3%	2.6%	0.7%	4.3%	2.5%	2.4%	0.4%	0.1%	1.2%	4.1%	3.8%	3.1%	0.1%	1.0%	0.0%	3.5%	1.0%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Dawn	0.7%	0.8%	0.4%	0.6%	1.2%	0.2%	0.2%	0.4%	1.1%	0.3%	0.1%	0.6%	0.5%	0.5%	0.1%	0.0%	0.2%	0.6%	0.7%	0.7%	0.0%	0.1%	0.0%	0.6%	0.1%
	Daylight	17.3%	21.7%	14.0%	16.4%	32.0%	4.7%	5.5%	9.8%	30.7%	6.3%	0.7%	17.7%	15.5%	10.9%	1.4%	0.5%	7.0%	12.9%	18.2%	21.2%	0.1%	1.3%	0.0%	17.9%	3.3%
	Dusk	1.0%	1.3%	0.8%	1.0%	1.8%	0.4%	0.3%	0.5%	2.1%	0.3%	0.0%	1.0%	1.0%	0.7%	0.1%	0.0%	0.5%	0.6%	1.2%	1.2%	0.0%	0.0%	0.0%	1.1%	0.1%
	Other	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
	Unknown	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Attachment B-4
MetroPlan Orlando Region
Percent of All KSI Crashes 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.6%	0.0%	0.1%	4.7%	5.8%	1.2%	1.5%	7.5%	0.9%	0.0%	1.2%	1.4%	5.9%	4.1%	2.4%	0.1%	1.8%	0.1%
	Animal	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.3%	0.0%	0.0%	2.3%	3.0%	0.5%	1.1%	4.2%	0.4%	0.1%	0.5%	0.4%	3.7%	1.9%	1.4%	0.0%	1.2%	0.1%
	Head On	0.2%	0.0%	0.0%	1.8%	2.3%	0.2%	1.3%	3.7%	0.1%	0.0%	1.2%	0.7%	1.8%	2.2%	0.8%	0.1%	0.6%	0.0%
	Left Turn	1.1%	0.1%	0.0%	10.6%	14.0%	3.1%	4.2%	18.9%	2.3%	0.1%	2.3%	3.1%	16.0%	7.6%	7.4%	0.4%	5.8%	0.1%
	Off Road	0.3%	0.1%	0.0%	7.6%	7.6%	0.8%	3.0%	10.8%	0.5%	0.0%	2.2%	1.8%	7.4%	4.5%	4.6%	0.3%	2.0%	0.1%
	Other	1.0%	0.1%	0.1%	5.7%	6.9%	1.2%	2.6%	9.9%	0.8%	0.0%	1.7%	1.5%	7.5%	4.4%	3.5%	0.3%	2.4%	0.1%
	Pedestrian	1.5%	0.1%	0.1%	5.1%	8.6%	1.7%	3.1%	11.8%	1.4%	0.2%	0.9%	1.4%	11.0%	4.9%	4.1%	0.4%	3.8%	0.1%
	Rear End	1.1%	0.1%	0.0%	7.0%	10.2%	3.7%	4.8%	15.6%	2.9%	0.2%	2.1%	2.2%	14.5%	3.8%	7.4%	0.7%	6.7%	0.1%
	Right Turn	0.1%	0.0%	0.0%	0.6%	0.7%	0.1%	0.4%	1.2%	0.1%	0.0%	0.1%	0.1%	1.0%	0.2%	0.5%	0.0%	0.5%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.9%	1.0%	0.1%	0.6%	1.6%	0.0%	0.0%	0.7%	0.2%	0.8%	0.7%	0.7%	0.0%	0.3%	0.0%
	Sideswipe	0.2%	0.0%	0.0%	1.3%	1.8%	0.6%	0.9%	2.8%	0.5%	0.0%	0.4%	0.3%	2.6%	1.0%	1.4%	0.1%	0.8%	0.0%
	Unknown	0.1%	0.0%	0.0%	0.5%	0.7%	0.2%	0.4%	1.1%	0.1%	0.0%	0.2%	0.1%	1.0%	0.3%	0.5%	0.1%	0.4%	0.0%
Alcohol Related	Y	0.4%	0.0%	0.0%	2.7%	3.4%	0.7%	1.6%	5.2%	0.5%	0.0%	1.3%	0.7%	3.7%	2.3%	2.0%	0.2%	1.1%	0.0%
	N	6.1%	0.5%	0.3%	45.6%	59.2%	12.7%	22.4%	83.9%	9.6%	0.8%	12.2%	12.6%	69.5%	33.4%	32.8%	2.3%	25.2%	0.6%
Hit and Run	Y	0.8%	0.0%	0.0%	4.3%	6.3%	1.9%	1.9%	8.4%	0.8%	0.0%	0.8%	1.0%	7.4%	3.8%	2.5%	0.2%	2.6%	0.1%
	N	5.6%	0.5%	0.2%	43.9%	56.4%	22.1%	22.1%	80.7%	9.3%	0.8%	12.6%	12.3%	65.9%	31.8%	32.4%	2.4%	23.7%	0.5%
Aggressive Driving	Y	0.5%	0.1%	0.0%	2.8%	3.1%	1.3%	1.3%	4.6%	0.6%	0.0%	0.8%	1.0%	3.4%	2.3%	1.8%	0.1%	1.0%	0.0%
	N	5.9%	0.5%	0.2%	45.4%	59.5%	22.7%	22.7%	84.5%	9.5%	0.8%	12.7%	12.3%	69.8%	33.4%	33.1%	2.5%	25.3%	0.6%
Distracted Driving	Y	1.3%	0.1%	0.0%	13.9%	17.6%	6.5%	6.5%	24.9%	3.0%	0.2%	4.4%	3.7%	20.0%	9.5%	10.3%	0.9%	7.2%	0.1%
	N	5.1%	0.4%	0.3%	34.3%	45.0%	17.5%	17.5%	64.2%	7.0%	0.6%	9.1%	9.6%	53.2%	26.2%	24.5%	1.6%	19.1%	0.4%
Intersection Related	Y	2.5%	0.3%	0.2%	18.9%	25.6%	8.6%	8.6%	35.5%	4.8%	0.3%	4.5%	5.3%	30.7%	14.7%	13.6%	0.9%	11.2%	0.2%
	N	3.9%	0.3%	0.1%	29.3%	37.0%	15.4%	15.4%	53.6%	5.3%	0.5%	8.9%	7.9%	42.6%	21.0%	21.3%	1.7%	15.1%	0.4%
Drug Related	Y	0.2%	0.0%	0.0%	1.5%	2.1%	0.9%	0.9%	3.0%	0.3%	0.0%	0.7%	0.5%	2.2%	1.3%	1.3%	0.1%	0.7%	0.0%
	N	6.2%	0.5%	0.3%	46.7%	60.6%	23.1%	23.1%	86.1%	9.8%	0.8%	12.8%	12.8%	71.1%	34.4%	33.6%	2.5%	25.6%	0.6%
Aging Driver	Y	0.9%	0.1%	0.0%	6.9%	9.0%	3.7%	3.7%	13.1%	1.6%	0.2%	2.3%	2.0%	10.6%	5.4%	5.0%	0.4%	4.0%	0.1%
	N	5.5%	0.5%	0.2%	41.3%	53.6%	20.3%	20.3%	76.0%	8.4%	0.7%	11.1%	11.3%	62.6%	30.3%	29.9%	2.2%	22.3%	0.5%
Teenage Driver	Y	0.4%	0.0%	0.0%	6.1%	7.1%	3.0%	3.0%	10.2%	1.3%	0.1%	1.1%	1.8%	8.7%	3.7%	4.2%	0.3%	3.3%	0.1%
	N	6.0%	0.5%	0.2%	42.2%	55.6%	21.1%	21.1%	78.9%	8.7%	0.8%	12.3%	11.4%	64.6%	31.9%	30.7%	2.3%	23.0%	0.5%
Day of the Week	Monday	0.7%	0.1%	0.0%	6.6%	7.6%	3.1%	3.1%	12.3%	1.2%	0.1%	1.9%	1.9%	9.9%	5.1%	4.5%	0.4%	3.5%	0.1%
	Tuesday	0.7%	0.0%	0.0%	7.0%	7.7%	3.4%	3.4%	12.7%	1.2%	0.1%	1.9%	1.8%	10.3%	5.0%	4.8%	0.2%	3.8%	0.1%
	Wednesday	1.0%	0.1%	0.0%	6.8%	8.3%	2.7%	2.7%	12.4%	1.6%	0.2%	1.9%	2.0%	10.3%	5.1%	5.0%	0.3%	3.7%	0.1%
	Thursday	1.1%	0.1%	0.0%	6.8%	8.1%	3.3%	3.3%	12.8%	1.4%	0.1%	1.8%	1.9%	10.7%	5.1%	4.8%	0.4%	4.0%	0.1%
	Friday	1.1%	0.1%	0.0%	7.5%	8.7%	3.3%	3.3%	13.5%	1.8%	0.1%	2.0%	2.0%	11.5%	5.6%	5.3%	0.4%	4.1%	0.1%
	Saturday	1.1%	0.1%	0.1%	7.2%	8.7%	3.3%	3.3%	13.7%	1.6%	0.1%	2.0%	2.1%	11.4%	5.2%	5.5%	0.5%	4.1%	0.0%
	Sunday	0.7%	0.1%	0.1%	6.3%	7.5%	2.7%	2.7%	11.6%	1.2%	0.1%	2.0%	1.7%	9.3%	4.6%	4.9%	0.4%	3.0%	0.1%
Time of Day	12-3 AM	0.8%	0.1%	0.1%	3.4%	4.5%	2.0%	2.0%	7.6%	0.9%	0.1%	1.3%	1.1%	6.1%	2.7%	3.1%	0.3%	2.4%	0.1%
	3-6 AM	0.4%	0.1%	0.0%	2.8%	3.4%	1.4%	1.4%	5.4%	0.7%	0.0%	1.1%	0.9%	4.1%	2.1%	2.5%	0.2%	1.3%	0.0%
	6-9 AM	0.7%	0.1%	0.0%	6.2%	7.1%	2.8%	2.8%	11.1%	1.4%	0.1%	1.8%	1.5%	9.3%	4.3%	4.4%	0.3%	3.4%	0.1%
	9-Noon	0.7%	0.1%	0.0%	5.6%	6.8%	2.3%	2.3%	10.3%	1.1%	0.1%	1.6%	1.5%	8.5%	3.7%	4.0%	0.3%	3.4%	0.0%
	Noon-3 PM	0.9%	0.0%	0.0%	6.8%	7.7%	2.5%	2.5%	11.6%	1.1%	0.1%	1.6%	1.9%	9.5%	4.9%	4.2%	0.3%	3.5%	0.0%
	3-6 PM	1.1%	0.1%	0.0%	7.9%	9.1%	3.3%	3.3%	14.2%	1.4%	0.1%	1.8%	2.0%	11.9%	6.1%	5.4%	0.4%	3.7%	0.1%
	6-9 PM	1.0%	0.0%	0.0%	9.0%	9.8%	3.9%	3.9%	15.6%	1.7%	0.1%	2.1%	2.3%	13.1%	6.4%	5.8%	0.5%	4.6%	0.1%
	9-Midnight	0.9%	0.1%	0.0%	6.7%	8.2%	3.5%	3.5%	13.3%	1.8%	0.2%	2.2%	2.2%	10.8%	5.5%	5.4%	0.4%	3.8%	0.1%
Lighting Conditions	Dark - Lighted	2.7%	0.3%	0.2%	13.5%	17.5%	6.1%	6.1%	26.8%	3.6%	0.3%	2.4%	3.5%	24.9%	9.8%	11.0%	1.0%	8.7%	0.3%
	Dark - Not Lighted	0.3%	0.0%	0.0%	5.1%	4.9%	3.7%	3.7%	10.0%	0.9%	0.1%	3.5%	2.2%	5.2%	4.7%	3.9%	0.3%	2.0%	0.0%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.1%	0.0%	0.0%	0.9%	1.1%	0.4%	0.4%	1.7%	0.3%	0.0%	0.4%	0.2%	1.3%	0.7%	0.6%	0.0%	0.6%	0.0%
	Daylight	3.2%	0.2%	0.1%	26.9%	31.2%	10.7%	10.7%	47.6%	4.9%	0.4%	6.7%	6.8%	39.4%	19.2%	18.3%	1.1%	14.0%	0.2%
	Dusk	0.2%	0.0%	0.0%	1.7%	1.8%	0.7%	0.7%	2.8%	0.3%	0.0%	0.4%	0.5%	2.3%	1.1%	0.9%	0.1%	1.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%

Attachment B-5
MetroPlan Orlando Region
Percent of All KSI Crashes involving only Car Truck 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	5.0%	3.8%	2.2%	3.7%	6.3%	1.0%	1.8%	3.2%	4.9%	0.9%	0.1%	2.8%	2.5%	2.8%	0.4%	0.3%	2.2%	3.6%	3.0%	3.2%	0.0%	0.2%	0.0%	3.4%	0.5%
	Animal	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	2.8%	1.6%	0.7%	2.8%	2.0%	0.2%	0.2%	0.8%	2.4%	1.2%	0.4%	1.9%	1.1%	1.3%	0.2%	0.0%	0.4%	2.3%	1.6%	1.4%	0.1%	0.6%	0.0%	1.2%	0.4%
	Left Turn	7.3%	11.7%	6.3%	4.2%	18.6%	2.2%	1.3%	4.9%	16.1%	2.9%	0.1%	7.2%	8.9%	6.0%	0.5%	0.3%	2.1%	6.2%	10.2%	9.6%	0.1%	0.7%	0.0%	8.7%	1.8%
	Off Road	5.6%	6.3%	2.3%	7.6%	6.2%	0.7%	2.3%	2.7%	7.2%	1.7%	0.3%	3.9%	3.8%	3.1%	0.4%	0.2%	3.1%	3.8%	5.1%	4.0%	0.1%	0.4%	0.0%	3.1%	1.0%
	Other	4.6%	4.3%	3.1%	5.0%	6.3%	1.1%	1.9%	2.4%	5.9%	1.4%	0.4%	4.2%	2.8%	2.5%	0.4%	0.1%	2.5%	3.3%	3.5%	4.5%	0.0%	0.4%	0.0%	3.5%	0.6%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	4.2%	9.9%	10.0%	5.0%	15.1%	3.8%	0.4%	2.5%	17.0%	4.1%	0.2%	11.2%	7.8%	3.6%	0.3%	0.2%	0.8%	3.2%	8.5%	14.6%	0.0%	0.5%	0.0%	10.9%	1.8%
	Right Turn	0.4%	0.8%	0.5%	0.3%	1.2%	0.2%	0.1%	0.4%	1.0%	0.2%	0.0%	0.5%	0.6%	0.4%	0.0%	0.0%	0.1%	0.4%	0.6%	0.8%	0.0%	0.0%	0.0%	0.6%	0.0%
	Rollover	0.6%	0.6%	0.1%	1.0%	0.3%	0.0%	0.2%	0.2%	0.4%	0.2%	0.4%	0.6%	0.2%	0.2%	0.0%	0.0%	0.3%	0.6%	0.3%	0.2%	0.0%	0.3%	0.0%	0.2%	0.1%
	Sideswipe	0.9%	1.6%	1.3%	1.1%	2.3%	0.4%	0.2%	0.7%	2.1%	0.7%	0.1%	1.7%	1.2%	0.5%	0.1%	0.0%	0.2%	0.8%	1.2%	2.0%	0.0%	0.2%	0.0%	1.6%	0.2%
Unknown	0.4%	0.8%	0.4%	0.4%	1.0%	0.0%	0.1%	0.3%	0.9%	0.2%	0.0%	0.5%	0.5%	0.3%	0.0%	0.0%	0.1%	0.4%	0.6%	0.6%	0.0%	0.1%	0.0%	0.5%	0.2%	
Alcohol Related	Y	2.2%	2.6%	1.6%	2.8%	3.1%	0.4%	0.6%	1.3%	3.3%	0.9%	0.3%	2.5%	1.5%	1.3%	0.2%	0.1%	0.7%	2.1%	1.7%	2.5%	0.1%	0.3%	0.0%	2.0%	0.4%
	N	29.6%	38.7%	25.4%	28.3%	56.2%	9.2%	7.9%	16.6%	54.7%	12.7%	1.8%	32.0%	28.0%	19.5%	2.2%	1.1%	11.0%	22.6%	32.8%	38.3%	0.2%	3.1%	0.1%	31.8%	6.1%
Hit and Run	Y	2.0%	2.8%	2.6%	2.0%	4.7%	0.7%	0.7%	1.2%	4.5%	0.9%	0.1%	2.8%	2.1%	1.6%	0.1%	0.1%	0.7%	1.6%	2.3%	3.7%	0.0%	0.1%	0.0%	2.8%	0.4%
	N	29.7%	38.4%	24.4%	29.1%	54.6%	8.9%	7.8%	16.7%	53.5%	12.7%	2.0%	31.7%	27.3%	19.3%	2.3%	1.0%	11.0%	23.1%	32.2%	37.1%	0.3%	3.4%	0.1%	31.0%	6.2%
Aggressive Driving	Y	2.3%	2.3%	1.0%	2.1%	3.2%	0.3%	0.7%	1.6%	2.6%	0.6%	0.1%	1.7%	1.2%	1.5%	0.2%	0.1%	0.9%	1.9%	1.8%	1.6%	0.0%	0.1%	0.0%	1.4%	0.4%
	N	29.4%	39.0%	25.9%	29.0%	56.1%	9.3%	7.8%	16.3%	55.3%	13.0%	2.0%	32.8%	28.2%	19.3%	2.2%	1.1%	10.8%	22.7%	32.7%	39.2%	0.3%	3.3%	0.1%	32.5%	6.1%
Distracted Driving	Y	10.0%	13.8%	8.9%	9.2%	19.9%	3.6%	2.2%	5.1%	19.8%	5.0%	0.7%	11.4%	10.5%	6.4%	0.6%	0.4%	3.3%	7.6%	12.0%	13.7%	0.1%	1.3%	0.1%	11.1%	2.6%
	N	21.7%	27.4%	18.0%	21.9%	39.4%	6.0%	6.3%	12.8%	38.2%	8.6%	1.3%	23.1%	18.9%	14.4%	1.8%	0.8%	8.4%	17.1%	22.5%	27.1%	0.2%	2.1%	0.0%	22.8%	3.9%
Intersection Related	Y	13.6%	17.5%	11.6%	8.9%	28.6%	4.5%	3.5%	9.0%	24.9%	5.0%	0.3%	13.7%	12.9%	9.3%	1.1%	0.5%	4.4%	11.0%	14.9%	16.5%	0.1%	1.2%	0.0%	15.3%	3.1%
	N	18.2%	23.8%	15.4%	22.3%	30.7%	5.1%	5.0%	8.9%	33.0%	8.6%	1.8%	20.8%	16.5%	11.5%	1.3%	0.7%	7.3%	13.7%	19.6%	24.3%	0.2%	2.3%	0.0%	18.5%	3.5%
Drug Related	Y	1.1%	1.5%	1.0%	1.4%	1.9%	0.3%	0.2%	0.6%	2.1%	0.6%	0.2%	1.6%	0.9%	0.7%	0.1%	0.1%	0.3%	1.0%	1.0%	1.7%	0.0%	0.2%	0.0%	1.2%	0.3%
	N	30.6%	39.8%	25.9%	29.7%	57.4%	9.2%	8.3%	17.3%	55.8%	13.0%	1.9%	32.9%	28.5%	20.2%	2.3%	1.1%	11.4%	23.6%	33.5%	39.1%	0.3%	3.2%	0.1%	32.6%	6.2%
Aging Driver	Y	5.6%	7.2%	4.2%	4.9%	10.3%	2.0%	1.3%	3.3%	9.7%	2.4%	0.4%	6.2%	4.9%	3.5%	0.5%	0.1%	2.0%	4.7%	5.6%	7.0%	0.1%	0.8%	0.0%	5.9%	1.1%
	N	26.1%	34.1%	22.7%	26.2%	49.0%	7.6%	7.2%	14.6%	48.3%	11.2%	1.7%	28.3%	24.5%	17.3%	1.9%	1.0%	9.7%	20.0%	28.9%	33.8%	0.2%	2.6%	0.1%	27.9%	5.4%
Teenage Driver	Y	4.5%	6.0%	3.5%	3.9%	8.6%	1.3%	1.3%	2.3%	8.4%	1.8%	0.1%	4.0%	4.4%	2.9%	0.4%	0.2%	1.9%	3.4%	4.6%	5.5%	0.0%	0.3%	0.0%	4.5%	1.0%
	N	27.3%	35.3%	23.5%	27.2%	50.7%	8.3%	7.2%	15.6%	49.5%	11.8%	2.0%	30.5%	25.0%	17.9%	2.0%	1.0%	9.8%	21.3%	29.9%	35.3%	0.3%	3.2%	0.0%	29.3%	5.5%
Day of the Week	Monday	5.0%	5.6%	3.4%	4.6%	8.1%	1.3%	1.2%	2.6%	8.2%	1.7%	0.3%	4.7%	3.9%	3.2%	0.3%	0.2%	1.7%	3.8%	4.6%	5.4%	0.0%	0.4%	0.0%	4.7%	1.0%
	Tuesday	4.2%	6.0%	3.8%	4.3%	8.5%	1.2%	1.2%	2.4%	8.2%	1.8%	0.3%	4.5%	4.5%	2.9%	0.3%	0.1%	1.7%	3.2%	5.3%	5.5%	0.1%	0.4%	0.0%	4.6%	0.8%
	Wednesday	4.5%	5.7%	4.2%	4.1%	9.1%	1.1%	1.2%	2.6%	8.3%	1.9%	0.3%	5.3%	3.8%	3.0%	0.3%	0.2%	1.7%	3.6%	4.4%	6.3%	0.0%	0.6%	0.0%	4.9%	0.9%
	Thursday	4.5%	6.1%	3.6%	4.6%	8.3%	1.3%	1.2%	2.3%	8.6%	1.8%	0.2%	4.6%	4.5%	3.0%	0.2%	0.2%	1.6%	3.6%	4.7%	5.9%	0.0%	0.5%	0.0%	4.7%	0.8%
	Friday	4.9%	6.0%	4.4%	4.7%	9.1%	1.6%	1.5%	2.6%	8.9%	2.1%	0.3%	5.5%	4.5%	2.9%	0.4%	0.2%	1.9%	3.6%	5.6%	6.1%	0.1%	0.5%	0.0%	5.4%	1.0%
	Saturday	4.4%	6.6%	4.3%	4.3%	9.2%	1.7%	1.1%	3.0%	8.7%	2.1%	0.4%	5.5%	4.4%	3.3%	0.3%	0.2%	1.5%	3.6%	5.4%	6.6%	0.0%	0.6%	0.0%	5.3%	1.1%
	Sunday	4.3%	5.3%	3.2%	4.6%	7.0%	1.3%	1.1%	2.4%	7.0%	2.1%	0.2%	4.4%	3.8%	2.5%	0.4%	0.1%	1.6%	3.3%	4.5%	5.0%	0.1%	0.4%	0.0%	4.2%	0.9%
Time of Day	12-3 AM	2.6%	3.7%	2.5%	3.0%	4.6%	1.0%	0.7%	1.6%	4.7%	1.4%	0.3%	3.5%	2.5%	1.7%	0.2%	0.0%	0.7%	2.3%	2.8%	3.8%	0.0%	0.3%	0.0%	3.2%	0.7%
	3-6 AM	2.1%	2.5%	1.9%	2.8%	3.1%	0.6%	0.5%	1.2%	3.5%	1.0%	0.3%	2.5%	1.8%	1.0%	0.2%	0.1%	0.8%	1.5%	2.2%	2.7%	0.0%	0.4%	0.0%	2.1%	0.5%
	6-9 AM	4.4%	5.7%	3.4%	3.8%	8.3%	1.3%	1.1%	2.2%	7.9%	1.9%	0.4%	4.0%	4.3%	3.0%	0.3%	0.1%	1.6%	3.4%	4.6%	5.4%	0.1%	0.7%	0.0%	4.4%	0.8%
	9-Noon	3.8%	5.4%	3.7%	3.8%	7.5%	1.6%	1.2%	2.1%	7.6%	1.8%	0.2%	4.7%	3.9%	2.4%	0.3%	0.1%	1.6%	2.8%	4.3%	5.8%	0.1%	0.6%	0.0%	4.5%	0.8%
	Noon-3 PM	4.4%	5.8%	3.6%	3.9%	8.8%	1.2%	1.2%	2.9%	8.2%	1.5%	0.1%	4.6%	4.2%	2.8%	0.4%	0.2%	1.8%	3.2%	5.0%	5.5%	0.0%	0.3%	0.0%	4.6%	0.8%
	3-6 PM	5.2%	6.6%	4.2%	5.2%	9.7%	1.1%	1.5%	2.8%	9.7%	1.7%	0.3%	5.5%	4.4%	3.5%	0.4%	0.2%	2.0%	4.1%	5.9%	5.9%	0.0%	0.4%	0.0%	5.2%	1.1%
	6-9 PM	4.7%	6.4%	4.2%	4.7%	9.0%	1.6%	1.1%	2.6%	9.2%	2.2%	0.2%	5.1%	4.7%	3.3%	0.3%	0.2%	1.7%	3.8%	5.4%	6.1%	0.1%	0.3%	0.0%	5.0%	0.9%
	9-Midnight	4.6%	5.2%	3.6%	4.0%	8.2%	1.2%	1.2%	2.5%	7.3%	2.1%	0.3%	4.7%	3.6%	3.1%	0.2%	0.2%	1.6%	3.5%	4.3%	5.5%	0.0%	0.4%	0.0%	4.8%	1.0%
Lighting Conditions	Dark - Lighted	7.5%	11.5%	9.1%	7.9%	17.1%	3.1%	2.4%	5.7%	16.6%	3.4%	0.2%	10.0%	8.5%	5.8%	0.6%	0.3%	2.9%	5.9%	9.4%	13.2%	0.0%	0.3%	0.0%	10.3%	1.9%
	Dark - Not Lighted	4.6%	3.6%	1.3%	4.6%	4.4%	0.4%	0.6%	1.4%	4.1%	2.5%	0.9%	3.8%	1.9%	2.2%	0.3%	0.1%	1.2%	4.0%	3.0%	2.3%	0.1%	1.2%	0.0%	2.6%	0.9%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Dawn	0.7%	0.7%	0.4%	0.6%	1.1%	0.1%	0.1%	0.3%	1.0%	0.2%	0.1%	0.6%	0.4%	0.6%	0.0%	0.0%	0.2%	0.6%	0.7%	0.6%	0.0%	0.2%	0.0%	0.6%	0.1%
	Daylight	17.9%	24.2%	15.3%	17.0%	35.0%	5.5%	5.0%	10.2%	34.3%	7.1%	0.9%	19.1%	17.7%	11.6%	1.5%	0.7%	6.9%	13.4%	20.4%	23.4%	0.2%	1.7%	0.1%	19.2%	3.5%
	Dusk	1.0%	1.2%	0.8%	1.0%	1.7%	0.4%	0.3%	0.4%	2.0%	0.4%	0.0%	0.9%	1.0%	0.6%	0.0%	0.0%	0.5%	0.7%	1.0%	1.2%	0.0%	0.1%	0.0%	1.1%	0.2%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Unknown	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Attachment B-5
MetroPlan Orlando Region
Percent of All KSI Crashes Involving only Car Truck 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.7%	0.0%	0.1%	6.1%	7.5%	1.5%	1.9%	9.8%	1.1%	0.1%	1.6%	1.8%	7.6%	5.2%	3.2%	0.2%	2.3%	0.1%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.3%	0.0%	0.0%	2.4%	3.0%	0.3%	1.7%	4.9%	0.1%	0.0%	1.6%	0.9%	2.6%	2.9%	1.1%	0.1%	0.9%	0.0%
	Left Turn	1.2%	0.1%	0.0%	12.3%	16.5%	4.0%	4.8%	22.0%	3.1%	0.1%	2.8%	3.5%	19.0%	8.5%	9.2%	0.5%	7.0%	0.1%
	Off Road	0.3%	0.1%	0.0%	9.6%	9.3%	1.0%	3.9%	13.5%	0.7%	0.0%	2.8%	2.2%	9.2%	5.8%	5.7%	0.4%	2.3%	0.0%
	Other	1.1%	0.1%	0.1%	6.5%	8.0%	1.3%	2.7%	11.0%	1.0%	0.1%	1.9%	1.7%	8.3%	5.1%	4.0%	0.3%	2.6%	0.1%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	1.3%	0.0%	0.0%	9.3%	13.2%	4.8%	6.1%	20.0%	3.8%	0.3%	2.6%	2.7%	18.9%	4.8%	9.5%	0.9%	8.8%	0.1%
	Right Turn	0.1%	0.0%	0.0%	0.9%	1.0%	0.1%	0.5%	1.5%	0.1%	0.0%	0.2%	0.2%	1.3%	0.3%	0.6%	0.0%	0.7%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.6%	0.7%	0.1%	0.5%	1.2%	0.0%	0.0%	0.7%	0.1%	0.5%	0.5%	0.6%	0.0%	0.1%	0.0%
	Sideswipe	0.2%	0.0%	0.0%	1.6%	2.0%	0.7%	1.1%	3.2%	0.5%	0.1%	0.4%	0.4%	3.0%	1.2%	1.7%	0.1%	0.8%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.7%	0.8%	0.2%	0.4%	1.3%	0.2%	0.0%	0.2%	0.2%	1.1%	0.4%	0.7%	0.0%	0.4%	0.0%
Alcohol Related	Y	0.4%	0.0%	0.0%	3.0%	3.8%	0.8%	1.7%	5.7%	0.6%	0.0%	1.5%	0.8%	4.1%	2.5%	2.3%	0.2%	1.2%	0.0%
	N	4.9%	0.3%	0.2%	47.0%	58.5%	13.1%	22.0%	83.0%	10.0%	0.7%	13.3%	12.9%	67.4%	32.2%	34.0%	2.3%	24.7%	0.5%
Hit and Run	Y	0.5%	0.0%	0.0%	3.6%	4.9%	1.5%	1.5%	6.7%	0.7%	0.0%	0.7%	0.7%	6.0%	2.8%	2.2%	0.1%	2.2%	0.1%
	N	4.8%	0.3%	0.2%	46.3%	57.4%	22.3%	22.3%	82.0%	9.9%	0.7%	14.1%	13.0%	65.5%	31.9%	34.2%	2.5%	23.7%	0.4%
Aggressive Driving	Y	0.4%	0.0%	0.0%	3.2%	3.4%	1.4%	1.4%	5.0%	0.6%	0.0%	0.9%	1.1%	3.6%	2.5%	2.1%	0.1%	0.9%	0.0%
	N	4.9%	0.3%	0.2%	46.7%	58.9%	22.4%	22.4%	83.7%	10.0%	0.6%	13.8%	12.6%	67.9%	32.2%	34.3%	2.5%	25.0%	0.5%
Distracted Driving	Y	1.4%	0.0%	0.0%	16.1%	20.4%	7.5%	7.5%	28.7%	3.8%	0.3%	5.3%	4.3%	23.2%	10.5%	12.5%	1.1%	8.5%	0.2%
	N	3.9%	0.3%	0.2%	33.9%	41.9%	16.3%	16.3%	60.0%	6.8%	0.4%	9.5%	9.4%	48.3%	24.1%	23.9%	1.5%	17.4%	0.3%
Intersection Related	Y	2.2%	0.2%	0.1%	19.7%	26.8%	8.8%	8.8%	36.9%	5.4%	0.3%	5.1%	5.8%	31.7%	14.5%	15.1%	0.9%	11.8%	0.2%
	N	3.0%	0.2%	0.1%	30.3%	35.4%	15.0%	15.0%	51.8%	5.3%	0.4%	9.7%	8.0%	39.8%	20.2%	21.3%	1.6%	14.1%	0.2%
Drug Related	Y	0.2%	0.0%	0.0%	1.6%	2.1%	1.0%	1.0%	3.3%	0.4%	0.0%	0.7%	0.6%	2.3%	1.3%	1.5%	0.1%	0.7%	0.0%
	N	5.0%	0.4%	0.2%	48.4%	60.2%	22.7%	22.7%	85.4%	10.3%	0.6%	14.0%	13.2%	69.2%	33.3%	34.9%	2.5%	25.2%	0.5%
Aging Driver	Y	1.0%	0.1%	0.1%	8.1%	10.3%	4.2%	4.2%	14.8%	2.1%	0.2%	2.9%	2.3%	11.9%	6.1%	5.9%	0.5%	4.6%	0.1%
	N	4.3%	0.3%	0.1%	41.9%	52.0%	19.6%	19.6%	73.9%	8.6%	0.5%	11.9%	11.4%	59.7%	28.6%	30.5%	2.1%	21.3%	0.4%
Teenage Driver	Y	0.4%	0.0%	0.0%	7.5%	8.6%	3.6%	3.6%	12.4%	1.5%	0.1%	1.4%	2.2%	10.3%	4.4%	5.1%	0.3%	4.0%	0.1%
	N	4.9%	0.3%	0.1%	42.5%	53.7%	20.2%	20.2%	76.3%	9.2%	0.6%	13.4%	11.5%	61.2%	30.3%	31.2%	2.3%	21.9%	0.4%
Day of the Week	Monday	0.6%	0.1%	0.1%	7.0%	7.7%	3.3%	3.3%	12.7%	1.2%	0.1%	2.0%	1.9%	10.1%	4.9%	4.9%	0.4%	3.6%	0.1%
	Tuesday	0.7%	0.0%	0.0%	7.4%	8.0%	3.1%	3.1%	12.6%	1.3%	0.0%	2.2%	1.9%	9.9%	4.8%	4.9%	0.2%	4.0%	0.0%
	Wednesday	0.9%	0.1%	0.0%	7.0%	8.4%	2.7%	2.7%	12.6%	1.7%	0.1%	2.2%	2.1%	10.1%	5.1%	5.5%	0.4%	3.5%	0.1%
	Thursday	0.9%	0.0%	0.0%	7.2%	8.4%	3.1%	3.1%	12.8%	1.2%	0.1%	2.0%	1.9%	10.4%	5.0%	4.8%	0.2%	4.1%	0.1%
	Friday	0.7%	0.0%	0.0%	7.7%	8.4%	3.3%	3.3%	13.2%	2.0%	0.1%	2.2%	2.0%	11.1%	5.3%	5.6%	0.4%	4.1%	0.0%
	Saturday	0.8%	0.1%	0.0%	7.3%	8.4%	3.3%	3.3%	13.3%	1.8%	0.1%	2.2%	2.0%	11.0%	4.9%	5.9%	0.6%	3.8%	0.0%
	Sunday	0.7%	0.0%	0.0%	6.4%	7.5%	2.7%	2.7%	11.5%	1.3%	0.1%	2.0%	2.0%	8.9%	4.6%	4.8%	0.4%	3.0%	0.1%
Time of Day	12-3 AM	0.7%	0.0%	0.0%	3.6%	4.5%	2.2%	2.2%	7.6%	1.0%	0.1%	1.5%	1.2%	6.0%	2.6%	3.4%	0.3%	2.3%	0.1%
	3-6 AM	0.4%	0.1%	0.0%	3.1%	3.6%	1.5%	1.5%	5.8%	0.7%	0.0%	1.3%	0.9%	4.3%	2.1%	2.8%	0.2%	1.4%	0.0%
	6-9 AM	0.7%	0.0%	0.0%	6.9%	7.6%	2.9%	2.9%	11.9%	1.6%	0.1%	2.1%	1.4%	10.0%	4.7%	4.7%	0.4%	3.7%	0.1%
	9-Noon	0.7%	0.1%	0.0%	6.3%	7.5%	2.5%	2.5%	11.4%	1.4%	0.1%	1.9%	1.8%	9.2%	4.1%	4.6%	0.3%	3.8%	0.0%
	Noon-3 PM	0.9%	0.0%	0.0%	7.3%	8.3%	2.6%	2.6%	12.3%	1.4%	0.1%	1.7%	2.0%	10.1%	5.1%	4.6%	0.3%	3.8%	0.0%
	3-6 PM	0.9%	0.1%	0.0%	8.1%	9.4%	3.4%	3.4%	14.6%	1.4%	0.1%	1.8%	2.1%	12.0%	6.1%	5.8%	0.3%	3.7%	0.1%
	6-9 PM	0.5%	0.0%	0.0%	8.3%	8.6%	3.4%	3.4%	13.6%	1.6%	0.1%	2.0%	2.2%	11.0%	5.2%	5.6%	0.5%	3.8%	0.1%
	9-Midnight	0.6%	0.0%	0.0%	6.4%	7.2%	3.0%	3.0%	11.6%	1.7%	0.1%	2.4%	2.1%	8.9%	4.9%	4.8%	0.3%	3.3%	0.1%
Lighting Conditions	Dark - Lighted	1.8%	0.1%	0.1%	13.4%	16.2%	5.5%	5.5%	24.3%	3.7%	0.2%	2.6%	3.8%	21.8%	8.7%	10.7%	0.9%	7.6%	0.3%
	Dark - Not Lighted	0.2%	0.0%	0.0%	4.6%	4.1%	3.4%	3.4%	8.8%	0.7%	0.0%	3.6%	2.0%	3.9%	4.1%	3.6%	0.2%	1.5%	0.0%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.1%	0.0%	0.0%	0.8%	0.9%	0.5%	0.5%	1.6%	0.2%	0.0%	0.4%	0.1%	1.2%	0.7%	0.6%	0.0%	0.5%	0.0%
	Daylight	3.1%	0.2%	0.1%	29.4%	33.8%	11.5%	11.5%	51.3%	5.7%	0.4%	7.6%	7.5%	42.3%	20.1%	20.4%	1.2%	15.4%	0.2%
	Dusk	0.1%	0.0%	0.0%	1.6%	1.7%	0.7%	0.7%	2.6%	0.4%	0.0%	0.4%	0.4%	2.2%	1.0%	1.0%	0.1%	0.9%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%

Attachment B-6
MetroPlan Orlando Region
Percent of All KSI Crashes Involving Motorcyclists 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	3.4%	2.9%	0.8%	3.1%	3.8%	0.3%	1.8%	1.9%	3.1%	0.3%	0.0%	2.2%	1.4%	1.8%	0.3%	0.2%	1.3%	2.0%	2.6%	1.9%	0.0%	0.2%	0.0%	1.4%	0.3%
	Animal	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	1.5%	0.5%	0.0%	1.6%	0.4%	0.0%	0.2%	0.3%	0.7%	0.6%	0.1%	0.6%	0.3%	0.5%	0.1%	0.0%	0.4%	0.8%	0.8%	0.1%	0.0%	0.2%	0.0%	0.1%	0.3%
	Left Turn	10.7%	14.2%	4.9%	8.1%	20.0%	1.5%	2.4%	6.8%	17.4%	3.2%	0.0%	8.2%	9.1%	8.0%	1.1%	0.2%	3.1%	9.8%	11.3%	8.9%	0.0%	0.3%	0.1%	8.6%	2.4%
	Off Road	4.8%	5.4%	1.8%	6.6%	5.2%	0.5%	1.8%	2.6%	6.6%	1.0%	0.0%	2.5%	4.0%	2.6%	0.3%	0.1%	2.7%	3.2%	4.3%	3.2%	0.0%	0.0%	0.0%	3.1%	0.8%
	Other	6.5%	7.0%	5.1%	6.6%	10.4%	1.5%	2.6%	3.6%	9.4%	2.6%	0.2%	7.3%	4.7%	3.1%	0.5%	0.2%	2.7%	4.5%	6.4%	7.0%	0.1%	0.1%	0.0%	6.1%	1.3%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	3.3%	6.9%	6.3%	4.0%	9.7%	2.6%	0.2%	1.9%	11.1%	2.6%	0.5%	9.2%	4.7%	2.0%	0.1%	0.0%	0.3%	2.6%	5.8%	9.7%	0.0%	0.7%	0.0%	8.1%	1.3%
	Right Turn	0.2%	0.3%	0.5%	0.2%	0.6%	0.2%	0.1%	0.0%	0.5%	0.3%	0.1%	0.7%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.4%	0.6%	0.0%	0.1%	0.0%	0.6%	0.1%
	Rollover	3.2%	1.5%	1.2%	2.7%	2.7%	0.3%	0.3%	1.5%	2.8%	1.2%	0.1%	1.7%	1.1%	1.8%	0.5%	0.1%	0.6%	2.7%	1.3%	1.8%	0.1%	0.2%	0.0%	1.2%	0.6%
	Sideswipe	1.1%	1.8%	2.4%	1.5%	3.4%	0.4%	0.2%	0.5%	3.3%	1.1%	0.2%	3.1%	1.2%	0.7%	0.1%	0.0%	0.2%	1.1%	2.0%	2.6%	0.0%	0.1%	0.0%	3.1%	0.2%
Unknown	0.2%	1.0%	0.6%	0.1%	1.5%	0.2%	0.0%	0.4%	1.0%	0.4%	0.0%	1.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.2%	0.5%	1.3%	0.0%	0.0%	0.0%	0.9%	0.0%	
Alcohol Related	Y	2.3%	3.2%	1.5%	2.5%	4.0%	0.4%	0.6%	1.2%	3.9%	1.0%	0.3%	2.6%	1.3%	1.9%	0.3%	0.1%	0.7%	2.4%	2.3%	2.4%	0.0%	0.4%	0.0%	2.2%	0.6%
	N	32.6%	38.2%	22.1%	32.2%	53.7%	7.2%	9.2%	18.4%	51.9%	12.5%	1.0%	34.1%	25.6%	18.9%	2.8%	0.7%	10.8%	24.9%	33.3%	34.8%	0.2%	1.6%	0.1%	30.9%	6.7%
Hit and Run	Y	1.7%	2.1%	1.1%	0.9%	3.4%	0.5%	0.3%	1.1%	2.9%	0.6%	0.0%	1.8%	1.2%	1.3%	0.2%	0.1%	0.3%	1.1%	2.1%	1.8%	0.0%	0.1%	0.0%	1.9%	0.1%
	N	33.3%	39.3%	22.6%	33.8%	54.3%	7.1%	9.5%	18.5%	53.0%	12.8%	1.3%	34.9%	25.7%	19.6%	2.9%	0.7%	11.3%	26.2%	33.4%	35.4%	0.2%	1.9%	0.1%	31.3%	7.3%
Aggressive Driving	Y	3.1%	3.3%	1.4%	2.6%	4.6%	0.4%	0.7%	2.3%	4.3%	0.3%	0.0%	3.2%	1.5%	2.4%	0.1%	0.0%	0.5%	2.4%	2.6%	3.2%	0.0%	0.0%	0.0%	2.3%	0.5%
	N	31.9%	38.1%	22.2%	32.1%	53.1%	7.2%	9.1%	17.3%	51.5%	13.1%	1.3%	33.6%	25.4%	18.4%	3.1%	0.8%	11.1%	24.9%	32.9%	34.0%	0.2%	2.0%	0.1%	30.8%	6.8%
Distracted Driving	Y	8.7%	12.0%	5.8%	9.4%	15.4%	1.7%	2.5%	4.7%	14.8%	4.0%	0.4%	9.5%	7.6%	5.7%	0.4%	0.2%	3.1%	6.7%	9.8%	10.0%	0.0%	0.6%	0.0%	8.6%	1.5%
	N	26.3%	29.4%	17.8%	25.4%	42.3%	5.9%	7.3%	14.9%	41.0%	9.4%	0.8%	27.3%	19.3%	15.2%	2.7%	0.6%	8.5%	20.6%	25.7%	27.2%	0.2%	1.4%	0.1%	24.5%	5.9%
Intersection Related	Y	16.5%	17.8%	7.0%	12.4%	26.0%	2.6%	4.4%	8.8%	23.0%	4.7%	0.4%	12.7%	11.1%	11.1%	1.6%	0.3%	4.3%	13.6%	15.3%	12.8%	0.0%	0.7%	0.1%	11.8%	3.5%
	N	18.4%	23.6%	16.6%	22.3%	31.7%	4.9%	5.4%	10.8%	32.8%	8.8%	0.8%	24.0%	15.8%	9.8%	1.6%	0.5%	7.3%	13.7%	20.3%	24.4%	0.2%	1.3%	0.0%	21.4%	3.9%
Drug Related	Y	1.9%	1.8%	0.5%	1.3%	2.7%	0.2%	0.7%	0.4%	2.3%	0.5%	0.2%	0.9%	1.3%	1.2%	0.1%	0.1%	0.6%	1.5%	1.5%	1.0%	0.0%	0.2%	0.0%	0.9%	0.3%
	N	33.1%	39.6%	23.1%	33.5%	54.9%	7.4%	9.1%	19.2%	53.5%	12.9%	1.1%	35.8%	25.6%	19.7%	3.1%	0.7%	10.9%	25.7%	34.0%	36.2%	0.2%	1.8%	0.1%	32.2%	7.1%
Aging Driver	Y	3.8%	5.8%	2.8%	3.2%	8.0%	1.2%	0.8%	1.5%	7.6%	2.4%	0.0%	5.1%	3.4%	2.3%	0.4%	0.0%	1.2%	3.1%	4.5%	5.0%	0.0%	0.3%	0.0%	4.9%	1.3%
	N	31.1%	35.6%	20.9%	31.6%	49.7%	6.4%	9.0%	18.1%	48.2%	11.0%	1.3%	31.7%	23.5%	18.5%	2.7%	0.8%	10.4%	24.2%	31.0%	32.2%	0.2%	1.7%	0.1%	28.2%	6.1%
Teenage Driver	Y	3.0%	3.5%	2.0%	2.6%	5.2%	0.6%	0.8%	1.4%	4.3%	1.9%	0.0%	3.3%	1.4%	1.9%	0.4%	0.2%	1.3%	2.7%	2.6%	2.9%	0.0%	0.1%	0.1%	3.2%	0.5%
	N	32.0%	37.9%	21.6%	32.1%	52.5%	6.9%	9.0%	18.2%	51.5%	11.5%	1.3%	33.5%	25.5%	18.9%	2.7%	0.6%	10.3%	24.6%	32.9%	34.3%	0.2%	1.9%	0.0%	30.0%	6.8%
Day of the Week	Monday	5.7%	3.8%	2.4%	4.3%	6.7%	0.8%	1.2%	2.0%	6.7%	1.7%	0.4%	3.8%	3.8%	2.8%	0.2%	0.0%	1.3%	4.4%	3.8%	3.8%	0.1%	0.5%	0.0%	3.6%	0.9%
	Tuesday	3.0%	5.6%	3.8%	3.4%	8.0%	0.9%	0.8%	1.9%	6.9%	2.5%	0.2%	5.7%	3.1%	1.8%	0.5%	0.2%	1.1%	2.4%	5.0%	5.2%	0.0%	0.4%	0.1%	4.6%	1.1%
	Wednesday	3.4%	6.5%	2.6%	4.7%	6.8%	0.9%	0.8%	3.6%	7.3%	0.7%	0.0%	4.3%	3.9%	2.7%	0.2%	0.2%	1.2%	2.9%	5.2%	4.8%	0.1%	0.1%	0.0%	3.8%	0.9%
	Thursday	5.5%	5.9%	3.5%	5.2%	8.6%	1.1%	1.9%	3.2%	8.3%	1.6%	0.0%	5.3%	4.2%	2.9%	0.4%	0.0%	2.0%	3.2%	5.7%	5.6%	0.0%	0.2%	0.0%	4.7%	1.1%
	Friday	6.5%	6.4%	3.4%	6.3%	8.6%	1.3%	2.1%	3.2%	8.9%	1.8%	0.2%	5.4%	4.1%	4.0%	0.4%	0.4%	1.9%	5.8%	4.4%	5.8%	0.0%	0.2%	0.0%	4.6%	1.4%
	Saturday	5.6%	7.4%	4.2%	5.6%	10.2%	1.6%	1.7%	2.9%	10.0%	2.6%	0.1%	6.8%	4.1%	3.5%	0.9%	0.0%	2.0%	4.8%	5.6%	7.0%	0.0%	0.2%	0.0%	6.6%	1.1%
	Sunday	5.3%	5.8%	3.6%	5.3%	8.6%	0.9%	1.3%	2.9%	7.8%	2.4%	0.3%	5.5%	3.7%	3.1%	0.4%	0.0%	2.2%	3.8%	5.7%	4.9%	0.0%	0.3%	0.0%	5.2%	0.9%
Time of Day	12-3 AM	2.2%	3.7%	1.7%	2.9%	4.2%	0.4%	0.4%	1.3%	4.7%	1.2%	0.1%	3.2%	2.7%	1.3%	0.0%	0.0%	0.4%	1.4%	3.7%	3.0%	0.0%	0.1%	0.0%	2.5%	0.8%
	3-6 AM	1.0%	1.3%	0.8%	0.8%	1.9%	0.3%	0.1%	0.7%	1.6%	0.5%	0.1%	1.3%	1.1%	0.4%	0.1%	0.1%	0.1%	1.1%	1.2%	1.1%	0.0%	0.3%	0.0%	0.7%	0.4%
	6-9 AM	3.0%	3.4%	2.3%	2.5%	5.7%	0.4%	0.4%	2.2%	4.9%	1.0%	0.2%	3.4%	2.1%	1.7%	0.3%	0.0%	1.2%	2.1%	2.9%	3.5%	0.1%	0.3%	0.0%	3.3%	0.5%
	9-Noon	3.4%	3.8%	1.8%	4.0%	4.6%	0.3%	1.0%	2.5%	4.3%	0.8%	0.3%	3.3%	2.2%	1.8%	0.6%	0.0%	1.1%	3.2%	3.0%	2.7%	0.1%	0.2%	0.0%	2.7%	0.5%
	Noon-3 PM	5.2%	5.4%	3.7%	5.4%	8.3%	0.8%	2.1%	1.8%	7.8%	2.4%	0.1%	4.9%	3.7%	3.3%	0.3%	0.1%	2.2%	4.8%	4.3%	4.9%	0.0%	0.4%	0.0%	4.8%	0.7%
	3-6 PM	7.0%	7.6%	4.2%	6.1%	11.3%	1.4%	2.1%	3.4%	10.6%	2.6%	0.1%	7.5%	5.1%	4.1%	0.3%	0.1%	1.7%	5.1%	7.2%	7.0%	0.0%	0.2%	0.0%	6.7%	1.5%
	6-9 PM	8.3%	7.4%	3.8%	6.6%	11.4%	1.6%	3.0%	3.6%	10.3%	2.3%	0.3%	5.7%	4.3%	4.7%	1.1%	0.2%	3.6%	4.9%	7.4%	5.6%	0.0%	0.3%	0.0%	4.5%	1.2%
9-Midnight	5.0%	8.8%	5.2%	6.3%	10.3%	2.3%	0.7%	4.0%	11.7%	2.5%	0.0%	7.6%	5.7%	3.6%	0.4%	0.3%	1.4%	4.6%	6.0%	9.4%	0.0%	0.1%	0.1%	7.8%	1.7%	
Lighting Conditions	Dark - Lighted	8.5%	14.6%	9.2%	9.7%	19.5%	3.2%	2.0%	7.8%	18.6%	3.8%	0.0%	12.7%	8.6%	6.7%	0.7%	0.6%	2.8%	7.4%	10.7%	15.1%	0.0%	0.1%	0.0%	11.9%	1.8%
	Dark - Not Lighted	5.2%	4.3%	1.1%	4.7%	5.2%	0.6%	0.6%	1.3%	5.8%	2.3%	0.5%	3.9%	3.2%	1.8%	0.7%	0.0%	0.9%	3.9%	4.8%	2.1%	0.0%	0.9%	0.1%	2.7%	1.8%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.8%	0.7%	0.3%	0.7%	1.1%	0.1%	0.2%	0.3%	1.2%	0.2%	0.0%	0.5%	0.3%	0.7%	0.0%	0.0%	0.3%	0.8%	0.2%	0.7%	0.0%	0.0%	0.0%	0.5%	0.1%
	Daylight	19.3%	19.6%	12.1%	18.3%	29.4%	3.4%	6.6%	9.3%	27.3%	7.0%	0.7%	18.1%	13.6%	10.6%	1.6%	0.2%	6.9%	14.7%	17.5%	17.8%	0.2%	0.9%	0.0%	16.7%	3.7%
	Dusk	1.2%	2.1%	1.0%	1.3%	2.6%	0.3%	0.4%	0.8%	2.9%	0.1%	0.0%	1.5%	1.2%	0.9%	0.1%	0.0%	0.5%	0.5%	2.3%	1.4%	0.0%	0.0%	0.0%	1.3%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Attachment B-6
MetroPlan Orlando Region
Percent of All KSI Crashes Involving Motorcyclists 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.9%	0.0%	0.1%	4.2%	4.6%	1.2%	1.4%	6.4%	0.7%	0.0%	1.1%	1.2%	4.9%	4.0%	1.7%	0.0%	1.4%	0.0%
	Animal	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.1%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.1%	0.0%	0.0%	1.3%	1.4%	0.0%	0.6%	2.0%	0.0%	0.0%	1.0%	0.5%	0.5%	1.6%	0.4%	0.0%	0.0%	0.0%
	Left Turn	2.1%	0.3%	0.0%	15.7%	20.0%	2.6%	7.1%	27.9%	1.6%	0.3%	3.1%	5.0%	21.7%	12.9%	8.5%	0.5%	7.7%	0.1%
	Off Road	0.6%	0.1%	0.1%	7.6%	8.9%	0.7%	2.3%	11.5%	0.3%	0.1%	1.9%	1.6%	8.5%	3.8%	4.9%	0.3%	2.8%	0.2%
	Other	1.4%	0.4%	0.1%	9.1%	10.8%	2.4%	5.3%	17.2%	1.4%	0.0%	2.5%	2.5%	13.5%	6.8%	6.0%	0.8%	4.9%	0.0%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	1.3%	0.2%	0.0%	4.7%	8.6%	2.9%	5.0%	14.2%	1.9%	0.3%	2.2%	2.5%	11.7%	4.1%	6.8%	0.3%	5.1%	0.1%
	Right Turn	0.0%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	1.0%	0.1%	0.0%	0.1%	0.2%	0.7%	0.0%	0.7%	0.0%	0.3%	0.0%
	Rollover	0.2%	0.1%	0.0%	3.4%	3.6%	0.2%	2.0%	5.6%	0.1%	0.1%	1.4%	1.2%	3.3%	2.5%	1.8%	0.2%	1.2%	0.1%
	Sideswipe	0.4%	0.1%	0.0%	1.4%	2.9%	1.0%	1.5%	4.3%	1.0%	0.0%	0.6%	0.3%	4.3%	1.3%	1.7%	0.2%	1.9%	0.2%
	Unknown	0.4%	0.0%	0.0%	0.4%	1.1%	0.2%	0.5%	1.6%	0.2%	0.0%	0.3%	0.0%	1.5%	0.4%	0.2%	0.2%	1.0%	0.0%
Alcohol Related	Y	0.3%	0.1%	0.1%	3.2%	4.0%	0.6%	2.3%	6.7%	0.2%	0.1%	1.4%	0.7%	4.9%	2.8%	2.2%	0.3%	1.6%	0.1%
	N	7.2%	1.2%	0.2%	44.9%	58.2%	10.8%	24.0%	85.2%	7.1%	0.7%	13.0%	14.3%	65.7%	35.0%	30.5%	2.3%	24.6%	0.6%
Hit and Run	Y	0.4%	0.0%	0.0%	2.3%	3.7%	0.8%	0.8%	4.4%	0.4%	0.0%	0.5%	0.8%	3.5%	2.2%	1.2%	0.4%	1.1%	0.0%
	N	7.1%	1.3%	0.3%	45.8%	58.5%	25.5%	25.5%	87.4%	6.9%	0.8%	13.9%	14.2%	67.1%	35.5%	31.6%	2.2%	25.1%	0.7%
Aggressive Driving	Y	1.1%	0.2%	0.2%	3.4%	4.8%	2.0%	2.0%	7.3%	0.4%	0.0%	0.7%	1.5%	5.5%	3.0%	2.2%	0.0%	2.4%	0.1%
	N	6.4%	1.1%	0.1%	44.7%	57.4%	24.4%	24.4%	84.5%	6.9%	0.8%	13.7%	13.6%	65.0%	34.7%	30.5%	2.6%	23.7%	0.6%
Distracted Driving	Y	1.7%	0.4%	0.0%	13.6%	16.1%	7.0%	7.0%	24.5%	1.9%	0.1%	4.1%	4.7%	17.7%	10.7%	9.3%	0.8%	5.6%	0.0%
	N	5.8%	0.8%	0.3%	34.5%	46.1%	19.4%	19.4%	67.4%	5.4%	0.7%	10.3%	10.4%	52.9%	27.0%	23.4%	1.8%	20.6%	0.7%
Intersection Related	Y	3.5%	0.5%	0.2%	20.7%	25.7%	10.5%	10.5%	37.9%	3.1%	0.3%	5.7%	6.1%	29.4%	18.9%	11.7%	0.8%	9.7%	0.2%
	N	4.0%	0.7%	0.1%	27.4%	36.4%	15.9%	15.9%	53.9%	4.2%	0.5%	8.7%	8.9%	41.1%	18.9%	21.1%	1.8%	16.4%	0.5%
Drug Related	Y	0.1%	0.1%	0.0%	2.5%	2.9%	1.1%	1.1%	4.1%	0.1%	0.0%	1.0%	0.7%	2.5%	2.1%	1.2%	0.2%	0.7%	0.0%
	N	7.4%	1.2%	0.3%	45.6%	59.3%	25.3%	25.3%	87.7%	7.2%	0.8%	13.5%	14.3%	68.0%	35.6%	31.6%	2.4%	25.4%	0.7%
Aging Driver	Y	0.6%	0.2%	0.0%	4.9%	7.1%	4.1%	4.1%	11.5%	0.6%	0.2%	1.9%	1.5%	9.0%	4.2%	4.6%	0.1%	3.3%	0.2%
	N	6.8%	1.1%	0.3%	43.2%	55.1%	22.2%	22.2%	80.3%	6.7%	0.6%	12.5%	13.6%	61.5%	33.5%	28.2%	2.5%	22.9%	0.5%
Teenage Driver	Y	0.5%	0.2%	0.0%	3.8%	4.2%	2.4%	2.4%	7.1%	1.4%	0.0%	1.1%	1.6%	5.8%	3.3%	2.6%	0.1%	2.4%	0.0%
	N	6.9%	1.1%	0.3%	44.3%	57.9%	23.9%	23.9%	84.7%	5.9%	0.8%	13.3%	13.5%	64.7%	34.4%	30.1%	2.5%	23.7%	0.7%
Day of the Week	Monday	0.4%	0.0%	0.0%	6.3%	6.7%	2.9%	2.9%	11.4%	0.5%	0.0%	2.6%	2.0%	7.3%	5.4%	3.7%	0.4%	2.4%	0.0%
	Tuesday	0.7%	0.1%	0.0%	5.3%	5.7%	3.6%	3.6%	10.9%	1.2%	0.3%	1.5%	1.3%	9.6%	4.1%	4.4%	0.3%	3.4%	0.1%
	Wednesday	1.2%	0.4%	0.1%	5.9%	7.1%	2.3%	2.3%	11.3%	1.1%	0.1%	1.4%	2.0%	9.1%	3.7%	4.4%	0.1%	4.0%	0.2%
	Thursday	1.2%	0.1%	0.1%	7.5%	8.4%	2.7%	2.7%	13.5%	1.5%	0.0%	1.9%	1.9%	11.1%	6.3%	4.7%	0.5%	3.5%	0.0%
	Friday	1.8%	0.4%	0.0%	7.8%	9.0%	4.0%	4.0%	15.3%	0.8%	0.1%	2.2%	2.8%	11.2%	6.9%	4.2%	0.5%	4.1%	0.4%
	Saturday	1.7%	0.1%	0.0%	7.7%	9.5%	4.1%	4.1%	15.9%	1.2%	0.2%	1.7%	3.6%	12.0%	6.1%	5.1%	0.4%	5.6%	0.0%
	Sunday	0.5%	0.1%	0.1%	7.7%	7.6%	3.4%	3.4%	13.6%	1.1%	0.1%	3.1%	1.5%	10.2%	5.2%	6.1%	0.3%	3.1%	0.0%
Time of Day	12-3 AM	1.1%	0.1%	0.2%	2.7%	3.5%	2.6%	2.6%	7.2%	0.4%	0.0%	1.1%	1.3%	5.3%	2.5%	2.0%	0.5%	2.4%	0.1%
	3-6 AM	0.1%	0.2%	0.0%	1.3%	1.3%	0.9%	0.9%	2.8%	0.3%	0.0%	0.5%	0.7%	1.8%	1.3%	1.4%	0.0%	0.4%	0.0%
	6-9 AM	0.7%	0.0%	0.0%	3.7%	4.5%	2.5%	2.5%	7.8%	0.6%	0.2%	1.3%	1.1%	6.4%	3.1%	3.1%	0.2%	2.2%	0.1%
	9-Noon	0.5%	0.2%	0.0%	4.6%	5.0%	2.4%	2.4%	8.6%	0.4%	0.0%	1.6%	1.1%	6.4%	3.1%	3.4%	0.0%	2.5%	0.0%
	Noon-3 PM	0.7%	0.1%	0.0%	7.7%	8.2%	3.2%	3.2%	13.7%	0.6%	0.0%	2.4%	2.2%	9.6%	5.3%	5.0%	0.4%	3.6%	0.0%
	3-6 PM	1.6%	0.2%	0.0%	8.5%	9.9%	4.3%	4.3%	16.5%	2.1%	0.2%	2.8%	2.5%	13.6%	7.1%	5.6%	0.7%	5.2%	0.2%
	6-9 PM	1.4%	0.0%	0.1%	12.1%	11.5%	3.2%	3.2%	18.5%	0.8%	0.1%	3.3%	3.4%	12.8%	9.0%	5.5%	0.3%	4.6%	0.1%
	9-Midnight	1.4%	0.4%	0.0%	7.5%	10.2%	3.8%	3.8%	16.7%	1.9%	0.3%	1.5%	2.8%	14.7%	6.4%	6.8%	0.4%	5.2%	0.2%
Lighting Conditions	Dark - Lighted	3.3%	0.7%	0.3%	14.2%	17.8%	6.5%	6.5%	29.3%	2.8%	0.2%	1.9%	3.9%	26.5%	10.9%	11.3%	0.7%	8.8%	0.5%
	Dark - Not Lighted	0.2%	0.0%	0.0%	4.7%	4.5%	3.6%	3.6%	9.9%	0.5%	0.2%	3.7%	2.5%	4.3%	4.7%	3.0%	0.4%	2.5%	0.0%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.2%	0.0%	0.0%	1.1%	1.1%	0.4%	0.4%	1.8%	0.1%	0.0%	0.2%	0.4%	1.3%	0.8%	0.4%	0.0%	0.6%	0.0%
	Daylight	3.4%	0.4%	0.0%	25.7%	28.3%	11.6%	11.6%	46.9%	3.7%	0.3%	7.8%	7.5%	35.6%	19.4%	17.1%	1.2%	13.1%	0.2%
	Dusk	0.4%	0.1%	0.0%	2.4%	2.4%	0.8%	0.8%	3.9%	0.2%	0.1%	0.7%	0.6%	2.9%	1.9%	1.0%	0.3%	1.1%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Attachment B-7
MetroPlan Orlando Region
Percent of All KSI Crashes Involving Bicyclist 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	35.4%	40.9%	23.7%	31.2%	59.6%	9.2%	13.2%	21.8%	54.8%	9.5%	0.6%	34.3%	22.6%	22.9%	3.7%	0.9%	15.6%	26.2%	30.9%	42.9%	0.0%	0.3%	0.3%	37.0%	5.5%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Alcohol Related	Y	0.0%	1.2%	0.3%	0.0%	1.5%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.6%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.7%	1.1%	0.0%	0.0%	0.0%	0.6%	0.0%
	N	35.4%	39.7%	23.4%	31.2%	58.1%	9.2%	13.2%	21.8%	53.2%	9.5%	0.6%	33.6%	22.0%	22.6%	3.7%	0.9%	15.6%	26.2%	30.2%	41.8%	0.0%	0.3%	0.3%	36.4%	5.5%
Hit and Run	Y	7.1%	7.1%	4.6%	5.5%	11.0%	2.1%	2.2%	4.6%	9.8%	2.2%	0.0%	7.6%	3.1%	4.6%	0.6%	0.0%	2.8%	4.4%	5.8%	8.7%	0.0%	0.0%	0.0%	8.0%	0.6%
	N	28.3%	33.8%	19.1%	25.7%	48.6%	7.0%	11.1%	17.2%	44.9%	7.4%	0.6%	26.6%	19.6%	18.3%	3.1%	0.9%	12.8%	21.8%	25.1%	34.2%	0.0%	0.3%	0.3%	29.1%	4.9%
Aggressive Driving	Y	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	N	35.1%	40.9%	23.7%	30.9%	59.6%	9.2%	13.2%	21.5%	54.8%	9.5%	0.6%	34.3%	22.6%	22.6%	3.7%	0.9%	15.6%	26.2%	30.5%	42.9%	0.0%	0.3%	0.3%	37.0%	5.5%
Distracted Driving	Y	5.2%	8.0%	4.6%	4.0%	10.4%	3.4%	1.2%	3.4%	11.7%	1.5%	0.0%	5.8%	4.3%	4.6%	1.2%	0.0%	1.8%	3.3%	6.9%	8.7%	0.0%	0.3%	0.0%	7.3%	1.5%
	N	30.2%	32.9%	19.1%	27.2%	49.2%	5.8%	12.0%	18.5%	43.1%	8.0%	0.6%	28.4%	18.3%	18.3%	2.4%	0.9%	13.8%	22.9%	24.0%	34.2%	0.0%	0.0%	0.3%	29.7%	4.0%
Intersection Related	Y	17.8%	15.4%	9.2%	12.8%	26.0%	3.4%	5.8%	12.9%	19.7%	4.0%	0.0%	11.6%	8.6%	12.8%	1.8%	0.3%	7.0%	13.8%	12.0%	15.6%	0.0%	0.0%	0.0%	15.3%	1.5%
	N	17.5%	25.5%	14.5%	18.3%	33.6%	5.8%	7.4%	8.9%	35.1%	5.5%	0.6%	22.6%	14.1%	10.1%	1.8%	0.6%	8.6%	12.4%	18.9%	27.3%	0.0%	0.3%	0.3%	21.7%	4.0%
Drug Related	Y	0.3%	0.9%	0.3%	0.3%	1.2%	0.0%	0.3%	0.0%	1.2%	0.0%	0.0%	0.6%	0.3%	0.3%	0.0%	0.0%	0.3%	0.0%	0.7%	0.7%	0.0%	0.0%	0.0%	0.6%	0.0%
	N	35.1%	40.0%	23.4%	30.9%	58.4%	9.2%	12.9%	21.8%	53.5%	9.5%	0.6%	33.6%	22.3%	22.6%	3.7%	0.9%	15.3%	26.2%	30.2%	42.2%	0.0%	0.3%	0.3%	36.4%	5.5%
Aging Driver	Y	3.7%	3.4%	2.8%	3.1%	6.7%	0.3%	1.5%	2.8%	4.6%	0.9%	0.0%	3.7%	2.1%	2.8%	0.0%	0.0%	1.5%	2.5%	3.3%	4.4%	0.0%	0.0%	0.0%	2.8%	0.9%
	N	31.7%	37.5%	20.9%	28.1%	52.9%	8.9%	11.7%	19.1%	50.2%	8.6%	0.6%	30.6%	20.5%	20.2%	3.7%	0.9%	14.1%	23.6%	27.6%	38.5%	0.0%	0.3%	0.3%	34.3%	4.6%
Teenage Driver	Y	1.8%	3.1%	1.5%	1.5%	4.3%	0.9%	0.3%	2.2%	3.4%	0.6%	0.0%	1.8%	2.1%	1.8%	0.3%	0.0%	0.6%	1.5%	3.3%	2.5%	0.0%	0.0%	0.0%	3.1%	0.6%
	N	33.5%	37.8%	22.2%	29.7%	55.4%	8.3%	12.9%	19.7%	51.4%	8.9%	0.6%	32.4%	20.5%	21.1%	3.4%	0.9%	15.0%	24.7%	27.6%	40.4%	0.0%	0.3%	0.3%	33.9%	4.9%
Day of the Week	Monday	6.5%	5.8%	4.9%	5.2%	9.8%	2.1%	2.2%	3.7%	9.8%	1.5%	0.0%	5.8%	4.0%	3.7%	0.9%	0.0%	2.8%	3.6%	5.8%	7.6%	0.0%	0.0%	0.0%	7.0%	0.6%
	Tuesday	6.2%	5.2%	4.0%	5.5%	8.9%	0.9%	3.1%	2.5%	8.0%	1.5%	0.3%	5.2%	3.1%	3.1%	0.3%	0.3%	3.4%	3.3%	4.7%	6.2%	0.0%	0.3%	0.0%	6.1%	0.0%
	Wednesday	5.2%	5.2%	3.1%	3.1%	9.8%	0.9%	1.2%	4.0%	7.7%	0.6%	0.0%	4.0%	3.1%	4.0%	0.9%	0.0%	1.8%	5.5%	3.3%	5.5%	0.0%	0.0%	0.0%	5.8%	0.6%
	Thursday	4.0%	6.8%	3.4%	3.7%	9.2%	1.2%	0.9%	3.1%	7.7%	2.2%	0.3%	6.4%	2.8%	3.4%	0.0%	0.3%	1.2%	3.3%	5.8%	6.2%	0.0%	0.0%	0.0%	6.4%	0.6%
	Friday	6.2%	5.2%	3.1%	5.8%	6.4%	2.1%	2.2%	4.3%	6.5%	1.5%	0.0%	4.6%	2.8%	3.7%	0.9%	0.0%	2.4%	5.1%	4.4%	4.7%	0.0%	0.0%	0.3%	4.3%	0.9%
	Saturday	3.4%	7.7%	3.4%	4.6%	8.6%	1.5%	1.2%	2.2%	10.2%	0.9%	0.0%	5.5%	4.6%	2.1%	0.0%	0.3%	2.1%	2.2%	4.7%	7.6%	0.0%	0.0%	0.0%	4.9%	1.5%
	Sunday	4.0%	4.9%	1.8%	3.4%	7.0%	0.3%	2.5%	2.2%	4.9%	1.2%	0.0%	2.8%	2.4%	3.1%	0.6%	0.0%	1.8%	3.3%	2.2%	5.1%	0.0%	0.0%	0.0%	2.4%	1.2%
Time of Day	12-3 AM	1.2%	1.8%	0.9%	1.2%	2.4%	0.3%	0.3%	0.9%	1.5%	1.2%	0.0%	1.5%	1.2%	0.6%	0.0%	0.0%	0.6%	0.7%	1.5%	1.8%	0.0%	0.0%	0.0%	0.9%	0.0%
	3-6 AM	1.8%	0.9%	2.2%	2.1%	2.1%	0.6%	0.6%	0.9%	2.8%	0.6%	0.0%	2.4%	0.6%	0.6%	0.3%	0.0%	0.9%	1.1%	0.7%	2.9%	0.0%	0.0%	0.0%	1.8%	0.0%
	6-9 AM	6.5%	6.8%	3.4%	4.3%	10.7%	1.5%	1.8%	4.0%	9.2%	1.2%	0.3%	4.6%	4.0%	4.6%	0.9%	0.0%	2.4%	4.7%	5.8%	6.2%	0.0%	0.3%	0.0%	6.1%	0.9%
	9-Noon	4.6%	4.6%	4.6%	3.7%	8.9%	1.2%	1.5%	4.0%	7.7%	0.6%	0.0%	4.6%	4.0%	3.1%	0.6%	0.3%	1.2%	5.5%	1.8%	7.3%	0.0%	0.0%	0.0%	6.1%	0.6%
	Noon-3 PM	4.9%	5.8%	3.1%	3.7%	8.9%	1.5%	2.5%	3.4%	6.5%	1.5%	0.0%	5.2%	2.8%	3.1%	0.6%	0.0%	2.4%	2.9%	4.0%	6.9%	0.0%	0.0%	0.0%	5.8%	0.3%
	3-6 PM	6.5%	6.2%	4.0%	6.7%	9.8%	0.3%	3.4%	3.4%	8.6%	1.2%	0.0%	5.5%	2.8%	3.7%	0.3%	0.3%	4.3%	3.6%	4.7%	6.5%	0.0%	0.0%	0.0%	5.8%	0.9%
	6-9 PM	5.8%	9.2%	3.1%	5.5%	10.1%	2.4%	1.8%	3.1%	12.0%	1.2%	0.0%	5.5%	4.6%	4.9%	0.3%	0.3%	2.4%	4.4%	7.6%	6.5%	0.0%	0.0%	0.0%	6.4%	0.9%
	9-Midnight	4.0%	5.5%	2.5%	4.0%	6.7%	1.2%	1.2%	2.2%	6.5%	1.8%	0.3%	4.9%	2.8%	2.4%	0.6%	0.0%	1.2%	3.3%	4.7%	4.7%	0.0%	0.0%	0.3%	4.0%	1.8%
Lighting Conditions	Dark - Lighted	4.9%	9.2%	6.2%	5.2%	12.8%	2.1%	1.2%	4.0%	12.6%	2.5%	0.0%	9.5%	4.9%	2.8%	0.9%	0.3%	1.8%	2.9%	8.4%	10.5%	0.0%	0.0%	0.3%	6.4%	1.5%
	Dark - Not Lighted	4.6%	4.3%	2.2%	4.9%	4.9%	1.2%	0.6%	1.8%	6.2%	1.8%	0.6%	3.7%	2.4%	3.1%	0.6%	0.0%	1.2%	4.4%	2.9%	4.4%	0.0%	0.0%	0.0%	4.6%	0.6%
	Dark - Unknown Lighting	0.3%	0.3%	0.0%	0.3%	0.3%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	1.5%	1.5%	0.0%	0.6%	1.8%	0.6%	0.3%	1.2%	1.2%	0.3%	0.0%	0.0%	1.5%	1.2%	0.3%	0.0%	0.0%	1.5%	1.5%	0.7%	0.0%	0.3%	0.0%	0.9%	0.0%
	Daylight	23.1%	24.3%	14.8%	19.9%	37.6%	4.9%	10.5%	14.5%	32.3%	4.9%	0.0%	20.2%	12.8%	15.0%	1.8%	0.6%	11.9%	16.7%	16.7%	26.2%	0.0%	0.0%	0.0%	23.9%	3.4%
	Dusk	0.6%	0.9%	0.3%	0.3%	1.2%	0.3%	0.3%	0.0%	1.5%	0.0%	0.0%	0.3%	0.6%	0.6%	0.0%	0.0%	0.3%	0.4%	1.1%	0.4%	0.0%	0.0%	0.0%	0.6%	0.0%
	Other	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.3%	0.0%
	Unknown	0.3%	0.3%	0.0%	0.0%	0.6%	0.0%	0.0%	0.3%	0.3%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.4%	0.0%	0.4%	0.0%	0.0%	0.0%	0.3%	0.0%

Attachment B-7
MetroPlan Orlando Region
Percent of All KSI Crashes Involving Bicyclist 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	6.1%	0.0%	0.0%	50.8%	64.6%	11.4%	24.0%	90.2%	8.0%	1.8%	10.2%	9.2%	80.6%	41.2%	30.8%	0.9%	25.8%	1.2%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alcohol Related	Y	0.0%	0.0%	0.0%	0.9%	0.9%	0.3%	0.3%	1.2%	0.3%	0.0%	0.3%	0.0%	1.2%	0.9%	0.3%	0.0%	0.3%	0.0%
	N	6.1%	0.0%	0.0%	49.8%	63.7%	11.1%	23.7%	88.9%	7.7%	1.8%	9.8%	9.2%	79.4%	40.3%	30.5%	0.9%	25.5%	1.2%
Hit and Run	Y	1.2%	0.0%	0.0%	8.9%	12.0%	4.9%	4.9%	17.5%	0.9%	0.3%	2.5%	2.2%	14.2%	8.3%	5.2%	0.0%	4.9%	0.3%
	N	4.9%	0.0%	0.0%	41.9%	52.6%	19.1%	19.1%	72.6%	7.1%	1.5%	7.7%	7.1%	66.5%	32.9%	25.5%	0.9%	20.9%	0.9%
Aggressive Driving	Y	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%
	N	6.1%	0.0%	0.0%	50.5%	64.6%	23.7%	23.7%	89.8%	8.0%	1.8%	10.2%	9.2%	80.3%	40.9%	30.8%	0.9%	25.8%	1.2%
Distracted Driving	Y	0.6%	0.0%	0.0%	8.0%	12.0%	4.0%	4.0%	15.7%	1.5%	0.6%	1.5%	0.6%	15.7%	6.8%	4.0%	0.3%	6.5%	0.3%
	N	5.5%	0.0%	0.0%	42.8%	52.6%	20.0%	20.0%	74.5%	6.5%	1.2%	8.6%	8.6%	64.9%	34.5%	26.8%	0.6%	19.4%	0.9%
Intersection Related	Y	2.4%	0.0%	0.0%	22.9%	26.8%	10.5%	10.5%	37.5%	4.3%	0.6%	3.4%	3.4%	35.7%	19.4%	12.0%	0.9%	9.8%	0.3%
	N	3.7%	0.0%	0.0%	27.8%	37.8%	13.5%	13.5%	52.6%	3.7%	1.2%	6.8%	5.8%	44.9%	21.8%	18.8%	0.0%	16.0%	0.9%
Drug Related	Y	0.0%	0.0%	0.0%	0.9%	0.9%	0.3%	0.3%	1.2%	0.3%	0.0%	0.3%	0.0%	1.2%	0.9%	0.3%	0.0%	0.3%	0.0%
	N	6.1%	0.0%	0.0%	49.8%	63.7%	23.7%	23.7%	88.9%	7.7%	1.8%	9.8%	9.2%	79.4%	40.3%	30.5%	0.9%	25.5%	1.2%
Aging Driver	Y	0.9%	0.0%	0.0%	5.5%	6.8%	1.5%	1.5%	8.9%	0.9%	0.0%	0.3%	0.3%	9.2%	4.3%	1.8%	0.3%	3.4%	0.0%
	N	5.2%	0.0%	0.0%	45.3%	57.8%	22.5%	22.5%	81.2%	7.1%	1.8%	9.8%	8.9%	71.4%	36.9%	28.9%	0.6%	22.5%	1.2%
Teenage Driver	Y	0.0%	0.0%	0.0%	3.1%	3.4%	1.5%	1.5%	4.9%	1.5%	0.0%	0.3%	0.0%	6.2%	1.8%	2.2%	0.3%	1.8%	0.3%
	N	6.1%	0.0%	0.0%	47.7%	61.2%	22.5%	22.5%	85.2%	6.5%	1.8%	9.8%	9.2%	74.5%	39.4%	28.6%	0.6%	24.0%	0.9%
Day of the Week	Monday	0.6%	0.0%	0.0%	8.9%	10.4%	2.7%	2.7%	14.2%	2.2%	0.9%	1.2%	1.8%	14.2%	8.6%	2.5%	0.3%	5.2%	0.6%
	Tuesday	0.9%	0.0%	0.0%	8.0%	7.9%	4.9%	4.9%	15.1%	0.3%	0.0%	1.5%	2.2%	11.7%	5.8%	6.2%	0.0%	3.1%	0.3%
	Wednesday	0.0%	0.0%	0.0%	7.3%	7.4%	4.1%	4.1%	12.6%	0.3%	0.6%	1.2%	1.2%	11.1%	6.5%	4.3%	0.0%	2.5%	0.3%
	Thursday	0.9%	0.0%	0.0%	6.1%	6.0%	4.6%	4.6%	12.3%	1.5%	0.3%	2.5%	1.8%	9.8%	4.0%	6.5%	0.3%	3.4%	0.0%
	Friday	0.9%	0.0%	0.0%	8.0%	8.5%	1.6%	1.6%	12.6%	1.8%	0.0%	1.5%	1.2%	11.7%	6.2%	4.3%	0.0%	4.0%	0.0%
	Saturday	1.8%	0.0%	0.0%	6.4%	9.6%	2.2%	2.2%	13.2%	1.2%	0.0%	1.5%	0.9%	12.0%	5.8%	3.1%	0.3%	5.2%	0.0%
	Sunday	0.9%	0.0%	0.0%	6.1%	7.7%	1.1%	1.1%	10.2%	0.6%	0.0%	0.6%	0.0%	10.2%	4.3%	4.0%	0.0%	2.5%	0.0%
Time of Day	12-3 AM	0.6%	0.0%	0.0%	2.4%	2.5%	0.3%	0.3%	3.7%	0.3%	0.0%	0.3%	0.3%	3.4%	1.5%	1.2%	0.0%	1.2%	0.0%
	3-6 AM	0.0%	0.0%	0.0%	3.1%	2.5%	1.4%	1.4%	4.3%	0.3%	0.3%	0.3%	0.9%	3.7%	1.8%	1.5%	0.6%	0.3%	0.6%
	6-9 AM	0.3%	0.0%	0.0%	8.9%	9.3%	4.6%	4.6%	15.7%	0.6%	0.3%	2.2%	2.5%	12.0%	6.5%	4.9%	0.0%	4.9%	0.3%
	9-Noon	0.6%	0.0%	0.0%	6.4%	8.5%	2.5%	2.5%	12.0%	1.5%	0.3%	0.3%	0.6%	12.9%	4.9%	4.3%	0.0%	4.3%	0.3%
	Noon-3 PM	1.2%	0.0%	0.0%	6.7%	7.9%	2.5%	2.5%	12.0%	1.5%	0.3%	0.6%	1.5%	11.7%	6.2%	4.0%	0.0%	3.7%	0.0%
	3-6 PM	0.6%	0.0%	0.0%	9.5%	9.3%	3.6%	3.6%	15.1%	1.2%	0.3%	1.5%	1.8%	13.2%	6.8%	7.7%	0.3%	1.8%	0.0%
	6-9 PM	1.2%	0.0%	0.0%	9.5%	9.6%	4.9%	4.9%	16.3%	1.5%	0.3%	2.2%	0.3%	15.7%	8.6%	4.3%	0.0%	5.2%	0.0%
	9-Midnight	1.5%	0.0%	0.0%	4.3%	7.9%	1.6%	1.6%	11.1%	0.9%	0.0%	2.8%	1.2%	8.0%	4.9%	2.8%	0.0%	4.3%	0.0%
Lighting Conditions	Dark - Lighted	2.8%	0.0%	0.0%	9.2%	11.2%	4.4%	4.4%	19.1%	0.9%	0.3%	1.5%	0.9%	17.8%	7.7%	6.5%	0.3%	5.5%	0.3%
	Dark - Not Lighted	0.3%	0.0%	0.0%	5.5%	6.8%	1.6%	1.6%	9.5%	1.2%	0.3%	2.8%	1.8%	6.5%	4.6%	2.8%	0.3%	3.1%	0.3%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.6%	0.3%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.3%	0.0%	0.0%	0.3%
	Dawn	0.0%	0.0%	0.0%	1.8%	2.5%	0.0%	0.0%	2.8%	0.3%	0.0%	0.9%	0.3%	1.8%	1.8%	0.0%	0.0%	1.2%	0.0%
	Daylight	3.1%	0.0%	0.0%	32.1%	35.0%	14.2%	14.2%	55.4%	5.5%	1.2%	4.3%	6.2%	51.7%	25.8%	20.9%	0.3%	14.8%	0.3%
	Dusk	0.0%	0.0%	0.0%	1.2%	1.1%	0.5%	0.5%	1.8%	0.0%	0.0%	0.0%	0.0%	1.8%	0.6%	0.0%	0.0%	1.2%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%	0.3%	0.6%	0.0%	0.0%	0.6%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%

Attachment B-8
MetroPlan Orlando Region
Percent of All KSI Crashes Involving Pedestrians

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	26.1%	37.1%	36.9%	28.2%	61.2%	10.6%	10.4%	18.6%	59.3%	11.6%	0.1%	45.2%	24.7%	16.1%	2.3%	0.1%	11.6%	17.8%	31.1%	51.1%	0.0%	0.5%	0.0%	44.2%	3.9%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Alcohol Related	Y	0.9%	1.4%	0.3%	1.3%	1.1%	0.2%	0.3%	0.7%	1.2%	0.3%	0.0%	1.0%	0.7%	0.4%	0.2%	0.0%	0.2%	0.8%	1.2%	0.6%	0.0%	0.1%	0.0%	1.0%	0.1%
	N	25.2%	35.7%	36.5%	26.9%	60.2%	10.3%	10.0%	17.8%	58.1%	11.3%	0.1%	44.2%	24.0%	15.6%	2.1%	0.1%	11.4%	17.0%	29.9%	50.5%	0.0%	0.4%	0.0%	43.3%	3.8%
Hit and Run	Y	6.1%	6.5%	6.8%	6.0%	11.6%	1.7%	2.6%	3.6%	11.2%	2.0%	0.0%	8.3%	5.4%	2.2%	0.3%	0.0%	3.1%	3.0%	6.3%	9.1%	0.0%	0.1%	0.0%	7.2%	0.5%
	N	20.0%	30.6%	30.0%	22.2%	49.6%	8.9%	7.8%	15.0%	48.1%	9.6%	0.1%	36.9%	19.3%	13.8%	2.0%	0.1%	8.6%	14.8%	24.8%	42.0%	0.0%	0.4%	0.0%	37.1%	3.4%
Aggressive Driving	Y	0.6%	0.6%	0.7%	0.7%	1.2%	0.1%	0.4%	0.4%	1.1%	0.1%	0.0%	1.1%	0.3%	0.2%	0.0%	0.0%	0.4%	0.2%	0.6%	1.0%	0.0%	0.0%	0.0%	0.7%	0.0%
	N	25.4%	36.4%	36.1%	27.5%	60.1%	10.5%	9.9%	18.2%	58.2%	11.5%	0.1%	44.1%	24.4%	15.8%	2.3%	0.1%	11.2%	17.6%	30.5%	50.1%	0.0%	0.5%	0.0%	43.5%	3.9%
Distracted Driving	Y	3.5%	3.0%	2.8%	3.0%	5.8%	0.7%	1.3%	1.8%	5.9%	0.3%	0.0%	3.3%	2.0%	1.9%	0.3%	0.0%	2.0%	2.2%	2.5%	3.8%	0.0%	0.1%	0.0%	3.2%	0.3%
	N	22.5%	34.1%	34.1%	25.2%	55.4%	9.8%	9.1%	16.8%	53.4%	11.3%	0.1%	41.9%	22.7%	14.1%	2.0%	0.1%	9.6%	15.7%	28.6%	47.2%	0.0%	0.4%	0.0%	41.1%	3.6%
Intersection Related	Y	8.4%	10.0%	10.3%	5.5%	19.1%	3.9%	2.9%	6.5%	16.1%	3.2%	0.0%	11.1%	7.5%	5.4%	0.8%	0.1%	3.6%	6.1%	7.4%	14.6%	0.0%	0.1%	0.0%	11.4%	1.5%
	N	17.6%	27.0%	26.6%	22.7%	42.1%	6.7%	7.5%	12.1%	43.2%	8.4%	0.1%	34.1%	17.2%	10.7%	1.5%	0.0%	8.0%	11.7%	23.7%	36.5%	0.0%	0.4%	0.0%	32.8%	2.4%
Drug Related	Y	0.3%	0.9%	0.5%	0.6%	0.8%	0.2%	0.1%	0.2%	1.2%	0.2%	0.0%	0.6%	0.6%	0.1%	0.1%	0.0%	0.2%	0.1%	0.7%	0.8%	0.0%	0.0%	0.0%	0.5%	0.1%
	N	25.7%	36.2%	36.3%	27.6%	60.4%	10.3%	10.3%	18.4%	58.1%	11.4%	0.1%	44.6%	24.1%	15.9%	2.2%	0.1%	11.4%	17.7%	30.4%	50.2%	0.0%	0.5%	0.0%	43.7%	3.8%
Aging Driver	Y	2.2%	3.1%	2.6%	2.3%	5.1%	0.6%	0.9%	1.5%	4.7%	0.9%	0.0%	3.6%	2.3%	1.1%	0.1%	0.0%	1.0%	1.6%	2.4%	4.1%	0.0%	0.0%	0.0%	3.8%	0.2%
	N	23.8%	34.0%	34.3%	25.9%	56.2%	9.9%	9.5%	17.1%	54.6%	10.8%	0.1%	41.6%	22.4%	15.0%	2.2%	0.1%	10.7%	16.3%	28.7%	47.0%	0.0%	0.5%	0.0%	40.4%	3.7%
Teenage Driver	Y	1.0%	1.4%	2.4%	1.4%	3.1%	0.2%	0.5%	1.0%	2.6%	0.6%	0.0%	2.0%	1.6%	0.4%	0.1%	0.0%	0.5%	0.6%	0.5%	3.6%	0.0%	0.0%	0.0%	2.3%	0.0%
	N	25.1%	35.7%	34.5%	26.8%	58.2%	10.3%	9.8%	17.6%	56.7%	11.0%	0.1%	43.2%	23.1%	15.6%	2.2%	0.1%	11.1%	17.2%	30.6%	47.5%	0.0%	0.5%	0.0%	41.9%	3.9%
Day of the Week	Monday	3.8%	4.3%	4.3%	4.0%	7.2%	1.2%	1.7%	1.9%	6.9%	1.8%	0.0%	5.4%	3.0%	2.0%	0.2%	0.0%	1.8%	2.2%	3.7%	6.1%	0.0%	0.0%	0.0%	5.7%	0.6%
	Tuesday	4.2%	5.1%	6.0%	4.6%	9.1%	1.6%	1.5%	3.1%	9.0%	1.6%	0.1%	6.8%	3.5%	2.7%	0.4%	0.0%	1.9%	3.3%	3.6%	8.3%	0.0%	0.0%	0.0%	7.7%	0.5%
	Wednesday	4.4%	4.9%	5.4%	4.9%	8.2%	1.8%	2.1%	2.6%	8.1%	1.9%	0.0%	6.7%	2.6%	2.5%	0.7%	0.0%	2.3%	3.1%	3.9%	7.2%	0.0%	0.1%	0.0%	5.7%	1.0%
	Thursday	3.2%	5.4%	6.2%	2.7%	10.3%	1.8%	1.1%	3.2%	8.9%	1.7%	0.0%	7.6%	3.2%	2.3%	0.3%	0.1%	1.4%	2.2%	4.3%	8.7%	0.0%	0.1%	0.0%	7.2%	0.4%
	Friday	3.8%	6.6%	5.4%	4.3%	10.2%	1.5%	1.1%	3.1%	9.9%	1.8%	0.0%	7.0%	5.1%	2.2%	0.4%	0.0%	1.4%	3.5%	5.1%	8.0%	0.0%	0.1%	0.0%	6.1%	0.7%
	Saturday	3.6%	6.1%	4.8%	4.6%	8.7%	1.1%	2.0%	2.4%	9.0%	1.2%	0.0%	6.2%	4.1%	2.0%	0.0%	0.0%	2.0%	1.6%	5.9%	6.6%	0.0%	0.0%	0.0%	5.4%	0.4%
	Sunday	3.0%	4.6%	4.7%	3.0%	7.5%	1.7%	0.9%	2.4%	7.5%	1.6%	0.0%	5.6%	3.3%	2.2%	0.2%	0.0%	0.8%	2.0%	4.5%	6.2%	0.0%	0.2%	0.0%	6.4%	0.2%
Time of Day	12-3 AM	3.0%	3.1%	4.3%	3.7%	5.0%	1.7%	1.2%	1.8%	6.1%	1.3%	0.0%	5.3%	1.9%	1.7%	0.2%	0.0%	1.3%	1.9%	3.1%	5.3%	0.0%	0.0%	0.0%	5.1%	0.3%
	3-6 AM	2.1%	2.6%	2.8%	2.0%	3.8%	1.6%	0.5%	1.5%	4.4%	1.1%	0.0%	3.6%	1.8%	1.2%	0.1%	0.0%	0.7%	1.2%	2.6%	3.7%	0.0%	0.0%	0.0%	3.5%	0.2%
	6-9 AM	2.8%	3.7%	3.8%	2																					

Attachment B-8
MetroPlan Orlando Region
Percent of All KSI Crashes Involving Pedestrians

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	11.3%	1.0%	0.7%	38.3%	64.2%	12.9%	22.9%	88.1%	10.5%	1.4%	6.9%	10.6%	82.5%	36.9%	30.8%	3.0%	28.6%	0.7%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alcohol Related	Y	0.2%	0.0%	0.0%	1.2%	1.7%	0.2%	0.6%	2.2%	0.2%	0.1%	0.4%	0.4%	1.7%	1.4%	0.9%	0.0%	0.3%	0.0%
	N	11.1%	1.0%	0.7%	37.2%	62.5%	12.7%	22.2%	85.9%	10.3%	1.3%	6.5%	10.1%	80.8%	35.5%	29.9%	3.0%	28.3%	0.7%
Hit and Run	Y	2.5%	0.2%	0.3%	8.4%	13.7%	4.1%	4.1%	18.3%	1.2%	0.0%	1.1%	2.5%	15.9%	9.2%	4.1%	0.4%	5.6%	0.2%
	N	8.8%	0.7%	0.4%	29.9%	50.5%	18.8%	18.8%	69.9%	9.3%	1.4%	5.9%	8.1%	66.6%	27.7%	26.7%	2.6%	23.1%	0.5%
Aggressive Driving	Y	0.4%	0.1%	0.0%	0.7%	1.0%	0.6%	0.6%	1.6%	0.4%	0.0%	0.2%	0.1%	1.7%	1.1%	0.5%	0.0%	0.4%	0.0%
	N	10.9%	0.8%	0.7%	37.6%	63.2%	22.2%	22.2%	86.5%	10.0%	1.4%	6.7%	10.5%	80.8%	35.8%	30.2%	3.0%	28.2%	0.7%
Distracted Driving	Y	1.1%	0.1%	0.0%	4.8%	6.8%	1.8%	1.8%	8.9%	0.4%	0.0%	1.0%	0.9%	7.5%	4.1%	2.6%	0.2%	2.4%	0.1%
	N	10.2%	0.8%	0.7%	33.6%	57.4%	21.0%	21.0%	79.3%	10.0%	1.4%	6.0%	9.7%	75.0%	32.8%	28.2%	2.8%	26.3%	0.6%
Intersection Related	Y	3.0%	0.4%	0.6%	11.5%	18.7%	5.3%	5.3%	24.9%	3.5%	0.3%	1.1%	3.0%	24.7%	9.9%	8.3%	0.5%	9.8%	0.1%
	N	8.3%	0.5%	0.1%	26.8%	45.5%	17.5%	17.5%	63.2%	6.9%	1.1%	5.9%	7.6%	57.8%	26.9%	22.4%	2.5%	18.8%	0.6%
Drug Related	Y	0.3%	0.0%	0.0%	0.7%	1.3%	0.2%	0.2%	1.4%	0.2%	0.1%	0.2%	0.2%	1.3%	0.5%	0.5%	0.0%	0.6%	0.0%
	N	11.0%	1.0%	0.7%	37.6%	62.9%	22.6%	22.6%	86.8%	10.3%	1.3%	6.7%	10.4%	81.2%	36.3%	30.2%	3.0%	28.0%	0.7%
Aging Driver	Y	1.0%	0.0%	0.0%	3.1%	4.9%	2.0%	2.0%	7.2%	0.5%	0.2%	0.3%	1.1%	6.5%	3.1%	2.1%	0.1%	2.4%	0.2%
	N	10.3%	1.0%	0.7%	35.3%	59.3%	20.8%	20.8%	81.0%	9.9%	1.2%	6.6%	9.5%	76.0%	33.8%	28.6%	2.9%	26.3%	0.5%
Teenage Driver	Y	0.3%	0.0%	0.0%	2.0%	3.3%	0.9%	0.9%	4.2%	0.3%	0.2%	0.2%	0.7%	3.7%	1.5%	1.4%	0.3%	1.4%	0.1%
	N	11.0%	1.0%	0.7%	36.3%	60.9%	22.0%	22.0%	84.0%	10.1%	1.2%	6.7%	9.8%	78.7%	35.4%	29.4%	2.7%	27.2%	0.6%
Day of the Week	Monday	1.7%	0.0%	0.0%	4.3%	7.3%	2.0%	2.0%	10.5%	1.7%	0.2%	0.6%	1.9%	9.8%	4.4%	4.3%	0.4%	3.3%	0.0%
	Tuesday	1.2%	0.0%	0.0%	5.9%	8.6%	3.9%	3.9%	14.1%	1.1%	0.1%	1.3%	1.5%	12.5%	6.5%	4.4%	0.3%	4.0%	0.1%
	Wednesday	1.9%	0.0%	0.0%	6.2%	9.3%	2.1%	2.1%	12.8%	1.7%	0.2%	1.2%	1.6%	12.0%	6.1%	3.4%	0.2%	4.9%	0.1%
	Thursday	1.9%	0.4%	0.0%	4.9%	7.1%	4.2%	4.2%	12.3%	2.2%	0.3%	0.9%	1.7%	12.3%	4.9%	4.2%	0.9%	4.8%	0.1%
	Friday	2.5%	0.1%	0.1%	6.3%	9.9%	2.7%	2.7%	13.9%	1.8%	0.2%	0.7%	1.5%	13.7%	5.7%	5.6%	0.2%	4.5%	0.0%
	Saturday	1.5%	0.1%	0.4%	6.5%	9.0%	3.1%	3.1%	13.5%	1.0%	0.1%	1.1%	1.2%	12.3%	5.3%	4.8%	0.4%	3.7%	0.2%
	Sunday	0.6%	0.3%	0.2%	4.1%	7.2%	2.7%	2.7%	11.1%	1.0%	0.2%	1.2%	1.2%	9.9%	4.0%	4.2%	0.5%	3.4%	0.2%
Time of Day	12-3 AM	1.3%	0.2%	0.1%	3.4%	6.8%	1.3%	1.3%	9.0%	1.2%	0.2%	1.2%	1.0%	8.2%	4.1%	3.1%	0.0%	3.1%	0.1%
	3-6 AM	0.7%	0.1%	0.1%	2.7%	4.7%	1.2%	1.2%	6.3%	1.1%	0.1%	1.0%	0.6%	5.9%	2.9%	2.0%	0.0%	2.6%	0.0%
	6-9 AM	1.3%	0.4%	0.0%	3.9%	6.3%	1.7%	1.7%	8.9%	1.4%	0.1%	0.5%	1.7%	8.1%	3.3%	3.8%	0.4%	2.8%	0.0%
	9-Noon	0.8%	0.0%	0.1%	2.9%	4.2%	1.1%	1.1%	5.8%	0.3%	0.0%	0.3%	0.3%	5.4%	2.1%	1.5%	0.3%	2.1%	0.0%
	Noon-3 PM	0.7%	0.0%	0.1%	3.1%	4.4%	1.1%	1.1%	6.2%	0.4%	0.1%	0.4%	1.1%	5.2%	3.0%	1.9%	0.0%	1.7%	0.1%
	3-6 PM	1.3%	0.0%	0.0%	5.3%	7.0%	1.7%	1.7%	9.6%	0.6%	0.1%	0.7%	0.7%	8.9%	4.9%	2.5%	0.5%	2.5%	0.0%
	6-9 PM	3.2%	0.1%	0.1%	9.3%	13.8%	6.6%	6.6%	23.1%	3.1%	0.2%	1.1%	2.5%	22.9%	8.8%	7.8%	1.0%	8.7%	0.2%
	9-Midnight	2.0%	0.1%	0.2%	7.8%	11.3%	6.2%	6.2%	19.3%	2.4%	0.5%	1.7%	2.7%	17.8%	7.8%	8.1%	0.7%	5.2%	0.3%
Lighting Conditions	Dark - Lighted	6.3%	0.7%	0.5%	14.3%	26.4%	9.3%	9.3%	40.0%	5.4%	0.9%	1.7%	3.0%	41.6%	14.6%	13.9%	1.6%	15.6%	0.5%
	Dark - Not Lighted	0.8%	0.0%	0.0%	7.6%	9.0%	5.5%	5.5%	16.1%	2.2%	0.3%	3.2%	3.1%	12.4%	7.7%	7.1%	0.5%	3.3%	0.1%
	Dark - Unknown Lighting	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%
	Dawn	0.0%	0.1%	0.0%	1.1%	1.4%	0.4%	0.4%	1.8%	0.5%	0.0%	0.2%	0.5%	1.6%	0.6%	0.9%	0.0%	0.9%	0.0%
	Daylight	3.6%	0.1%	0.2%	13.4%	19.4%	4.7%	4.7%	26.9%	1.8%	0.2%	1.7%	3.1%	24.1%	12.3%	8.0%	0.9%	7.7%	0.1%
	Dusk	0.4%	0.0%	0.0%	1.7%	1.7%	0.9%	0.9%	2.9%	0.2%	0.0%	0.1%	0.7%	2.2%	1.3%	0.9%	0.0%	1.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.0%	0.1%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%

Attachment C-1
Orange County
All Crashes 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification			
All		3 Lanes or Less	4-5 Lanes	6+ Lanes				25 or less	30-35	40-45	50-55	60+													
		2-3	4-5	6-8	None	1 to 2	3+	0-25	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C
Type	Angle	5948	4213	1713	4877	6310	988	2585	4580	4214	479	16	2536	2744	3589	388	265	2653	3797	2994	2537	0	76	0	2545
	Animal	90	116	24	133	83	15	31	38	98	32	31	70	45	52	19	2	43	83	64	39	0	28	0	29
	Bicycle	557	634	399	514	949	136	267	407	814	99	3	489	436	350	54	13	257	347	415	572	0	4	0	525
	Head On	893	647	280	813	905	150	332	599	758	127	4	439	444	551	51	15	368	515	535	447	0	16	0	420
	Left Turn	7965	11131	4149	5619	16034	1811	2364	7216	12460	1189	16	4956	7718	6593	739	255	3203	5565	7879	6668	2	208	0	6149
	Off Road	5214	3187	1308	5740	4044	443	2784	2353	3943	550	79	1823	2182	2446	401	144	3231	2534	2323	2033	12	148	0	1803
	Other	11167	6955	3602	13579	9770	1645	7354	6057	7250	999	64	5151	4734	4330	506	240	10033	4587	4930	5251	7	124	0	4698
	Pedestrian	749	848	650	764	1321	209	405	570	1106	166	0	760	627	449	45	15	398	415	572	895	0	7	0	748
	Rear End	14500	26230	22833	12708	40672	10580	2696	15467	37596	7739	65	26586	20193	12494	835	362	3490	9781	19201	31308	4	450	0	26436
	Right Turn	1066	1716	1196	809	2572	657	335	943	2392	299	9	1204	1417	864	85	37	431	703	1212	1671	0	24	0	1614
	Rollover	289	319	158	331	380	68	85	207	328	112	34	273	181	189	24	8	104	224	212	236	0	55	0	211
	Sideswipe	4977	9135	7293	4898	13308	3449	1536	5944	11930	1971	24	8900	6643	3926	278	110	1798	3316	6599	9878	6	123	0	8151
Unknown	1183	1854	1242	1125	2580	634	388	1488	2072	324	7	1689	1229	902	49	39	431	844	1323	1712	0	23	0	1330	
Alcohol Related	Y	1005	900	646	1027	1300	293	479	698	1142	218	14	851	626	579	70	30	464	621	630	885	3	27	0	823
	N	53593	66085	44201	50883	97628	20492	20683	45171	83819	13868	338	54025	47967	36156	3404	1475	25976	32090	47629	62362	28	1259	0	53836
Hit and Run	Y	9009	9150	6930	9334	14045	3132	4434	6567	12011	2051	26	8374	6896	5056	464	218	5503	4789	6631	9442	1	128	0	8094
	N	45589	57835	37917	42576	84883	17653	16728	39302	72950	12035	326	46502	41697	31679	3010	1287	20937	27922	41628	53805	30	1158	0	46565
Aggressive Driving	Y	1339	1493	851	1315	2091	355	512	1271	1599	284	17	1255	925	875	89	39	578	847	1070	1243	1	56	0	1003
	N	53259	65492	43996	50595	96837	20430	20650	44598	83362	13802	335	53621	47668	35860	3385	1466	25862	31864	47189	62004	30	1230	0	53656
Distracted Driving	Y	14760	19573	13297	13969	28710	6079	5313	11074	27037	4103	103	15465	14527	10357	1070	509	6830	8336	14253	18991	9	494	0	16886
	N	39838	47412	31550	37941	70218	14706	15849	34795	57924	9983	249	39411	34066	26378	2404	996	19610	24375	34006	44256	22	792	0	37773
Intersection Related	Y	19307	21291	11628	13307	32737	6430	6429	16562	25743	3442	50	14706	14806	13865	1546	667	6884	13003	15464	16676	2	443	0	16476
	N	35291	45694	33219	38603	66191	14355	14733	29307	59218	10644	302	40170	33787	22870	1928	838	19556	19708	32795	46571	29	843	0	38183
Drug Related	Y	257	293	211	249	443	92	107	169	406	76	3	261	199	173	22	9	120	171	189	299	1	4	0	259
	N	54341	66692	44636	51661	98485	20693	21055	45700	84555	14010	349	54615	48394	36562	3452	1496	26320	32540	48070	62948	30	1282	0	54400
Aging Driver	Y	7321	9762	5855	6705	14062	2836	2704	6664	11755	1776	39	8002	6775	4964	448	232	3182	4712	6678	8875	4	205	0	7840
	N	47277	57223	38992	45205	84866	17949	18458	39205	73206	12310	313	46874	41818	31771	3026	1273	23258	27999	41581	54372	27	1081	0	46819
Teenage Driver	Y	6450	8248	5614	6147	12410	2389	2351	5107	11110	1718	26	6369	5870	4678	603	221	3205	4030	5793	7796	3	169	0	6692
	N	48148	58737	39233	45763	86518	18396	18811	40762	73851	12368	326	48507	42723	32057	2871	1284	23235	28681	42466	55451	28	1117	0	47967
Day of the Week	Monday	8060	9995	6634	7559	14869	3029	3078	6641	12824	2093	53	8294	7204	5346	535	219	3859	4862	7086	9522	10	209	0	8262
	Tuesday	8205	10187	6770	7665	15073	3190	3077	6875	13059	2109	42	8396	7391	5507	530	200	3904	4909	7214	9774	2	176	0	8339
	Wednesday	8168	10185	6626	7846	14908	3056	3073	6949	12868	2044	45	8339	7288	5550	537	230	3866	4952	7251	9592	4	179	0	8239
	Thursday	8268	10467	6942	7863	15386	3210	3153	7166	13120	2187	51	8633	7435	5640	551	245	3955	5143	7338	9862	6	187	0	8382
	Friday	9027	11324	7480	8515	16772	3448	3410	7634	14402	2336	49	9310	8094	6155	557	258	4361	5393	8111	10726	3	205	0	9256
	Saturday	6841	8148	5791	6586	12114	2721	2812	5756	10380	1780	52	6606	6146	4605	388	187	3489	3968	6177	7658	3	174	0	6733
	Sunday	6029	6679	4604	5876	9806	2131	2559	4848	8308	1537	60													

Attachment C-1
Orange County
All Crashes 2018-2022

Context Classification					Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
C3R	C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
311	1740	154	156	0	9011	1228	1635	10981	843	50	966	1785	9123	6719	2607	162	2341	45
20	5	1	1		124	19	87	214	14	2	89	35	106	88	112	4	24	2
80	161	10	19		1089	164	337	1452	123	15	74	152	1364	670	469	19	406	26
71	230	21	23		1318	189	313	1689	120	11	163	280	1377	1040	338	18	413	11
1230	2398	179	103		16639	2493	4113	21309	1830	106	1749	2811	18685	9823	7087	476	5708	147
417	578	71	58		7335	710	1664	9224	451	34	1500	1762	6447	5098	2682	170	1686	69
629	2466	267	336		16488	2034	3202	20253	1351	120	2043	2887	16794	12199	4623	361	4367	172
86	297	25	32		1552	265	430	2021	207	19	130	198	1919	996	593	24	618	16
3081	7937	642	358		38255	11624	13684	53311	9345	907	4068	6912	52583	17383	21597	1979	21926	664
193	335	25	13		2706	591	681	3453	486	39	193	375	3410	1215	1125	96	1521	21
35	78	5	8		473	109	184	690	73	3	153	107	506	308	277	22	156	3
761	3229	385	359		13921	3483	4001	18631	2571	203	1499	2286	17620	6551	6583	745	7324	201
113	816	80	91		2759	703	817	3725	505	49	240	475	3564	1620	1198	110	1317	34
110	292	33	35		1754	345	452	2262	262	27	230	368	1953	1110	710	67	639	25
6917	19978	1832	1522		109916	23267	30696	144691	17657	1531	12637	19697	131545	62600	48581	4119	47168	1386
838	3116	284	308	0	17564	4059	4059	22146	2693	250	1741	2977	20371	10716	6412	561	7179	220
6189	17154	1581	1249		94106	27089	27089	124807	15226	1308	11126	17088	113127	52994	42879	3625	40628	1191
134	512	63	30		2376	771	771	3258	395	30	353	533	2797	1545	1093	74	911	59
6893	19758	1802	1527		109294	30377	30377	143695	17524	1528	12514	19532	130701	62165	48198	4112	46896	1352
2311	4535	352	174		32102	8958	8958	42100	5147	383	3734	5727	38169	17264	14875	1228	14002	252
4716	15735	1513	1383		79568	22190	22190	104853	12772	1175	9133	14338	95329	46446	34416	2958	33805	1159
2584	6364	661	512		35861	8932	8932	46155	5672	399	3891	6793	41542	21074	14600	1205	14921	420
4443	13906	1204	1045		75809	22216	22216	100798	12247	1159	8976	13272	91956	42636	34691	2981	32886	991
52	66	7	5		498	148	148	660	93	8	71	105	585	275	241	20	216	9
6975	20204	1858	1552		111172	31000	31000	146293	17826	1550	12796	19960	132913	63435	49050	4166	47591	1402
1036	3294	316	164		15378	4283	4283	20237	2472	229	1518	2655	18765	8906	6609	521	6671	227
5991	16976	1549	1393		96292	26865	26865	126716	15447	1329	11349	17410	114733	54804	42682	3665	41136	1184
1144	1884	146	87		13117	4350	4350	17814	2301	197	1378	2519	16415	7267	6494	432	5933	182
5883	18386	1719	1470		98553	26798	26798	129139	15618	1361	11489	17546	117083	56443	42797	3754	41874	1229
1026	3039	282	231	0	16553	4670	4670	21833	2630	226	1899	2992	19798	9422	7309	623	7114	220
1055	3191	287	197		16920	4642	4642	22147	2768	247	1968	3002	20192	9544	7317	608	7466	223
1083	3146	285	225		16764	4795	4795	22156	2588	235	1780	3057	20142	9702	7274	584	7203	210
1088	3289	308	229		17240	4774	4774	22680	2766	231	2002	2988	20687	9804	7571	648	7445	208
1193	3379	282	235		18537	5344	5344	24585	3006	240	2108	3290	22433	10655	8179	674	8054	262
860	2361	230	236		13944	3814	3814	18266	2302	212	1698	2478	16604	7839	6354	569	5861	155
722	1865	191	204		11712	3109	3109	15286	1859	167	1412	2258	13642	6744	5287	480	4664	133
297	971	111	205		5493	1293	1293	7055	831	64	751	1096	6103	3301	2226	269	2070	82
221	520	69	92		3411	858	858	4404	580	44	609	634	3785	2025	1472	154	1338	38
962	2237	232	155		13701	3608	3608	17811	2036	185	1755	2520	15757	7718	5872	498	5747	191
890	3022	274	207		15309	4020	4020	19895	2422	191	1665	2696	18147	8658	6438	533	6690	188
1261	4496	389	257		21061	5868	5868	27697	3415	308	2177	3581	25662	12200	8950	680	9307	281
1539	4900	429	281		25642	7540	7540	34078	4025	359	2628	4493	31341	14919	11450	870	10900	320
1206	2707	230	176		17490	5219	5219	23297	2928	272	1936	3168	21393	9746	8247	678	7611	211
651	1417	131	184		9563	2742	2742	12716	1682	135	1346	1877	11310	5143	4636	504	4144	100
1492	4192	424	557	0	23879	6524	6524	31338	4204	376	2455	4180	29283	12863	11025	1146	10550	324
315	245	17	13		3434	1231	1231	4838	496	34	1210	1049	3109	2515	1724	130	975	24
14	58	3	5		286	68	68	368	38	2	38	82	288	236	83	13	69	7
122	259	29	13		1741	507	507	2310	285	33	288	337	2003	1002	767	78	762	18
4806	15022	1354	935		78078	21668	21668	102543	12264	1067	8402	13607	93865	44716	33756	2664	33724	1000
266	467	34	29		3899	1106	1106	5154	614	44	427	740	4645	2081	1865	152	1676	38
1	5	0	0		44	9	9	53	8	1	5	13	44	31	17	2	12	0
11	22	4	5		302	33	33	340	10	1	39	56	256	258	53	1	39	0

Attachmebt C-1
Limited access facilites, parking lots and roadways for which contextual data was not available were not included in this analysis.

Attachment C-2
Orange County
All KSI Crashes 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification			
All		3 Lanes or Less	4-5 Lanes	6+ Lanes				25 or less	30-35	40-45	50-55	60+													
		2-3	4-5	6-8	None	1 to 2	3+	0-25	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C
Type	Angle	203	167	91	159	274	38	82	137	201	38	3	111	117	127	16	9	91	129	123	119	0	7	0	135
	Animal	3	3	0	4	2	0	2	0	1	2	1	2	1	0	1	0	2	2	2	0	0	2	0	0
	Bicycle	81	102	62	79	143	25	33	58	133	20	1	83	55	58	10	3	38	53	61	94	0	0	0	93
	Head On	75	58	22	75	72	8	12	37	79	26	1	41	42	51	6	2	13	53	47	41	0	4	0	37
	Left Turn	270	559	284	211	818	89	61	211	728	109	4	290	427	275	21	13	92	216	413	390	1	27	0	376
	Off Road	211	231	89	289	241	23	83	112	276	50	10	122	157	135	15	8	116	132	160	139	3	14	0	116
	Other	193	215	153	230	301	52	84	116	294	54	13	188	150	115	19	6	105	127	148	200	2	10	0	164
	Pedestrian	160	262	270	195	433	73	69	139	414	70	0	301	199	110	12	1	78	95	192	335	0	3	0	294
	Rear End	159	426	443	217	655	163	13	114	741	150	10	455	368	159	14	10	29	113	312	575	0	22	0	474
	Right Turn	13	34	28	15	50	11	1	15	47	11	1	25	29	17	1	1	3	13	25	35	0	1	0	29
	Rollover	28	26	13	41	23	4	7	14	25	11	10	29	8	17	2	0	12	23	13	20	0	10	0	16
	Sideswipe	37	70	70	50	108	20	8	31	103	34	1	84	52	24	6	2	10	23	53	90	0	4	0	85
	Unknown	12	36	20	16	50	2	3	14	41	9	1	24	23	16	2	0	3	15	23	27	0	3	0	26
Alcohol Related	Y	79	118	72	105	148	17	25	59	145	31	9	106	64	65	8	4	23	72	77	96	2	11	0	95
	N	1366	2071	1473	1476	3022	491	433	939	2938	553	47	1649	1564	1039	117	51	569	922	1495	1969	4	96	0	1750
Hit and Run	Y	158	197	181	144	343	52	58	105	319	52	2	193	160	110	10	7	59	93	154	229	0	3	0	196
	N	1287	1992	1364	1437	2827	456	400	893	2764	532	54	1562	1468	994	115	48	533	901	1418	1836	6	104	0	1649
Aggressive Driving	Y	91	105	51	78	156	15	24	77	128	15	3	81	56	80	8	1	23	68	79	79	0	4	0	58
	N	1354	2084	1494	1503	3014	493	434	921	2955	569	53	1674	1572	1024	117	54	569	926	1493	1986	6	103	0	1787
Distracted Driving	Y	388	647	427	411	915	160	112	238	930	166	16	463	516	310	28	20	149	263	469	593	2	41	0	513
	N	1057	1542	1118	1170	2255	348	346	760	2153	418	40	1292	1112	794	97	35	443	731	1103	1472	4	66	0	1332
Intersection Related	Y	632	898	612	485	1445	217	190	476	1250	215	11	660	687	505	54	25	216	466	665	781	1	40	0	749
	N	813	1291	933	1096	1725	291	268	522	1833	369	45	1095	941	599	71	30	376	528	907	1284	5	67	0	1096
Drug Related	Y	43	69	44	45	94	17	13	24	97	20	2	59	45	34	3	3	12	32	45	66	1	2	0	53
	N	1402	2120	1501	1536	3076	491	445	974	2986	564	54	1696	1583	1070	122	52	580	962	1527	1999	5	105	0	1792
Aging Driver	Y	213	319	194	205	457	81	58	149	430	84	5	244	233	153	22	6	85	151	231	272	0	23	0	270
	N	1232	1870	1351	1376	2713	427	400	849	2653	500	51	1511	1395	951	103	49	507	843	1341	1793	6	84	0	1575
Teenage Driver	Y	160	264	179	166	389	56	49	100	387	66	1	180	200	134	17	7	73	122	162	250	0	9	0	218
	N	1285	1925	1366	1415	2781	452	409	898	2696	518	55	1575	1428	970	108	48	519	872	1410	1815	6	98	0	1627
Day of the Week	Monday	232	274	208	232	425	67	65	134	430	76	9	239	209	167	22	8	79	155	207	276	2	14	0	262
	Tuesday	191	321	231	226	471	61	64	142	446	82	9	239	249	155	19	4	92	134	240	290	1	13	0	266
	Wednesday	197	310	226	216	470	60	62	156	427	80	8	259	219	156	18	10	84	146	213	298	0	17	0	255
	Thursday	205	327	209	216	463	73	64	140	449	81	7	248	240	161	12	11	80	135	224	305	1	16	0	268
	Friday	233	338	249	249	497	87	78	157	485	94	6	286	264	154	20	10	99	158	252	318	1	17	0	289
	Saturday	195	349	238	223	479	90	67	145	471	89	10	270	249	170	14	8	81	139	236	329	0	17	0	276
	Sunday	192	270	184	219	365	70	58	124	375	82	7	214	198	141	20	4	77	127	200	249	1	13	0	229
Time of Day	12-3 AM	102	184	150	153	232	54	33	89	243	59	12	185	133	77	6	2	36	77	126	197	0	12	0	167
	3-6 AM	92	118	101	109	166	37	22	67	171	47	4	114	98	56	11	4	29	59	92	130	2	8	0	108
	6-9 AM	208	315	191	197	457	67	55	136	432	78	13	215	235	165	22	5	79	147	216	275	2	25	0	242
	9-Noon	179	267	196	192	386	74	63	119	379	75	6	215	208	124	16	6	83	121	182	263	1	17	0	225
	Noon-3 PM	200	289	184	210	421	62	66	143	398	63	3	211	219	142	20	8	93	135	217	242	0	10	0	237
	3-6 PM	233	331	209	259	477	53	88	143	459	76	7	247	227	188	17	8	102	162	250	271	1	14	0	259
	6-9 PM	230	381	267	248	556	88	71	157	553	91	6	296	273	193	20	14	96	148	288	350	0	11	0	308
	9-Midnight	201	304	247	213	475	73	60	144	448	95	5	272	235	159	13	8	74	145	201	337	0	10	0	299
Lighting Conditions	Dark - Lighted	374	714	602	466	1052	192	116	351	1030	187	6	658	526	328	30	20	148	265	495	790	1	10	0	641
	Dark - Not Lighted	167	144	78	167	200	25	33	66	191	78	21	138	94	92	13	3	52	117	106	114	1	32	0	142
	Dark - Unknown Lighting	1	1	2	1	3	0	1	0	3	0	0	2	1	0	0	0	1	0	1	2	0	0	0	0
	Dawn	39	48	24	35	69	8	11	21	63	13	3	31	30	33	4	1	13	31	29	38	1	5	0	36
	Daylight	815	1213	784	856	1747	260	281	531	1683	291	26	871	924	611	73	29	355	554	885	1052	3	57	0	960
	Dusk	44	68	51	53	93	22	16	25	108	14	0	51	52	36	5	2	22	23	56	64	0	3	0	61
	Other	2	1	4	2	4	1	0	2	4	1	0	4	1	2	0	0	0	2	0	5	0	0	0	5
	Unknown	3	0	0	1	2	0	0	2	1	0	0	0	0	2	0	0	1	2	0	0	0	0	0	0

Attachmebt C-1
Limited access facilites, parking lots and roadways for which contextual data was not available were not included in this analysis.

Attachment C-2
Orange County
All KSI Crashes 2018-2022

Context Classification					Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
C3R	C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
21	35	2	5	0	319	65	77	410	49	2	63	64	334	230	128	4	98	1
0	0	0	0	0	3	0	3	6	0	0	5	0	1	3	3	0	0	0
14	15	0	0	0	160	27	58	222	19	4	22	17	206	95	79	1	66	4
8	16	0	0	0	109	9	37	150	4	1	29	26	100	88	34	2	31	0
75	55	7	0	0	743	172	198	967	142	4	98	139	876	376	404	13	317	3
37	18	4	1	0	374	40	117	506	23	2	90	76	365	217	199	8	103	4
34	56	5	5	0	375	66	120	509	49	3	82	66	413	222	186	14	133	6
27	88	8	7	0	460	90	142	603	81	8	41	56	595	257	211	11	210	3
66	65	3	0	0	581	205	242	843	173	12	87	94	847	203	403	31	388	3
2	4	0	0	0	44	8	23	67	8	0	7	5	63	13	29	0	33	0
6	3	1	0	0	43	4	20	64	3	0	21	7	39	24	29	3	10	1
5	11	2	1	0	100	34	43	149	26	2	12	18	147	50	74	4	49	0
6	6	0	0	0	37	11	20	60	8	0	7	4	57	17	27	1	23	0
18	23	3	1	0	171	34	64	241	27	1	47	24	198	106	93	8	61	1
283	349	29	18	0	3177	697	1036	4315	558	37	517	548	3845	1689	1713	84	1400	24
22	47	2	3	0	371	100	100	488	47	1	39	51	446	228	141	8	154	5
279	325	30	16	0	2977	1000	1000	4068	538	37	525	521	3597	1567	1665	84	1307	20
17	30	4	3	0	161	50	50	218	28	1	27	42	178	109	78	2	56	2
284	342	28	16	0	3187	1050	1050	4338	557	37	537	530	3865	1686	1728	90	1405	23
108	80	5	1	0	956	293	293	1280	171	11	170	158	1134	464	530	34	427	7
193	292	27	18	0	2392	807	807	3276	414	27	394	414	2909	1331	1276	58	1034	18
138	149	14	14	0	1385	403	403	1843	286	13	202	237	1703	754	722	31	627	8
163	223	18	5	0	1963	697	697	2713	299	25	362	335	2340	1041	1084	61	834	17
15	14	1	0	0	107	25	25	135	19	2	20	22	114	61	52	1	42	0
286	358	31	19	0	3241	1075	1075	4421	566	36	544	550	3929	1734	1754	91	1419	25
42	49	3	3	0	461	154	154	628	89	9	90	77	559	258	240	10	216	2
259	323	29	16	0	2887	946	946	3928	496	29	474	495	3484	1537	1566	82	1245	23
37	24	2	2	0	372	144	144	523	76	4	42	76	485	183	219	9	189	3
264	348	30	17	0	2976	956	956	4033	509	34	522	496	3558	1612	1587	83	1272	22
46	45	4	3	0	459	157	157	634	74	6	76	75	563	261	236	18	193	6
32	47	2	2	0	470	177	177	668	75	0	82	86	575	256	261	3	220	3
44	58	5	1	0	489	130	130	633	91	9	73	100	560	245	265	10	207	6
40	59	7	2	0	474	170	170	657	77	7	87	80	574	272	246	8	214	1
48	65	4	2	0	524	169	169	710	104	6	85	87	648	289	276	14	239	2
48	61	6	5	0	506	161	161	682	93	7	85	78	619	250	281	25	224	2
43	37	4	4	0	426	136	136	572	71	3	76	66	504	222	241	14	164	5
30	51	4	5	0	261	106	106	375	58	3	52	40	344	125	156	11	139	5
21	21	7	1	0	199	63	63	272	37	2	54	35	222	110	120	8	70	3
39	43	5	0	0	462	152	152	628	81	5	75	76	563	236	251	17	206	4
41	42	3	3	0	422	128	128	569	71	2	76	68	498	203	224	9	205	1
36	44	0	3	0	448	136	136	598	69	6	77	80	516	252	226	11	183	1
47	61	5	2	0	517	159	159	692	75	6	68	87	618	299	264	12	197	1
41	52	2	3	0	570	189	189	774	96	8	80	96	702	307	298	16	251	6
46	58	6	2	0	469	167	167	648	98	6	82	90	580	263	267	8	210	4
94	162	19	11	0	1087	344	344	1459	216	15	114	158	1418	533	585	38	516	18
29	13	0	0	0	208	125	125	341	45	3	121	71	197	167	149	4	68	1
0	2	0	0	0	3	1	1	4	0	0	0	0	4	0	1	0	1	2
6	5	2	0	0	72	23	23	98	13	0	17	13	81	44	35	0	32	0
167	185	11	8	0	1875	565	565	2505	289	18	294	307	2211	998	977	44	789	4
5	5	0	0	0	97	40	40	141	20	2	16	21	126	49	56	4	54	0
0	0	0	0	0	4	1	1	5	2	0	1	2	4	1	3	2	1	0
0	0	0	0	0	2	1	1	3	0	0	1	0	2	3	0	0	0	0

Attachmebt C-1
Limited access facilites, parking lots and roadways for which contextual data was not available were not included in this analysis.

Attachment C-3
Orange County
Percent of All Crashes that Result in a KSI - 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8	None	1 to 2	3+	0-25	30-35	40-45	50-55	60+														
Type	Angle	3.4%	4.0%	5.3%	3.3%	4.3%	3.8%	3.2%	3.0%	4.8%	7.9%	18.8%	4.4%	4.3%	3.5%	4.1%	3.4%	3.4%	3.4%	4.1%	4.7%	-	9.2%	-	5.3%	6.8%
	Animal	3.3%	2.6%	0.0%	3.0%	2.4%	0.0%	6.5%	0.0%	1.0%	6.3%	3.2%	2.9%	2.2%	0.0%	5.3%	0.0%	4.7%	2.4%	3.1%	0.0%	-	7.1%	-	0.0%	0.0%
	Bicycle	14.5%	16.1%	15.5%	15.4%	15.1%	18.4%	12.4%	14.3%	16.3%	20.2%	33.3%	17.0%	12.6%	16.6%	18.5%	23.1%	14.8%	15.3%	14.7%	16.4%	-	0.0%	-	17.7%	17.5%
	Head On	8.4%	9.0%	7.9%	9.2%	8.0%	5.3%	3.6%	6.2%	10.4%	20.5%	25.0%	9.3%	9.5%	9.3%	11.8%	13.3%	3.5%	10.3%	8.8%	9.2%	-	25.0%	-	8.8%	11.3%
	Left Turn	3.4%	5.0%	6.8%	3.8%	5.1%	4.9%	2.6%	2.9%	5.8%	9.2%	25.0%	5.9%	5.5%	4.2%	2.8%	5.1%	2.9%	3.9%	5.2%	5.8%	50.0%	13.0%	-	6.1%	6.1%
	Off Road	4.0%	7.2%	6.8%	5.0%	6.0%	5.2%	3.0%	4.8%	7.0%	9.1%	12.7%	6.7%	7.2%	5.5%	3.7%	5.6%	3.6%	5.2%	6.9%	6.8%	25.0%	9.5%	-	6.4%	8.9%
	Other	1.7%	3.1%	4.2%	1.7%	3.1%	3.2%	1.1%	1.9%	4.1%	5.4%	20.3%	3.6%	3.2%	2.7%	3.8%	2.5%	1.0%	2.8%	3.0%	3.8%	28.6%	8.1%	-	3.5%	5.4%
	Pedestrian	21.4%	30.9%	41.5%	25.5%	32.8%	34.9%	17.0%	24.4%	37.4%	42.2%	-	39.6%	31.7%	24.5%	26.7%	6.7%	19.6%	22.9%	33.6%	37.4%	-	42.9%	-	39.3%	31.4%
	Rear End	1.1%	1.6%	1.9%	1.7%	1.6%	1.5%	0.5%	0.7%	2.0%	1.9%	15.4%	1.7%	1.8%	1.3%	1.7%	2.8%	0.8%	1.2%	1.6%	1.8%	0.0%	4.9%	-	1.8%	2.1%
	Right Turn	1.2%	2.0%	2.3%	1.9%	1.9%	1.7%	0.3%	1.6%	2.0%	3.7%	11.1%	2.1%	2.0%	2.0%	1.2%	2.7%	0.7%	1.8%	2.1%	2.1%	-	4.2%	-	1.8%	1.0%
	Rollover	9.7%	8.2%	8.2%	12.4%	6.1%	5.9%	8.2%	6.8%	7.6%	9.8%	29.4%	10.6%	4.4%	9.0%	8.3%	0.0%	11.5%	10.3%	6.1%	8.5%	-	18.2%	-	7.6%	17.1%
	Sideswipe	0.7%	0.8%	1.0%	1.0%	0.8%	0.6%	0.5%	0.5%	0.9%	1.7%	4.2%	0.9%	0.8%	0.6%	2.2%	1.8%	0.6%	0.7%	0.8%	0.9%	0.0%	3.3%	-	1.0%	0.7%
	Unknown	1.0%	1.9%	1.6%	1.4%	1.9%	0.3%	0.8%	0.9%	2.0%	2.8%	14.3%	1.4%	1.9%	1.8%	4.1%	0.0%	0.7%	1.8%	1.7%	1.6%	-	13.0%	-	2.0%	5.3%
Alcohol Related	Y	7.9%	13.1%	11.1%	10.2%	11.4%	5.8%	5.2%	8.5%	12.7%	14.2%	64.3%	12.5%	10.2%	11.2%	11.4%	13.3%	5.0%	11.6%	12.2%	10.8%	66.7%	40.7%	-	11.5%	16.4%
	N	2.5%	3.1%	3.3%	2.9%	3.1%	2.4%	2.1%	2.1%	3.5%	4.0%	13.9%	3.1%	3.3%	2.9%	3.4%	3.5%	2.2%	2.9%	3.1%	3.2%	14.3%	7.6%	-	3.3%	4.1%
Hit and Run	Y	1.8%	2.2%	2.6%	1.5%	2.4%	1.7%	1.3%	1.6%	2.7%	2.5%	7.7%	2.3%	2.3%	2.2%	2.2%	3.2%	1.1%	1.9%	2.3%	2.4%	0.0%	2.3%	-	2.4%	2.6%
	N	2.8%	3.4%	3.6%	3.4%	3.3%	2.6%	2.4%	2.3%	3.8%	4.4%	16.6%	3.4%	3.5%	3.1%	3.8%	3.7%	2.5%	3.2%	3.4%	3.4%	20.0%	9.0%	-	3.5%	4.5%
Aggressive Driving	Y	6.8%	7.0%	6.0%	5.9%	7.5%	4.2%	4.7%	6.1%	8.0%	5.3%	17.6%	6.5%	6.1%	9.1%	9.0%	2.6%	4.0%	8.0%	7.4%	6.4%	0.0%	7.1%	-	5.8%	12.7%
	N	2.5%	3.2%	3.4%	3.0%	3.1%	2.4%	2.1%	2.1%	3.5%	4.1%	15.8%	3.1%	3.3%	2.9%	3.5%	3.7%	2.2%	2.9%	3.2%	3.2%	20.0%	8.4%	-	3.3%	4.1%
Distracted Driving	Y	2.6%	3.3%	3.2%	2.9%	3.2%	2.6%	2.1%	2.1%	3.4%	4.0%	15.5%	3.0%	3.6%	3.0%	2.6%	3.9%	2.2%	3.2%	3.3%	3.1%	22.2%	8.3%	-	3.0%	4.7%
	N	2.7%	3.3%	3.5%	3.1%	3.2%	2.4%	2.2%	2.2%	3.7%	4.2%	16.1%	3.3%	3.3%	3.0%	4.0%	3.5%	2.3%	3.0%	3.2%	3.3%	18.2%	8.3%	-	3.5%	4.1%
Intersection Related	Y	3.3%	4.2%	5.3%	3.6%	4.4%	3.4%	3.0%	2.9%	4.9%	6.2%	22.0%	4.5%	4.6%	3.6%	3.5%	3.7%	3.1%	3.6%	4.3%	4.7%	50.0%	9.0%	-	4.5%	5.3%
	N	2.3%	2.8%	2.8%	2.8%	2.6%	2.0%	1.8%	1.8%	3.1%	3.5%	14.9%	2.7%	2.8%	2.6%	3.7%	3.6%	1.9%	2.7%	2.8%	2.8%	17.2%	7.9%	-	2.9%	3.7%
Drug Related	Y	16.7%	23.5%	20.9%	18.1%	21.2%	18.5%	12.1%	14.2%	23.9%	26.3%	66.7%	22.6%	22.6%	19.7%	13.6%	33.3%	10.0%	18.7%	23.8%	22.1%	100.0%	50.0%	-	20.5%	28.8%
	N	2.6%	3.2%	3.4%	3.0%	3.1%	2.4%	2.1%	2.1%	3.5%	4.0%	15.5%	3.1%	3.3%	2.9%	3.5%	3.5%	2.2%	3.0%	3.2%	3.2%	16.7%	8.2%	-	3.3%	4.1%
Aging Driver	Y	2.9%	3.3%	3.3%	3.1%	3.2%	2.9%	2.1%	2.2%	3.7%	4.7%	12.8%	3.0%	3.4%	3.1%	4.9%	2.6%	2.7%	3.2%	3.5%	3.1%	0.0%	11.2%	-	3.4%	4.1%
	N	2.6%	3.3%	3.5%	3.0%	3.2%	2.4%	2.2%	2.2%	3.6%	4.1%	16.3%	3.2%	3.3%	3.0%	3.4%	3.8%	2.2%	3.0%	3.2%	3.3%	22.2%	7.8%	-	3.4%	4.3%
Teenage Driver	Y	2.5%	3.2%	3.2%	2.7%	3.1%	2.3%	2.1%	2.0%	3.5%	3.8%	3.8%	2.8%	3.4%	2.9%	2.8%	3.2%	2.3%	3.0%	2.8%	3.2%	0.0%	5.3%	-	3.3%	3.2%
	N	2.7%	3.3%	3.5%	3.1%	3.2%	2.5%	2.2%	2.2%	3.7%	4.2%	16.9%	3.2%	3.3%	3.0%	3.8%	3.7%	2.2%	3.0%	3.3%	3.3%	21.4%	8.8%	-	3.4%	4.5%
Day of the Week	Monday	2.9%	2.7%	3.1%	3.1%	2.9%	2.2%	2.1%	2.0%	3.4%	3.6%	17.0%	2.9%	2.9%	3.1%	4.1%	3.7%	2.0%	3.2%	2.9%	2.9%	20.0%	6.7%	-	3.2%	4.5%
	Tuesday	2.3%	3.2%	3.4%	2.9%	3.1%	1.9%	2.1%	2.1%	3.4%	3.9%	21.4%	2.8%	3.4%	2.8%	3.6%	2.0%	2.4%	2.7%	3.3%	3.0%	50.0%	7.4%	-	3.2%	3.0%
	Wednesday	2.4%	3.0%	3.4%	2.8%	3.2%	2.0%	2.0%	2.2%	3.3%	3.9%	17.8%	3.1%	3.0%	2.8%	3.4%	4.3%	2.2%	2.9%	2.9%	3.1%	0.0%	9.5%	-	3.1%	4.1%
	Thursday	2.5%	3.1%	3.0%	2.7%	3.0%	2.3%	2.0%	2.0%	3.4%	3.7%	13.7%	2.9%	3.2%	2.9%	2.2%	4.5%	2.0%	2.6%	3.1%	3.1%	16.7%	8.6%	-	3.2%	3.7%
	Friday	2.6%	3.0%	3.3%	2.9%	3.0%	2.5%	2.3%	2.1%	3.4%	4.0%	12.2%	3.1%	3.3%	2.5%	3.6%	3.9%	2.3%	2.9%	3.1%	3.0%	33.3%	8.3%	-	3.1%	4.0%
	Saturday	2.9%	4.3%	4.1%	3.4%	4.0%	3.3%	2.4%	2.5%	4.5%	5.0%	19.2%	4.1%	4.1%	3.7%	3.6%	4.3%	2.3%	3.5%	3.8%	4.3%	0.0%	9.8%	-	4.1%	5.6%
	Sunday	3.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.6%	4.5%	5.3%	11.7%	4.0%	3.9%	3.6%	5.3%	2.4%	2.6%	3.6%	3.9%	4.1%	33.3%	8.3%	-	4.2%	6.0%
Time of Day	12-3 AM	3.4%	6.5%	7.1%	5.0%	5.7%	5.3%	2.4%	3.9%	6.8%	8.5%	27.3%	7.5%	6.1%	4.2%	3.7%	2.9%	2.5%	4.5%	5.7%	7.2%	0.0%	15.6%	-	7.0%	10.1%
	3-6 AM	4.9%	6.5%	7.7%	5.9%	6.2%	5.9%	2.8%	5.6%	6.9%	9.3%	10.0%	7.1%	7.2%	5.2%	7.9%	8.9%	3.3%	5.6%	6.8%	7.2%	40.0%	10.5%	-	6.7%	9.5%
	6-9 AM	3.0%	3.9%	3.8%	3.3%	3.8%	2.8%	2.2%	2.7%	4.1%	4.3%	20.3%	3.3%	4.0%	3.7%	4.3%	2.7%	2.7%	3.6%	3.8%	3.6%	66.7%	10.7%	-	3.6%	4.1%
	9-Noon	2.4%	3.0%	3.2%	2.7%	2.9%	2.5%	2.1%	1.9%	3.3%	4.1%	18.8%	2.8%	3.2%	2.6%	3.9%	3.2%	2.1%	2.8%	2.9%	3.0%	16.7%	10.4%	-	3.0%	4.6%
	Noon-3 PM	2.0%	2.3%	2.1%	2.1%	2.2%	1.6%	1.6%	1.6%	2.5%	2.6%	8.3%	1.9%	2.4%	2.2%	3.2%	2.6%	1.8%	2.3%	2.5%	1.9%	0.0%	4.8%	-	2.3%	2.9%
	3-6 PM	1.9%	2.1%	2.0%	2.2%	2.0%	1.2%	2.0%	1.3%	2.3%	2.4%	13.7%	1.9%	2.0%	2.2%	2.1%	2.3%	1.8%	2.1%	2.2%	1.8%	20.0%	5.5%	-	2.1%	3.1%
	6-9 PM	2.7%	3.5%	3.8%	3.2%	3.5%	2.6%	2.2%	2.2%	4.0%	4.0%	14.3%	3.6%	3.5%	3.1%	3.6%	5.7%	2.4%	2.9%	3.5%	3.6%	0.0%	6.1%	-	3.6%	3.4%
	9-Midnight	4.3%	5.3%	6.0%	4.7%	5.6%	3.8%	3.3%	3.6%	6.2%	6.8%	11.6%	6.2%	5.3%	4.7%	4.7%	6.8%	3.2%	5.4%	4.5%	6.4%	0.0%	10.9%	-	6.2%	7.1%
Lighting Conditions	Dark - Lighted	3.3%	4.9%	5.8%	4.3%	5.0%	3.9%	2.6%	3.4%	5.7%	5.9%	19.4%	5.6%	4.9%	4.0%	4.6%	6.9%	2.7%	4.0%	4.5%	5.8%	50.0%	7.2%	-	5.4%	6.3%
	Dark - Not Lighted	6.4%	8.1%	7.9%	6.7%	8.1%	5.3%	3.4%	6.2%	7.7%	10.6%	16.8%	10.4%	7.0%	6.5%	6.7%	4.3%	4.7%	7.8%	7.7%	7.8%	12.5%	14.2%	-	8.6%	9.2%
	Dark - Unknown Lighting	0.4%	0.9%	3.0%	0.5%	1.6%	0.0%	0.9%	0.0%	2.4%	0.0%	-	2.0%	1.2%	0.0%	0.0%	0.0%	0.9%	0.0%	1.1%	2.0%	-	0.0%	-	0.0%	0.0%
	Dawn	4.4%	4.5%	3.5%	4.3%	4.5%	2.4%	3.5%	3.3%	4.5%	4.8%	20.0%	3.7%	4.0%	5.3%	6.3%	5.3%	3.5%	5.4%	3.6%	4.1%	50.0%	12.2%	-	3.9%	4.9%
	Daylight	2.2%	2.6%	2.5%	2.4%	2.5%	1.8%	1.9%	1.7%	2.8%	3.1%	15.2%	2.2%	2.7%	2.4%	3.0%	2.7%	1.9%	2.4%	2.7%	2.3%	15.8%	6.8%	-	2.5%	3.5%
	Dusk	2.4%	2.8%	3.2%	3.1%	2.7%	2.9%	2.4%	1.8%	3.4%	2.8%	0.0%	2.9%	2.9%	2.6%	3.8%	4.3%	2.6%	2.0%	3.1%	3.0%	-	7.9%	-	3.1%	1.9%
	Other	7.1%	5.9%	23.5%	5.0%	16.7%	20.0%	0.0%	11.8%	17.4%	20.0%	-	16.7%	10.0%	13.3%	0.0%	-	0.0%	12.5%	0.0%	19.2%	-	-	-	20.8%	0.0%
	Unknown	1.1%	0.0%	0.0%	0.4%	1.8%	0.0%	0.0%	2.3%	1.5%	0.0%	-	0.0%	0.0%	2.7%	0.0%	0.0%	0.5%	2.2%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%

Attachment C-3
Orange County
Percent of All Crashes that Result in a KSI - 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	2.0%	1.3%	3.2%	-	3.5%	5.3%	4.7%	3.7%	5.8%	4.0%	6.5%	3.6%	3.7%	3.4%	4.9%	2.5%	4.2%	2.2%
	Animal	0.0%	0.0%	0.0%	-	2.4%	0.0%	3.4%	2.8%	0.0%	0.0%	5.6%	0.0%	0.9%	3.4%	2.7%	0.0%	0.0%	0.0%
	Bicycle	9.3%	0.0%	0.0%	-	14.7%	16.5%	17.2%	15.3%	15.4%	26.7%	29.7%	11.2%	15.1%	14.2%	16.8%	5.3%	16.3%	15.4%
	Head On	7.0%	0.0%	0.0%	-	8.3%	4.8%	11.8%	8.9%	3.3%	9.1%	17.8%	9.3%	7.3%	8.5%	10.1%	11.1%	7.5%	0.0%
	Left Turn	2.3%	3.9%	0.0%	-	4.5%	6.9%	4.8%	4.5%	7.8%	3.8%	5.6%	4.9%	4.7%	3.8%	5.7%	2.7%	5.6%	2.0%
	Off Road	3.1%	5.6%	1.7%	-	5.1%	5.6%	7.0%	5.5%	5.1%	5.9%	6.0%	4.3%	5.7%	4.3%	7.4%	4.7%	6.1%	5.8%
	Other	2.3%	1.9%	1.5%	-	2.3%	3.2%	3.7%	2.5%	3.6%	2.5%	4.0%	2.3%	2.5%	1.8%	4.0%	3.9%	3.0%	3.5%
	Pedestrian	29.6%	32.0%	21.9%	-	29.6%	34.0%	33.0%	29.8%	39.1%	42.1%	31.5%	28.3%	31.0%	25.8%	35.6%	45.8%	34.0%	18.8%
	Rear End	0.8%	0.5%	0.0%	-	1.5%	1.8%	1.8%	1.6%	1.9%	1.3%	2.1%	1.4%	1.6%	1.2%	1.9%	1.6%	1.8%	0.5%
	Right Turn	1.2%	0.0%	0.0%	-	1.6%	1.4%	3.4%	1.9%	1.6%	0.0%	3.6%	1.3%	1.8%	1.1%	2.6%	0.0%	2.2%	0.0%
	Rollover	3.8%	20.0%	0.0%	-	9.1%	3.7%	10.9%	9.3%	4.1%	0.0%	13.7%	6.5%	7.7%	7.8%	10.5%	13.6%	6.4%	33.3%
	Sideswipe	0.3%	0.5%	0.3%	-	0.7%	1.0%	1.1%	0.8%	1.0%	1.0%	0.8%	0.8%	0.8%	0.8%	1.1%	0.5%	0.7%	0.0%
	Unknown	0.7%	0.0%	0.0%	-	1.3%	1.6%	2.4%	1.6%	1.6%	0.0%	2.9%	0.8%	1.6%	1.0%	2.3%	0.9%	1.7%	0.0%
Alcohol Related	Y	7.9%	9.1%	2.9%	-	9.7%	9.9%	14.2%	10.7%	10.3%	3.7%	20.4%	6.5%	10.1%	9.5%	13.1%	11.9%	9.5%	4.0%
	N	1.7%	1.6%	1.2%	-	2.9%	3.0%	3.4%	3.0%	3.2%	2.4%	4.1%	2.8%	2.9%	2.7%	3.5%	2.0%	3.0%	1.7%
Hit and Run	Y	1.5%	0.7%	1.0%	-	2.1%	2.5%	2.5%	2.2%	1.7%	0.4%	2.2%	1.7%	2.2%	2.1%	2.2%	1.4%	2.1%	2.3%
	N	1.9%	1.9%	1.3%	-	3.2%	3.7%	3.7%	3.3%	3.5%	2.8%	4.7%	3.0%	3.2%	3.0%	3.9%	2.3%	3.2%	1.7%
Aggressive Driving	Y	5.9%	6.3%	10.0%	-	6.8%	6.5%	6.5%	6.7%	7.1%	3.3%	7.6%	7.9%	6.4%	7.1%	7.1%	2.7%	6.1%	3.4%
	N	1.7%	1.6%	1.0%	-	2.9%	3.5%	3.5%	3.0%	3.2%	2.4%	4.3%	2.7%	3.0%	2.7%	3.6%	2.2%	3.0%	1.7%
Distracted Driving	Y	1.8%	1.4%	0.6%	-	3.0%	3.3%	3.3%	3.0%	3.3%	2.9%	4.6%	2.8%	3.0%	2.7%	3.6%	2.8%	3.0%	2.8%
	N	1.9%	1.8%	1.3%	-	3.0%	3.6%	3.6%	3.1%	3.2%	2.3%	4.3%	2.9%	3.1%	2.9%	3.7%	2.0%	3.1%	1.6%
Intersection Related	Y	2.3%	2.1%	2.7%	-	3.9%	4.5%	4.5%	4.0%	5.0%	3.3%	5.2%	3.5%	4.1%	3.6%	4.9%	2.6%	4.2%	1.9%
	N	1.6%	1.5%	0.5%	-	2.6%	3.1%	3.1%	2.7%	2.4%	2.2%	4.0%	2.5%	2.5%	2.4%	3.1%	2.0%	2.5%	1.7%
Drug Related	Y	21.2%	14.3%	0.0%	-	21.5%	16.9%	16.9%	20.5%	20.4%	25.0%	28.2%	21.0%	19.5%	22.2%	21.6%	5.0%	19.4%	0.0%
	N	1.8%	1.7%	1.2%	-	2.9%	3.5%	3.5%	3.0%	3.2%	2.3%	4.3%	2.8%	3.0%	2.7%	3.6%	2.2%	3.0%	1.8%
Aging Driver	Y	1.5%	0.9%	1.8%	-	3.0%	3.6%	3.6%	3.1%	3.6%	3.9%	5.9%	2.9%	3.0%	2.9%	3.6%	1.9%	3.2%	0.9%
	N	1.9%	1.9%	1.1%	-	3.0%	3.5%	3.5%	3.0%	3.2%	2.2%	4.2%	2.8%	3.0%	2.8%	3.7%	2.2%	3.0%	1.9%
Teenage Driver	Y	1.3%	1.4%	2.3%	-	2.8%	3.3%	3.3%	2.9%	3.3%	2.0%	3.0%	3.0%	3.0%	2.5%	3.4%	2.1%	3.2%	1.6%
	N	1.9%	1.7%	1.2%	-	3.0%	3.6%	3.6%	3.1%	3.3%	2.5%	4.5%	2.8%	3.0%	2.9%	3.7%	2.2%	3.0%	1.8%
Day of the Week	Monday	1.5%	1.4%	1.3%	-	2.8%	3.4%	3.4%	2.9%	2.8%	2.7%	4.0%	2.5%	2.8%	2.8%	3.2%	2.9%	2.7%	2.7%
	Tuesday	1.5%	0.7%	1.0%	-	2.8%	3.8%	3.8%	3.0%	2.7%	0.0%	4.2%	2.9%	2.8%	2.7%	3.6%	0.5%	2.9%	1.3%
	Wednesday	1.8%	1.8%	0.4%	-	2.9%	2.7%	2.7%	2.9%	3.5%	3.8%	4.1%	3.3%	2.8%	2.5%	3.6%	1.7%	2.9%	2.9%
	Thursday	1.8%	2.3%	0.9%	-	2.7%	3.6%	3.6%	2.9%	2.8%	3.0%	4.3%	2.7%	2.8%	2.8%	3.2%	1.2%	2.9%	0.5%
	Friday	1.9%	1.4%	0.9%	-	2.8%	3.2%	3.2%	2.9%	3.5%	2.5%	4.0%	2.6%	2.9%	2.7%	3.4%	2.1%	3.0%	0.8%
	Saturday	2.6%	2.6%	2.1%	-	3.6%	4.2%	4.2%	3.7%	4.0%	3.3%	5.0%	3.1%	3.7%	3.2%	4.4%	4.4%	3.8%	1.3%
	Sunday	2.0%	2.1%	2.0%	-	3.6%	4.4%	4.4%	3.7%	3.8%	1.8%	5.4%	2.9%	3.7%	3.3%	4.6%	2.9%	3.5%	3.8%
Time of Day	12-3 AM	5.3%	3.6%	2.4%	-	4.8%	8.2%	8.2%	5.3%	7.0%	4.7%	6.9%	3.6%	5.6%	3.8%	7.0%	4.1%	6.7%	6.1%
	3-6 AM	4.0%	10.1%	1.1%	-	5.8%	7.3%	7.3%	6.2%	6.4%	4.5%	8.9%	5.5%	5.9%	5.4%	8.2%	5.2%	5.2%	7.9%
	6-9 AM	1.9%	2.2%	0.0%	-	3.4%	4.2%	4.2%	3.5%	4.0%	2.7%	4.3%	3.0%	3.6%	3.1%	4.3%	3.4%	3.6%	2.1%
	9-Noon	1.4%	1.1%	1.4%	-	2.8%	3.2%	3.2%	2.9%	2.9%	1.0%	4.6%	2.5%	2.7%	2.3%	3.5%	1.7%	3.1%	0.5%
	Noon-3 PM	1.0%	0.0%	1.2%	-	2.1%	2.3%	2.3%	2.2%	2.0%	1.9%	3.5%	2.2%	2.0%	2.1%	2.5%	1.6%	2.0%	0.4%
	3-6 PM	1.2%	1.2%	0.7%	-	2.0%	2.1%	2.1%	2.0%	1.9%	1.7%	2.6%	1.9%	2.0%	2.0%	2.3%	1.4%	1.8%	0.3%
	6-9 PM	1.9%	0.9%	1.7%	-	3.3%	3.6%	3.6%	3.3%	3.3%	2.9%	4.1%	3.0%	3.3%	3.2%	3.6%	2.4%	3.3%	2.8%
	9-Midnight	4.1%	4.6%	1.1%	-	4.9%	6.1%	6.1%	5.1%	5.8%	4.4%	6.1%	4.8%	5.1%	5.1%	5.8%	1.6%	5.1%	4.0%
Lighting Conditions	Dark - Lighted	3.9%	4.5%	2.0%	-	4.6%	5.3%	5.3%	4.7%	5.1%	4.0%	4.6%	3.8%	4.8%	4.1%	5.3%	3.3%	4.9%	5.6%
	Dark - Not Lighted	5.3%	0.0%	0.0%	-	6.1%	10.2%	10.2%	7.0%	9.1%	8.8%	10.0%	6.8%	6.3%	6.6%	8.6%	3.1%	7.0%	4.2%
	Dark - Unknown Lighting	3.4%	0.0%	0.0%	-	1.0%	1.5%	1.5%	1.1%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	1.2%	0.0%	1.4%	28.6%
	Dawn	1.9%	6.9%	0.0%	-	4.1%	4.5%	4.5%	4.2%	4.6%	0.0%	5.9%	3.9%	4.0%	4.4%	4.6%	0.0%	4.2%	0.0%
	Daylight	1.2%	0.8%	0.9%	-	2.4%	2.6%	2.6%	2.4%	2.4%	1.7%	3.5%	2.3%	2.4%	2.2%	2.9%	1.7%	2.3%	0.4%
	Dusk	1.1%	0.0%	0.0%	-	2.5%	3.6%	3.6%	2.7%	3.3%	4.5%	3.7%	2.8%	2.7%	2.4%	3.0%	2.6%	3.2%	0.0%
	Other	0.0%	-	-	-	9.1%	11.1%	11.1%	9.4%	25.0%	0.0%	20.0%	15.4%	9.1%	3.2%	17.6%	100.0%	8.3%	-
	Unknown	0.0%	0.0%	0.0%	-	0.7%	3.0%	3.0%	0.9%	0.0%	0.0%	2.6%	0.0%	0.8%	1.2%	0.0%	0.0%	0.0%	-

Attachment C-4
Orange County
Percent of All KSI Crashes 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
		2-3	4-5	6-8																						
Type	Angle	3.9%	3.2%	1.8%	3.0%	5.2%	0.7%	1.6%	2.6%	3.9%	0.7%	0.1%	2.1%	2.2%	2.4%	0.3%	0.2%	1.7%	2.8%	2.7%	2.6%	0.0%	0.3%	0.0%	5.0%	0.8%
	Animal	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
	Bicycle	1.6%	2.0%	1.2%	1.5%	2.7%	0.5%	0.6%	1.1%	2.6%	0.4%	0.0%	1.6%	1.0%	1.1%	0.2%	0.1%	0.7%	1.1%	1.3%	2.0%	0.0%	0.0%	0.0%	3.5%	0.5%
	Head On	1.4%	1.1%	0.4%	1.4%	1.4%	0.2%	0.2%	0.7%	1.5%	0.5%	0.0%	0.8%	0.8%	1.0%	0.1%	0.0%	0.2%	1.1%	1.0%	0.9%	0.0%	0.1%	0.0%	1.4%	0.3%
	Left Turn	5.2%	10.8%	5.5%	4.0%	15.6%	1.7%	1.2%	4.1%	14.1%	2.1%	0.1%	5.5%	8.1%	5.2%	0.4%	0.2%	1.7%	4.7%	8.9%	8.4%	0.0%	1.0%	0.0%	14.0%	2.8%
	Off Road	4.1%	4.5%	1.7%	5.5%	4.6%	0.4%	1.6%	2.2%	5.3%	1.0%	0.2%	2.3%	3.0%	2.6%	0.3%	0.2%	2.2%	2.9%	3.5%	3.0%	0.1%	0.5%	0.0%	4.3%	1.4%
	Other	3.7%	4.2%	3.0%	4.4%	5.7%	1.0%	1.6%	2.2%	5.7%	1.0%	0.3%	3.6%	2.9%	2.2%	0.4%	0.1%	2.0%	2.7%	3.2%	4.3%	0.1%	0.4%	0.0%	6.1%	1.3%
	Pedestrian	3.1%	5.1%	5.2%	3.7%	8.2%	1.4%	1.3%	2.7%	8.0%	1.4%	0.0%	5.7%	3.8%	2.1%	0.2%	0.0%	1.5%	2.1%	4.1%	7.2%	0.0%	0.1%	0.0%	11.0%	1.0%
	Rear End	3.1%	8.2%	8.6%	4.1%	12.5%	3.1%	0.3%	2.2%	14.3%	2.9%	0.2%	8.7%	7.0%	3.0%	0.3%	0.2%	0.6%	2.4%	6.7%	12.4%	0.0%	0.8%	0.0%	17.7%	2.5%
	Right Turn	0.3%	0.7%	0.5%	0.3%	1.0%	0.2%	0.0%	0.3%	0.9%	0.2%	0.0%	0.5%	0.6%	0.3%	0.0%	0.0%	0.1%	0.3%	0.5%	0.8%	0.0%	0.0%	0.0%	1.1%	0.1%
	Rollover	0.5%	0.5%	0.3%	0.8%	0.4%	0.1%	0.1%	0.3%	0.5%	0.2%	0.2%	0.6%	0.2%	0.3%	0.0%	0.0%	0.2%	0.5%	0.3%	0.4%	0.0%	0.4%	0.0%	0.6%	0.2%
	Sideswipe	0.7%	1.4%	1.4%	1.0%	2.1%	0.4%	0.2%	0.6%	2.0%	0.7%	0.0%	1.6%	1.0%	0.5%	0.1%	0.0%	0.2%	0.5%	1.1%	1.9%	0.0%	0.1%	0.0%	3.2%	0.2%
	Unknown	0.2%	0.7%	0.4%	0.3%	1.0%	0.0%	0.1%	0.3%	0.8%	0.2%	0.0%	0.5%	0.4%	0.3%	0.0%	0.0%	0.1%	0.3%	0.5%	0.6%	0.0%	0.1%	0.0%	1.0%	0.2%
Alcohol Related	Y	1.5%	2.3%	1.4%	2.0%	2.8%	0.3%	0.5%	1.1%	2.8%	0.6%	0.2%	2.0%	1.2%	1.2%	0.2%	0.1%	0.4%	1.6%	1.7%	2.1%	0.1%	0.4%	0.0%	3.5%	0.7%
	N	26.4%	40.0%	28.4%	28.1%	57.5%	9.3%	8.4%	18.1%	56.7%	10.7%	0.9%	31.4%	29.7%	19.8%	2.2%	1.0%	10.8%	19.9%	32.3%	42.5%	0.1%	3.6%	0.0%	65.2%	10.6%
Hit and Run	Y	3.1%	3.8%	3.5%	2.7%	6.5%	1.0%	1.1%	2.0%	6.2%	1.0%	0.0%	3.7%	3.0%	2.1%	0.2%	0.1%	1.1%	2.0%	3.3%	4.9%	0.0%	0.1%	0.0%	7.3%	0.8%
	N	24.9%	38.5%	26.3%	27.3%	53.8%	8.7%	7.7%	17.2%	53.4%	10.3%	1.0%	29.7%	27.9%	18.9%	2.2%	0.9%	10.1%	19.5%	30.6%	39.6%	0.2%	3.9%	0.0%	61.5%	10.4%
Aggressive Driving	Y	1.8%	2.0%	1.0%	1.5%	3.0%	0.3%	0.5%	1.5%	2.5%	0.3%	0.1%	1.5%	1.1%	1.5%	0.2%	0.0%	0.4%	1.5%	1.7%	1.7%	0.0%	0.1%	0.0%	2.2%	0.6%
	N	26.1%	40.2%	28.8%	28.6%	57.3%	9.4%	8.4%	17.8%	57.1%	11.0%	1.0%	31.8%	29.9%	19.5%	2.2%	1.0%	10.8%	20.0%	32.2%	42.9%	0.2%	3.8%	0.0%	66.6%	10.6%
Distracted Driving	Y	7.5%	12.5%	8.2%	7.8%	17.4%	3.0%	2.2%	4.6%	18.0%	3.2%	0.3%	8.8%	9.8%	5.9%	0.5%	0.4%	2.8%	5.7%	10.1%	12.8%	0.1%	1.5%	0.0%	19.1%	4.0%
	N	20.4%	29.8%	21.6%	22.2%	42.9%	6.6%	6.7%	14.7%	41.6%	8.1%	0.8%	24.6%	21.1%	15.1%	1.8%	0.7%	8.4%	15.8%	23.8%	31.8%	0.1%	2.5%	0.0%	49.7%	7.2%
Intersection Related	Y	12.2%	17.3%	11.8%	9.2%	27.5%	4.1%	3.7%	9.2%	24.1%	4.2%	0.2%	12.5%	13.1%	9.6%	1.0%	0.5%	4.1%	10.1%	14.4%	16.9%	0.0%	1.5%	0.0%	27.9%	5.1%
	N	15.7%	24.9%	18.0%	20.8%	32.8%	5.5%	5.2%	10.1%	35.4%	7.1%	0.9%	20.8%	17.9%	11.4%	1.4%	0.6%	7.1%	11.4%	19.6%	27.7%	0.2%	2.5%	0.0%	40.9%	6.1%
Drug Related	Y	0.8%	1.3%	0.8%	0.9%	1.8%	0.3%	0.3%	0.5%	1.9%	0.4%	0.0%	1.1%	0.9%	0.6%	0.1%	0.1%	0.2%	0.7%	1.0%	1.4%	0.0%	0.1%	0.0%	2.0%	0.6%
	N	27.1%	40.9%	29.0%	29.2%	58.5%	9.3%	8.6%	18.8%	57.7%	10.9%	1.0%	32.2%	30.1%	20.3%	2.3%	1.0%	11.0%	20.8%	33.0%	43.2%	0.2%	3.9%	0.0%	66.8%	10.7%
Aging Driver	Y	4.1%	6.2%	3.7%	3.9%	8.7%	1.5%	1.1%	2.9%	8.3%	1.6%	0.1%	4.6%	4.4%	2.9%	0.4%	0.1%	1.6%	3.3%	5.0%	5.9%	0.0%	0.9%	0.0%	10.1%	1.6%
	N	23.8%	36.1%	26.1%	26.2%	51.6%	8.1%	7.7%	16.4%	51.2%	9.7%	1.0%	28.7%	26.5%	18.1%	2.0%	0.9%	9.6%	18.2%	29.0%	38.7%	0.2%	3.1%	0.0%	58.7%	9.7%
Teenage Driver	Y	3.1%	5.1%	3.5%	3.2%	7.4%	1.1%	0.9%	1.9%	7.5%	1.3%	0.0%	3.4%	3.8%	2.5%	0.3%	0.1%	1.4%	2.6%	3.5%	5.4%	0.0%	0.3%	0.0%	8.1%	1.4%
	N	24.8%	37.2%	26.4%	26.9%	52.9%	8.6%	7.9%	17.3%	52.1%	10.0%	1.1%	29.9%	27.2%	18.4%	2.1%	0.9%	9.9%	18.8%	30.4%	39.2%	0.2%	3.7%	0.0%	60.7%	9.8%
Day of the Week	Monday	4.5%	5.3%	4.0%	4.4%	8.1%	1.3%	1.3%	2.6%	8.3%	1.5%	0.2%	4.5%	4.0%	3.2%	0.4%	0.2%	1.5%	3.3%	4.5%	6.0%	0.1%	0.5%	0.0%	9.8%	1.7%
	Tuesday	3.7%	6.2%	4.5%	4.3%	9.0%	1.2%	1.2%	2.7%	8.6%	1.6%	0.2%	4.5%	4.7%	2.9%	0.4%	0.1%	1.7%	2.9%	5.2%	6.3%	0.0%	0.5%	0.0%	9.9%	1.2%
	Wednesday	3.8%	6.0%	4.4%	4.1%	8.9%	1.1%	1.2%	3.0%	8.2%	1.5%	0.2%	4.9%	4.2%	3.0%	0.3%	0.2%	1.6%	3.2%	4.6%	6.4%	0.0%	0.6%	0.0%	9.5%	1.6%
	Thursday	4.0%	6.3%	4.0%	4.1%	8.8%	1.4%	1.2%	2.7%	8.7%	1.6%	0.1%	4.7%	4.6%	3.1%	0.2%	0.2%	1.5%	2.9%	4.8%	6.6%	0.0%	0.6%	0.0%	10.0%	1.5%
	Friday	4.5%	6.5%	4.8%	4.7%	9.5%	1.7%	1.5%	3.0%	9.4%	1.8%	0.1%	5.4%	5.0%	2.9%	0.4%	0.2%	1.9%	3.4%	5.4%	6.9%	0.0%	0.6%	0.0%	10.8%	1.8%
	Saturday	3.8%	6.7%	4.6%	4.2%	9.1%	1.7%	1.3%	2.8%	9.1%	1.7%	0.2%	5.1%	4.7%	3.2%	0.3%	0.2%	1.5%	3.0%	5.1%	7.1%	0.0%	0.6%	0.0%	10.3%	1.8%
	Sunday	3.7%	5.2%	3.6%	4.2%	6.9%	1.3%	1.1%	2.4%	7.2%	1.6%	0.1%	4.1%	3.8%	2.7%	0.4%	0.1%	1.5%	2.7%	4.3%	5.4%	0.0%	0.5%	0.0%	8.5%	1.6%
Time of Day	12-3 AM	2.0%	3.6%	2.9%	2.9%	4.4%	1.0%	0.6%	1.7%	4.7%	1.1%	0.2%	3.5%	2.5%	1.5%	0.1%	0.0%	0.7%	1.7%	2.7%	4.3%	0.0%	0.4%	0.0%	6.2%	1.1%
	3-6 AM	1.8%	2.3%	2.0%	2.1%	3.2%	0.7%	0.4%	1.3%	3.3%	0.9%	0.1%	2.2%	1.9%	1.3%	0.2%	0.1%	0.6%	1.3%	2.0%	2.8%	0.1%	0.3%	0.0%	4.0%	0.8%
	6-9 AM	4.0%	6.1%	3.7%	3.7%	8.7%	1.3%	1.1%	2.6%	8.3%	1.5%	0.3%	4.1%	4.5%	3.1%	0.4%	0.1%	1.5%	3.2%	4.7%	5.9%	0.1%	0.9%	0.0%	9.0%	1.5%
	9-Noon	3.5%	5.2%	3.8%	3.7%	7.3%	1.4%	1.2%	2.3%	7.3%	1.4%	0.1%	4.1%	4.0%	2.4%	0.3%	0.1%	1.6%	2.6%	3.9%	5.7%	0.0%	0.6%	0.0%	8.4%	1.5%
	Noon-3 PM	3.9%	5.6%	3.6%	4.0%	8.0%	1.2%	1.3%	2.8%	7.7%	1.2%	0.1%	4.0%	4.2%	2.7%	0.4%	0.2%	1.8%	2.9%	4.7%	5.2%	0.0%	0.4%	0.0%	8.8%	1.3%
	3-6 PM	4.5%	6.4%	4.0%	4.9%	9.1%	1.0%	1.7%	2.8%	8.9%	1.5%	0.1%	4.7%	4.3%	3.6%	0.3%	0.2%	1.9%	3.5%	5.4%	5.9%	0.0%	0.5%	0.0%	9.7%	1.8%
	6-9 PM	4.4%	7.4%	5.2%	4.7%	10.6%	1.7%	1.4%	3.0%	10.7%	1.8%	0.1%	5.6%	5.2%	3.7%	0.4%	0.3%	1.8%	3.2%	6.2%	7.6%	0.0%	0.4%	0.0%	11.5%	1.5%
	9-Midnight	3.9%	5.9%	4.8%	4.1%	9.0%	1.4%	1.2%	2.8%	8.7%	1.8%	0.1%	5.2%	4.5%	3.0%	0.2%	0.2%	1.4%	3.1%	4.3%	7.3%	0.0%	0.4%	0.0%	11.1%	1.7%
Lighting Conditions	Dark - Lighted	7.2%	13.8%	11.6%	8.9%	20.0%	3.7%	2.2%	6.8%	19.9%	3.6%	0.1%	12.5%	10.0%	6.2%	0.6%	0.4%	2.8%	5.7%	10.7%	17.1%	0.0%	0.4%	0.0%	23.9%	3.5%
	Dark - Not Lighted	3.2%	2.8%	1.5%	3.2%	3.8%	0.5%	0.6%	1.3%	3.7%	1.5%	0.4%	2.6%	1.8%	1.7%	0.2%	0.1%	1.0%	2.5%	2.3%	2.5%	0.0%	1.2%	0.0%	5.3%	1.1%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Dawn	0.8%	0.9%	0.5%	0.7%	1.3%	0.2%	0.2%	0.4%	1.2%	0.3%	0.1%	0.6%	0.6%	0.6%	0.1%	0.0%	0.2%	0.7%	0.6%	0.8%	0.0%	0.2%	0.0%	1.3%	0.2%
	Daylight	15.7%	23.4%	15.1%	16.3%	33.2%	4.9%	5.4%	10.3%	32.5%	5.6%	0.5%	16.6%	17.6%	11.6%	1.4%	0.6%	6.8%	12.0%	19.1%	22.7%	0.1%	2.1%	0.0%	35.8%	6.2%
	Dusk	0.8%	1.3%	1.0%	1.0%	1.8%	0.4%	0.3%	0.5%	2.1%	0.3%	0.0%	1.0%	1.0%	0.7%	0.1%	0.0%	0.4%	0.5%	1.2%	1.4%	0.0%	0.1%	0.0%	2.3%	0.2%
	Other	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%
	Unknown	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Attachment C-4
Orange County
Percent of All KSI Crashes 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	1.3%	0.1%	0.2%	0.0%	6.2%	1.3%	1.5%	7.9%	0.9%	0.0%	1.2%	1.2%	6.4%	4.4%	2.5%	0.1%	1.9%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
	Bicycle	0.6%	0.0%	0.0%	0.0%	3.1%	0.5%	1.1%	4.3%	0.4%	0.1%	0.4%	0.3%	4.0%	1.8%	1.5%	0.0%	1.3%	0.1%
	Head On	0.6%	0.0%	0.0%	0.0%	2.1%	0.2%	0.7%	2.9%	0.1%	0.0%	0.6%	0.5%	1.9%	1.7%	0.7%	0.0%	0.6%	0.0%
	Left Turn	2.1%	0.3%	0.0%	0.0%	14.3%	3.3%	3.8%	18.7%	2.7%	0.1%	1.9%	2.7%	16.9%	7.3%	7.8%	0.3%	6.1%	0.1%
	Off Road	0.7%	0.1%	0.0%	0.0%	7.2%	0.8%	2.3%	9.8%	0.4%	0.0%	1.7%	1.5%	7.0%	4.2%	3.8%	0.2%	2.0%	0.1%
	Other	2.1%	0.2%	0.2%	0.0%	7.2%	1.3%	2.3%	9.8%	0.9%	0.1%	1.6%	1.3%	8.0%	4.3%	3.6%	0.3%	2.6%	0.1%
	Pedestrian	3.3%	0.3%	0.3%	0.0%	8.9%	1.7%	2.7%	11.6%	1.6%	0.2%	0.8%	1.1%	11.5%	5.0%	4.1%	0.2%	4.1%	0.1%
	Rear End	2.4%	0.1%	0.0%	0.0%	11.2%	4.0%	4.7%	16.3%	3.3%	0.2%	1.7%	1.8%	16.4%	3.9%	7.8%	0.6%	7.5%	0.1%
	Right Turn	0.1%	0.0%	0.0%	0.0%	0.8%	0.2%	0.4%	1.3%	0.2%	0.0%	0.1%	0.1%	1.2%	0.3%	0.6%	0.0%	0.6%	0.0%
	Rollover	0.1%	0.0%	0.0%	0.0%	0.8%	0.1%	0.4%	1.2%	0.1%	0.0%	0.4%	0.1%	0.8%	0.5%	0.6%	0.1%	0.2%	0.0%
	Sideswipe	0.4%	0.1%	0.0%	0.0%	1.9%	0.7%	0.8%	2.9%	0.5%	0.0%	0.2%	0.3%	2.8%	1.0%	1.4%	0.1%	0.9%	0.0%
	Unknown	0.2%	0.0%	0.0%	0.0%	0.7%	0.2%	0.4%	1.2%	0.2%	0.0%	0.1%	0.1%	1.1%	0.3%	0.5%	0.0%	0.4%	0.0%
Alcohol Related	Y	0.9%	0.1%	0.0%	0.0%	3.3%	0.7%	1.2%	4.7%	0.5%	0.0%	0.9%	0.5%	3.8%	2.0%	1.8%	0.2%	1.2%	0.0%
	N	13.0%	1.1%	0.7%	0.0%	61.3%	13.5%	20.0%	83.3%	10.8%	0.7%	10.0%	10.6%	74.2%	32.6%	33.1%	1.6%	27.0%	0.5%
Hit and Run	Y	1.8%	0.1%	0.1%	0.0%	7.2%	1.9%	1.9%	9.4%	0.9%	0.0%	0.8%	1.0%	8.6%	4.4%	2.7%	0.2%	3.0%	0.1%
	N	12.1%	1.1%	0.6%	0.0%	57.5%	19.3%	19.3%	78.5%	10.4%	0.7%	10.1%	10.1%	69.5%	30.3%	32.1%	1.6%	25.2%	0.4%
Aggressive Driving	Y	1.1%	0.1%	0.1%	0.0%	3.1%	1.0%	1.0%	4.2%	0.5%	0.0%	0.5%	0.8%	3.4%	2.1%	1.5%	0.0%	1.1%	0.0%
	N	12.8%	1.0%	0.6%	0.0%	61.5%	20.3%	20.3%	83.8%	10.8%	0.7%	10.4%	10.2%	74.6%	32.6%	33.4%	1.7%	27.1%	0.4%
Distracted Driving	Y	3.0%	0.2%	0.0%	0.0%	18.5%	5.7%	5.7%	24.7%	3.3%	0.2%	3.3%	3.1%	21.9%	9.0%	10.2%	0.7%	8.2%	0.1%
	N	10.9%	1.0%	0.7%	0.0%	46.2%	15.6%	15.6%	63.3%	8.0%	0.5%	7.6%	8.0%	56.2%	25.7%	24.6%	1.1%	20.0%	0.3%
Intersection Related	Y	5.6%	0.5%	0.5%	0.0%	26.7%	7.8%	7.8%	35.6%	5.5%	0.3%	3.9%	4.6%	32.9%	14.6%	13.9%	0.6%	12.1%	0.2%
	N	8.3%	0.7%	0.2%	0.0%	37.9%	13.5%	13.5%	52.4%	5.8%	0.5%	7.0%	6.5%	45.2%	20.1%	20.9%	1.2%	16.1%	0.3%
Drug Related	Y	0.5%	0.0%	0.0%	0.0%	2.1%	0.5%	0.5%	2.6%	0.4%	0.0%	0.4%	0.4%	2.2%	1.2%	1.0%	0.0%	0.8%	0.0%
	N	13.3%	1.2%	0.7%	0.0%	62.6%	20.8%	20.8%	85.4%	10.9%	0.7%	10.5%	10.6%	75.9%	33.5%	33.9%	1.8%	27.4%	0.5%
Aging Driver	Y	1.8%	0.1%	0.1%	0.0%	8.9%	3.0%	3.0%	12.1%	1.7%	0.2%	1.7%	1.5%	10.8%	5.0%	4.6%	0.2%	4.2%	0.0%
	N	12.0%	1.1%	0.6%	0.0%	55.7%	18.3%	18.3%	75.8%	9.6%	0.6%	9.2%	9.6%	67.3%	29.7%	30.2%	1.6%	24.0%	0.4%
Teenage Driver	Y	0.9%	0.1%	0.1%	0.0%	7.2%	2.8%	2.8%	10.1%	1.5%	0.1%	0.8%	1.5%	9.4%	3.5%	4.2%	0.2%	3.6%	0.1%
	N	13.0%	1.1%	0.6%	0.0%	57.5%	18.5%	18.5%	77.9%	9.8%	0.7%	10.1%	9.6%	68.7%	31.1%	30.6%	1.6%	24.6%	0.4%
Day of the Week	Monday	1.7%	0.1%	0.1%	0.0%	8.3%	2.8%	2.8%	12.2%	1.4%	0.1%	1.5%	1.4%	10.9%	5.0%	4.6%	0.3%	3.7%	0.1%
	Tuesday	1.8%	0.1%	0.1%	0.0%	8.5%	3.2%	3.2%	12.9%	1.4%	0.0%	1.6%	1.7%	11.1%	4.9%	5.0%	0.1%	4.2%	0.1%
	Wednesday	2.2%	0.2%	0.0%	0.0%	8.8%	2.3%	2.3%	12.2%	1.8%	0.2%	1.4%	1.9%	10.8%	4.7%	5.1%	0.2%	4.0%	0.1%
	Thursday	2.2%	0.3%	0.1%	0.0%	8.5%	3.1%	3.1%	12.7%	1.5%	0.1%	1.7%	1.5%	11.1%	5.3%	4.7%	0.2%	4.1%	0.0%
	Friday	2.4%	0.1%	0.1%	0.0%	9.4%	3.0%	3.0%	13.7%	2.0%	0.1%	1.6%	1.7%	12.5%	5.6%	5.3%	0.3%	4.6%	0.0%
	Saturday	2.3%	0.2%	0.2%	0.0%	9.1%	2.9%	2.9%	13.2%	1.8%	0.1%	1.6%	1.5%	12.0%	4.8%	5.4%	0.5%	4.3%	0.0%
	Sunday	1.4%	0.1%	0.1%	0.0%	7.7%	2.5%	2.5%	11.0%	1.4%	0.1%	1.5%	1.3%	9.7%	4.3%	4.7%	0.3%	3.2%	0.1%
Time of Day	12-3 AM	1.9%	0.1%	0.2%	0.0%	4.7%	1.9%	1.9%	7.2%	1.1%	0.1%	1.0%	0.8%	6.6%	2.4%	3.0%	0.2%	2.7%	0.1%
	3-6 AM	0.8%	0.3%	0.0%	0.0%	3.6%	1.1%	1.1%	5.3%	0.7%	0.0%	1.0%	0.7%	4.3%	2.1%	2.3%	0.2%	1.4%	0.1%
	6-9 AM	1.6%	0.2%	0.0%	0.0%	8.3%	2.7%	2.7%	12.1%	1.6%	0.1%	1.4%	1.5%	10.9%	4.6%	4.8%	0.3%	4.0%	0.1%
	9-Noon	1.6%	0.1%	0.1%	0.0%	7.6%	2.3%	2.3%	11.0%	1.4%	0.0%	1.5%	1.3%	9.6%	3.9%	4.3%	0.2%	4.0%	0.0%
	Noon-3 PM	1.6%	0.0%	0.1%	0.0%	8.1%	2.5%	2.5%	11.5%	1.3%	0.1%	1.5%	1.5%	10.0%	4.9%	4.4%	0.2%	3.5%	0.0%
	3-6 PM	2.3%	0.2%	0.1%	0.0%	9.3%	2.9%	2.9%	13.4%	1.4%	0.1%	1.3%	1.7%	11.9%	5.8%	5.1%	0.2%	3.8%	0.0%
	6-9 PM	1.9%	0.1%	0.1%	0.0%	10.3%	3.4%	3.4%	14.9%	1.9%	0.2%	1.5%	1.9%	13.6%	5.9%	5.8%	0.3%	4.8%	0.1%
	9-Midnight	2.2%	0.2%	0.1%	0.0%	8.5%	3.0%	3.0%	12.5%	1.9%	0.1%	1.6%	1.7%	11.2%	5.1%	5.2%	0.2%	4.1%	0.1%
Lighting Conditions	Dark - Lighted	6.0%	0.7%	0.4%	0.0%	19.6%	6.2%	6.2%	28.2%	4.2%	0.3%	2.2%	3.1%	27.4%	10.3%	11.3%	0.7%	10.0%	0.3%
	Dark - Not Lighted	0.5%	0.0%	0.0%	0.0%	3.7%	2.3%	2.3%	6.6%	0.9%	0.1%	2.3%	1.4%	3.8%	3.2%	2.9%	0.1%	1.3%	0.0%
	Dark - Unknown Lighting	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.2%	0.1%	0.0%	0.0%	1.3%	0.4%	0.4%	1.9%	0.3%	0.0%	0.3%	0.3%	1.6%	0.8%	0.7%	0.0%	0.6%	0.0%
	Daylight	6.9%	0.4%	0.3%	0.0%	33.8%	10.2%	10.2%	48.4%	5.6%	0.3%	5.7%	5.9%	42.7%	19.3%	18.9%	0.8%	15.2%	0.1%
	Dusk	0.2%	0.0%	0.0%	0.0%	1.7%	0.7%	0.7%	2.7%	0.4%	0.0%	0.3%	0.4%	2.4%	0.9%	1.1%	0.1%	1.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%

Percent of All KSI Crashes involving only Car Truck 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
		2-3	4-5	6-8																						
Type	Angle	5.0%	4.1%	2.3%	3.7%	6.7%	0.9%	1.9%	3.4%	5.0%	1.0%	0.1%	2.6%	3.0%	3.1%	0.4%	0.2%	2.2%	3.6%	3.3%	3.3%	0.0%	0.3%	0.0%	6.9%	1.2%
	Animal	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Head On	1.9%	1.5%	0.6%	1.8%	1.8%	0.2%	0.3%	1.0%	2.1%	0.6%	0.0%	1.0%	1.1%	1.3%	0.1%	0.1%	0.3%	1.5%	1.3%	1.2%	0.0%	0.2%	0.0%	2.0%	0.4%
	Left Turn	5.9%	12.9%	7.0%	4.3%	19.0%	2.2%	1.2%	4.7%	17.3%	2.6%	0.1%	6.6%	10.1%	6.1%	0.4%	0.3%	1.9%	5.2%	11.0%	10.3%	0.1%	1.4%	0.0%	17.8%	3.6%
	Off Road	4.9%	5.4%	2.1%	6.7%	5.5%	0.6%	1.9%	2.6%	6.4%	1.3%	0.3%	3.0%	3.6%	3.1%	0.3%	0.2%	2.6%	3.4%	4.3%	3.6%	0.2%	0.8%	0.0%	5.4%	1.8%
	Other	4.4%	4.6%	3.3%	5.0%	6.4%	1.2%	2.0%	2.5%	6.4%	1.0%	0.3%	3.9%	3.2%	2.5%	0.4%	0.1%	2.5%	3.1%	3.5%	4.8%	0.1%	0.5%	0.0%	6.8%	1.4%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Rear End	3.9%	10.6%	11.1%	5.2%	16.2%	4.0%	0.3%	2.8%	18.5%	3.8%	0.2%	10.9%	9.1%	4.0%	0.4%	0.3%	0.8%	3.1%	8.7%	15.9%	0.0%	1.0%	0.0%	23.3%	3.2%
	Right Turn	0.4%	0.9%	0.7%	0.4%	1.3%	0.3%	0.0%	0.4%	1.2%	0.2%	0.0%	0.5%	0.8%	0.5%	0.0%	0.0%	0.1%	0.4%	0.7%	1.0%	0.0%	0.0%	0.0%	1.4%	0.1%
	Rollover	0.3%	0.5%	0.1%	0.7%	0.2%	0.1%	0.1%	0.1%	0.3%	0.1%	0.2%	0.5%	0.1%	0.2%	0.2%	0.0%	0.0%	0.4%	0.2%	0.2%	0.0%	0.5%	0.0%	0.5%	0.2%
	Sideswipe	0.9%	1.7%	1.5%	1.1%	2.4%	0.5%	0.2%	0.7%	2.3%	0.8%	0.0%	1.8%	1.2%	0.5%	0.1%	0.1%	0.3%	0.6%	1.3%	2.3%	0.0%	0.2%	0.0%	3.7%	0.2%
Unknown	0.3%	0.8%	0.4%	0.4%	1.1%	0.0%	0.1%	0.3%	0.9%	0.2%	0.0%	0.5%	0.5%	0.4%	0.1%	0.0%	0.1%	0.4%	0.6%	0.6%	0.0%	0.2%	0.0%	1.2%	0.3%	
Alcohol Related	Y	1.8%	2.3%	1.7%	2.3%	3.0%	0.4%	0.6%	1.2%	3.1%	0.7%	0.2%	2.3%	1.4%	1.3%	0.2%	0.1%	0.5%	1.8%	1.7%	2.4%	0.1%	0.4%	0.0%	4.1%	0.8%
	N	26.1%	40.8%	27.4%	27.1%	57.7%	9.5%	7.5%	17.2%	57.4%	10.9%	1.2%	29.1%	31.2%	20.3%	2.1%	1.1%	10.5%	20.1%	33.3%	40.8%	0.2%	4.8%	0.0%	64.7%	11.7%
Hit and Run	Y	2.2%	3.2%	3.1%	2.1%	5.5%	0.8%	0.8%	1.5%	5.2%	0.9%	0.1%	2.9%	2.7%	1.8%	0.1%	0.2%	0.7%	1.7%	2.6%	4.3%	0.0%	0.1%	0.0%	6.2%	0.8%
	N	25.7%	39.8%	26.0%	27.3%	55.2%	9.1%	7.3%	16.9%	55.3%	10.7%	1.3%	28.5%	29.9%	19.8%	2.2%	1.1%	10.2%	20.2%	32.4%	38.8%	0.3%	5.1%	0.0%	62.6%	11.7%
Aggressive Driving	Y	1.8%	2.1%	1.0%	1.5%	3.1%	0.3%	0.5%	1.5%	2.5%	0.4%	0.1%	1.4%	1.1%	1.5%	0.2%	0.0%	0.5%	1.6%	1.8%	1.5%	0.0%	0.2%	0.0%	2.3%	0.8%
	N	26.1%	41.0%	28.1%	27.9%	57.6%	9.6%	7.6%	16.9%	58.1%	11.2%	1.3%	30.0%	31.4%	20.0%	2.1%	1.2%	10.5%	20.2%	33.2%	41.6%	0.3%	5.0%	0.0%	66.6%	11.7%
Distracted Driving	Y	8.3%	14.6%	9.7%	8.7%	20.3%	3.7%	2.2%	5.1%	21.0%	3.9%	0.4%	10.0%	11.8%	6.6%	0.6%	0.5%	3.1%	6.5%	12.0%	14.7%	0.1%	2.0%	0.0%	22.9%	5.3%
	N	19.5%	28.4%	19.4%	20.8%	40.4%	6.2%	5.9%	13.3%	39.5%	7.7%	0.9%	21.4%	20.8%	15.0%	1.7%	0.7%	7.9%	15.4%	23.0%	28.5%	0.2%	3.2%	0.0%	45.9%	7.2%
Intersection Related	Y	12.3%	18.5%	12.7%	9.0%	29.4%	4.4%	3.5%	9.2%	26.1%	4.5%	0.2%	12.9%	14.7%	9.7%	0.9%	0.5%	4.1%	10.1%	15.7%	17.6%	0.1%	2.0%	0.0%	30.7%	6.2%
	N	15.6%	24.6%	16.4%	20.4%	31.3%	5.5%	4.6%	9.3%	34.4%	7.1%	1.1%	18.5%	17.9%	11.9%	1.3%	0.7%	6.9%	11.7%	19.3%	25.6%	0.2%	3.2%	0.0%	38.1%	6.3%
Drug Related	Y	0.8%	1.3%	1.0%	0.9%	1.7%	0.4%	0.2%	0.5%	1.9%	0.4%	0.0%	1.3%	0.8%	0.7%	0.1%	0.1%	0.1%	0.7%	0.9%	1.6%	0.1%	0.1%	0.0%	2.3%	0.6%
	N	27.1%	41.8%	28.1%	28.5%	59.0%	9.5%	8.0%	17.9%	58.6%	11.2%	1.3%	30.1%	31.8%	20.9%	2.2%	1.2%	10.8%	21.1%	34.1%	41.6%	0.2%	5.2%	0.0%	66.5%	11.9%
Aging Driver	Y	4.8%	7.2%	4.3%	4.4%	10.0%	1.9%	1.2%	3.4%	9.7%	1.9%	0.1%	5.3%	5.2%	3.4%	0.5%	0.2%	1.8%	3.9%	5.7%	6.8%	0.0%	1.2%	0.0%	11.9%	1.9%
	N	23.1%	35.8%	24.7%	25.0%	50.7%	8.0%	7.0%	15.0%	50.8%	9.7%	1.2%	26.1%	27.3%	18.2%	1.8%	1.1%	9.1%	17.9%	29.3%	36.4%	0.3%	4.0%	0.0%	57.0%	10.6%
Teenage Driver	Y	3.7%	6.2%	4.0%	3.6%	8.8%	1.3%	1.1%	2.1%	9.1%	1.5%	0.0%	3.9%	4.8%	3.0%	0.4%	0.1%	1.6%	3.1%	4.4%	6.2%	0.0%	0.5%	0.0%	9.7%	2.0%
	N	24.2%	36.9%	25.1%	25.8%	51.8%	8.6%	7.0%	16.3%	51.4%	10.1%	1.3%	27.5%	27.8%	18.6%	1.9%	1.1%	9.4%	18.7%	30.6%	36.9%	0.3%	4.7%	0.0%	59.2%	10.5%
Day of the Week	Monday	4.5%	5.7%	3.9%	4.4%	8.4%	1.3%	1.1%	2.8%	8.6%	1.5%	0.2%	4.5%	4.1%	3.4%	0.4%	0.2%	1.4%	3.5%	4.8%	5.8%	0.1%	0.7%	0.0%	9.9%	2.0%
	Tuesday	3.9%	6.4%	4.2%	4.3%	9.1%	1.2%	1.2%	2.7%	8.9%	1.5%	0.2%	4.0%	5.2%	3.2%	0.4%	0.0%	1.7%	3.1%	5.5%	5.9%	0.1%	0.5%	0.0%	9.4%	1.4%
	Wednesday	3.9%	6.0%	4.4%	3.9%	9.3%	1.1%	1.1%	2.7%	8.4%	1.9%	0.2%	4.8%	4.4%	3.1%	0.3%	0.2%	1.5%	3.3%	4.5%	6.6%	0.0%	0.9%	0.0%	9.8%	1.9%
	Thursday	3.9%	6.3%	3.8%	4.2%	8.5%	1.3%	1.2%	2.3%	8.9%	1.5%	0.2%	4.2%	4.8%	3.1%	0.2%	0.2%	1.5%	3.0%	4.8%	6.2%	0.1%	0.8%	0.0%	9.7%	1.7%
	Friday	4.3%	6.5%	4.7%	4.4%	9.3%	1.7%	1.4%	2.8%	9.3%	1.9%	0.1%	5.0%	5.2%	2.8%	0.3%	0.2%	1.9%	3.0%	5.7%	6.5%	0.1%	0.8%	0.0%	11.1%	1.8%
	Saturday	3.7%	6.7%	4.6%	3.9%	9.3%	1.9%	1.1%	2.9%	9.1%	1.8%	0.3%	5.0%	4.8%	3.4%	0.2%	0.2%	1.4%	3.1%	5.3%	6.9%	0.0%	0.9%	0.0%	10.6%	2.0%
	Sunday	3.6%	5.4%	3.5%	4.2%	6.8%	1.4%	1.0%	2.3%	7.4%	1.6%	0.1%	3.9%	3.9%	2.6%	0.4%	0.1%	1.4%	2.7%	4.4%	5.3%	0.1%	0.6%	0.0%	8.3%	1.8%
Time of Day	12-3 AM	2.0%	3.6%	2.9%	2.8%	4.5%	1.0%	0.6%	1.7%	4.8%	1.0%	0.3%	3.3%	2.6%	1.6%	0.2%	0.1%	0.6%	1.9%	2.6%	4.2%	0.0%	0.6%	0.0%	6.2%	1.3%
	3-6 AM	1.7%	2.4%	2.1%	2.2%	3.3%	0.7%	0.4%	1.2%	3.5%	1.0%	0.1%	2.1%	2.1%	1.1%	0.2%	0.1%	0.5%	1.3%	2.0%	3.0%	0.1%	0.4%	0.0%	4.1%	1.0%
	6-9 AM	4.4%	6.7%	3.8%	4.2%	9.2%	1.5%	1.1%	2.6%	9.1%	1.8%	0.3%	4.1%	5.2%	3.4%	0.4%	0.1%	1.6%	3.5%	5.2%	6.2%	0.1%	1.3%	0.0%	9.7%	1.5%
	9-Noon	3.8%	6.0%	4.3%	3.9%	8.4%	1.8%	1.2%	2.3%	8.6%	1.8%	0.1%	4.6%	4.7%	2.7%	0.3%	0.1%	1.7%	2.8%	4.8%	6.5%	0.0%	0.9%	0.0%	9.8%	1.9%
	Noon-3 PM	3.9%	6.0%	3.9%	3.9%	8.8%	1.3%	1.2%	2.9%	8.5%	1.2%	0.1%	4.4%	4.6%	2.6%	0.4%	0.2%	1.8%	2.8%	5.1%	5.7%	0.0%	0.3%	0.0%	9.9%	1.5%
	3-6 PM	4.5%	6.8%	4.0%	4.8%	9.5%	1.1%	1.5%	2.8%	9.4%	1.5%	0.2%	4.6%	4.7%	3.7%	0.4%	0.2%	1.8%	3.5%	6.0%	5.7%	0.1%	0.7%	0.0%	9.9%	2.2%
	6-9 PM	3.9%	6.5%	4.5%	4.2%	9.1%	1.5%	1.1%	2.6%	9.5%	1.6%	0.1%	4.4%	5.0%	3.3%	0.3%	0.3%	1.6%	3.1%	5.4%	6.4%	0.0%	0.5%	0.0%	10.0%	1.5%
	9-Midnight	3.7%	5.0%	3.6%	3.4%	7.8%	1.1%	1.1%	2.3%	7.2%	1.6%	0.1%	3.8%	3.8%	3.1%	0.1%	0.2%	1.3%	2.9%	3.9%	5.5%	0.0%	0.5%	0.0%	9.2%	1.6%
Lighting Conditions	Dark - Lighted	7.2%	12.6%	9.9%	8.2%	18.0%	3.3%	2.2%	6.1%	18.0%	3.2%	0.2%	9.8%	9.7%	6.4%	0.5%	0.4%	2.7%	5.8%	10.1%	14.3%	0.1%	0.5%	0.0%	21.2%	4.1%
	Dark - Not Lighted	2.7%	2.2%	1.2%	2.8%	2.8%	0.3%	0.5%	0.9%	2.7%	1.4%	0.5%	2.1%	1.3%	1.5%	0.2%	0.1%	0.8%	2.3%	1.6%	1.8%	0.1%	1.5%	0.0%	3.6%	0.9%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Dawn	0.7%	0.8%	0.4%	0.6%	1.2%	0.1%	0.2%	0.3%	1.1%	0.3%	0.1%	0.6%	0.5%	0.6%	0.1%	0.0%	0.2%	0.6%	0.6%	0.6%	0.1%	0.3%	0.0%	1.3%	0.2%
	Daylight	16.4%	26.1%	16.6%	16.8%	36.7%	5.8%	4.9%	10.7%	36.6%	6.4%	0.6%	17.9%	20.1%	12.5%	1.5%	0.7%	6.7%	12.5%	21.7%	25.0%	0.1%	2.7%	0.0%	40.4%	7.0%
	Dusk	0.8%	1.3%	0.9%	0.9%	1.8%	0.4%	0.3%	0.4%	2.0%	0.3%	0.0%	0.9%	1.0%	0.7%	0.1%	0.1%	0.5%	0.6%	1.0%	1.4%	0.0%	0.2%	0.0%	2.2%	0.3%
	Other	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Attachment C-5
Orange County
Percent of All KSI Crashes involving only Car Truck 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	1.5%	0.1%	0.2%	0.0%	8.0%	1.6%	1.8%	10.1%	1.2%	0.1%	1.6%	1.7%	8.1%	5.7%	3.2%	0.1%	2.4%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.8%	0.0%	0.0%	0.0%	2.8%	0.2%	0.9%	3.8%	0.1%	0.0%	0.7%	0.6%	2.7%	2.2%	0.9%	0.1%	0.9%	0.0%
	Left Turn	2.2%	0.3%	0.0%	0.0%	17.1%	4.4%	4.3%	22.1%	3.6%	0.1%	2.4%	3.0%	20.5%	8.2%	9.7%	0.3%	7.5%	0.1%
	Off Road	0.7%	0.2%	0.0%	0.0%	8.6%	0.9%	2.9%	11.8%	0.6%	0.1%	2.2%	1.9%	8.4%	5.2%	4.7%	0.2%	2.3%	0.1%
	Other	2.6%	0.2%	0.2%	0.0%	8.5%	1.3%	2.4%	11.1%	1.0%	0.1%	1.9%	1.4%	9.0%	5.1%	3.9%	0.3%	2.7%	0.2%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	3.2%	0.1%	0.0%	0.0%	14.5%	5.2%	5.9%	20.9%	4.4%	0.2%	2.2%	2.2%	21.3%	5.0%	9.9%	0.8%	9.9%	0.1%
	Right Turn	0.2%	0.0%	0.0%	0.0%	1.2%	0.2%	0.5%	1.7%	0.2%	0.0%	0.2%	0.1%	1.6%	0.4%	0.7%	0.0%	0.9%	0.0%
	Rollover	0.1%	0.0%	0.0%	0.0%	0.5%	0.1%	0.4%	0.9%	0.1%	0.0%	0.4%	0.1%	0.5%	0.3%	0.5%	0.0%	0.1%	0.0%
	Sideswipe	0.4%	0.1%	0.1%	0.0%	2.3%	0.8%	1.0%	3.4%	0.6%	0.1%	0.3%	0.4%	3.3%	1.2%	1.8%	0.1%	1.0%	0.0%
	Unknown	0.1%	0.0%	0.0%	0.0%	0.8%	0.2%	0.5%	1.4%	0.2%	0.0%	0.1%	0.1%	1.3%	0.4%	0.7%	0.0%	0.4%	0.0%
Alcohol Related	Y	1.0%	0.1%	0.0%	0.0%	3.6%	0.8%	1.3%	5.1%	0.7%	0.0%	1.0%	0.5%	4.2%	2.2%	2.0%	0.2%	1.3%	0.0%
	N	10.8%	0.7%	0.5%	0.0%	60.7%	14.1%	19.4%	82.4%	11.3%	0.6%	10.9%	10.9%	72.4%	31.4%	34.1%	1.7%	26.7%	0.4%
Hit and Run	Y	1.3%	0.1%	0.0%	0.0%	5.7%	1.6%	1.6%	7.6%	0.9%	0.0%	0.6%	0.7%	7.3%	3.2%	2.5%	0.1%	2.6%	0.1%
	N	10.6%	0.8%	0.5%	0.0%	58.7%	19.1%	19.1%	79.8%	11.0%	0.6%	11.4%	10.8%	69.3%	30.4%	33.6%	1.8%	25.4%	0.3%
Aggressive Driving	Y	1.0%	0.1%	0.1%	0.0%	3.3%	0.9%	0.9%	4.3%	0.6%	0.0%	0.6%	0.9%	3.4%	2.2%	1.7%	0.1%	0.9%	0.0%
	N	10.9%	0.8%	0.4%	0.0%	61.1%	19.7%	19.7%	83.2%	11.4%	0.6%	11.4%	10.6%	73.2%	31.4%	34.4%	1.9%	27.0%	0.4%
Distracted Driving	Y	3.2%	0.1%	0.1%	0.0%	21.1%	6.4%	6.4%	28.2%	4.2%	0.2%	3.9%	3.5%	25.2%	9.8%	12.2%	0.9%	9.6%	0.1%
	N	8.6%	0.8%	0.4%	0.0%	43.2%	14.3%	14.3%	59.3%	7.7%	0.4%	8.0%	7.9%	51.4%	23.8%	23.9%	1.1%	18.3%	0.2%
Intersection Related	Y	4.9%	0.4%	0.3%	0.0%	28.0%	7.8%	7.8%	37.0%	6.2%	0.2%	4.5%	5.0%	34.0%	14.5%	15.4%	0.7%	12.7%	0.1%
	N	6.9%	0.4%	0.2%	0.0%	36.3%	12.8%	12.8%	50.4%	5.7%	0.4%	7.5%	6.5%	42.6%	19.1%	20.7%	1.3%	15.2%	0.2%
Drug Related	Y	0.6%	0.0%	0.0%	0.0%	2.0%	0.5%	0.5%	2.6%	0.4%	0.0%	0.4%	0.4%	2.2%	1.2%	1.1%	0.0%	0.8%	0.0%
	N	11.3%	0.8%	0.5%	0.0%	62.4%	20.1%	20.1%	84.8%	11.5%	0.6%	11.5%	11.0%	74.4%	32.4%	35.0%	1.9%	27.2%	0.4%
Aging Driver	Y	2.0%	0.1%	0.2%	0.0%	10.3%	3.3%	3.3%	13.9%	2.2%	0.2%	2.3%	1.9%	12.2%	5.6%	5.6%	0.3%	4.9%	0.0%
	N	9.9%	0.7%	0.3%	0.0%	54.1%	17.3%	17.3%	73.5%	9.7%	0.4%	9.7%	9.6%	64.4%	28.0%	30.5%	1.7%	23.1%	0.4%
Teenage Driver	Y	1.0%	0.1%	0.1%	0.0%	8.6%	3.4%	3.4%	12.1%	1.7%	0.1%	1.0%	1.8%	11.1%	4.1%	5.2%	0.2%	4.4%	0.1%
	N	10.9%	0.8%	0.4%	0.0%	55.8%	17.3%	17.3%	75.3%	10.3%	0.5%	10.9%	9.7%	65.5%	29.5%	30.9%	1.8%	23.6%	0.3%
Day of the Week	Monday	1.4%	0.2%	0.2%	0.0%	8.4%	3.0%	3.0%	12.6%	1.4%	0.1%	1.6%	1.4%	11.1%	4.8%	4.9%	0.3%	3.9%	0.1%
	Tuesday	1.6%	0.1%	0.1%	0.0%	8.9%	2.9%	2.9%	12.9%	1.5%	0.0%	1.8%	1.8%	10.8%	4.9%	5.1%	0.1%	4.3%	0.1%
	Wednesday	1.9%	0.1%	0.0%	0.0%	8.9%	2.4%	2.4%	12.3%	2.0%	0.1%	1.6%	2.0%	10.7%	4.7%	5.6%	0.2%	3.8%	0.1%
	Thursday	2.0%	0.1%	0.1%	0.0%	8.8%	2.9%	2.9%	12.6%	1.3%	0.1%	1.8%	1.5%	10.7%	5.1%	4.7%	0.1%	4.1%	0.0%
	Friday	1.5%	0.0%	0.1%	0.0%	9.2%	3.0%	3.0%	13.1%	2.2%	0.1%	1.9%	1.7%	11.9%	5.1%	5.5%	0.3%	4.6%	0.0%
	Saturday	2.0%	0.2%	0.1%	0.0%	8.9%	3.0%	3.0%	13.0%	2.0%	0.1%	1.8%	1.5%	11.8%	4.6%	5.7%	0.6%	4.1%	0.0%
	Sunday	1.5%	0.1%	0.1%	0.0%	7.8%	2.4%	2.4%	10.9%	1.5%	0.0%	1.5%	1.5%	9.5%	4.3%	4.6%	0.3%	3.3%	0.1%
Time of Day	12-3 AM	1.8%	0.1%	0.1%	0.0%	4.6%	2.1%	2.1%	7.2%	1.2%	0.1%	1.2%	0.8%	6.5%	2.3%	3.2%	0.3%	2.6%	0.1%
	3-6 AM	0.8%	0.2%	0.0%	0.0%	3.8%	1.1%	1.1%	5.4%	0.8%	0.0%	1.2%	0.7%	4.4%	2.0%	2.7%	0.2%	1.4%	0.0%
	6-9 AM	1.5%	0.1%	0.0%	0.0%	9.2%	2.8%	2.8%	13.1%	1.8%	0.1%	1.7%	1.5%	11.8%	5.1%	5.1%	0.4%	4.3%	0.1%
	9-Noon	1.6%	0.2%	0.1%	0.0%	8.6%	2.6%	2.6%	12.3%	1.7%	0.0%	1.9%	1.6%	10.6%	4.4%	5.1%	0.2%	4.4%	0.0%
	Noon-3 PM	1.8%	0.0%	0.1%	0.0%	8.6%	2.6%	2.6%	12.2%	1.5%	0.1%	1.6%	1.6%	10.7%	5.0%	4.7%	0.2%	3.9%	0.0%
	3-6 PM	1.9%	0.2%	0.1%	0.0%	9.7%	3.0%	3.0%	13.8%	1.4%	0.1%	1.3%	1.8%	12.2%	5.8%	5.5%	0.2%	3.8%	0.0%
	6-9 PM	1.0%	0.1%	0.1%	0.0%	9.1%	3.0%	3.0%	12.9%	1.8%	0.1%	1.5%	1.8%	11.6%	4.9%	5.4%	0.3%	4.1%	0.1%
	9-Midnight	1.5%	0.1%	0.0%	0.0%	7.2%	2.5%	2.5%	10.5%	1.7%	0.0%	1.7%	1.7%	8.9%	4.2%	4.4%	0.2%	3.4%	0.1%
Lighting Conditions	Dark - Lighted	4.3%	0.3%	0.2%	0.0%	18.1%	5.6%	5.6%	25.4%	4.1%	0.2%	2.5%	3.3%	23.9%	9.2%	10.7%	0.8%	8.7%	0.3%
	Dark - Not Lighted	0.4%	0.0%	0.0%	0.0%	2.9%	2.0%	2.0%	5.4%	0.6%	0.0%	2.3%	1.2%	2.5%	2.5%	2.4%	0.1%	1.0%	0.0%
	Dark - Unknown Lighting	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.2%	0.1%	0.0%	0.0%	1.1%	0.4%	0.4%	1.7%	0.2%	0.0%	0.4%	0.2%	1.4%	0.7%	0.7%	0.0%	0.5%	0.0%
	Daylight	6.8%	0.4%	0.3%	0.0%	37.0%	10.8%	10.8%	52.2%	6.5%	0.4%	6.4%	6.4%	46.3%	20.3%	21.1%	1.0%	16.7%	0.1%
	Dusk	0.1%	0.0%	0.0%	0.0%	1.7%	0.7%	0.7%	2.6%	0.4%	0.0%	0.3%	0.4%	2.4%	0.9%	1.1%	0.1%	1.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Percent of All KSI Crashes involving Motorcyclists 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
		2-3	4-5	6-8																						
Type	Angle	3.5%	3.1%	1.3%	3.4%	4.2%	0.5%	1.9%	2.4%	3.1%	0.5%	0.0%	2.6%	1.3%	2.2%	0.3%	0.2%	1.4%	2.2%	2.7%	2.4%	0.0%	0.3%	0.0%	3.2%	0.0%
	Animal	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	1.1%	0.8%	0.0%	1.3%	0.6%	0.0%	0.3%	0.3%	0.6%	0.6%	0.0%	0.5%	0.3%	0.6%	0.2%	0.0%	0.3%	0.7%	0.9%	0.2%	0.0%	0.3%	0.0%	0.3%	0.0%
	Left Turn	8.9%	14.8%	5.0%	8.3%	18.9%	1.3%	2.7%	6.8%	16.6%	2.6%	3.0%	7.2%	8.8%	7.8%	0.8%	0.3%	3.5%	8.3%	10.0%	10.0%	0.0%	0.3%	0.0%	16.4%	3.2%
	Off Road	5.3%	5.6%	1.9%	6.9%	5.9%	0.3%	2.1%	3.1%	7.1%	0.6%	0.0%	1.9%	4.2%	3.4%	0.5%	0.2%	3.0%	3.6%	3.8%	3.8%	0.0%	0.0%	0.0%	5.8%	1.3%
	Other	5.6%	7.7%	5.6%	7.0%	10.6%	1.4%	2.1%	4.2%	9.8%	2.6%	0.3%	7.2%	5.3%	3.7%	0.5%	0.3%	2.1%	4.7%	6.4%	8.2%	0.3%	0.0%	0.0%	13.2%	2.6%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	2.7%	6.8%	6.6%	4.2%	9.1%	2.7%	0.2%	1.9%	11.4%	2.3%	0.3%	8.5%	5.4%	1.8%	0.2%	0.0%	0.2%	2.0%	5.3%	10.7%	0.0%	1.3%	0.0%	15.8%	2.3%
	Right Turn	0.0%	0.3%	0.6%	0.3%	0.5%	0.2%	0.0%	0.0%	0.5%	0.3%	0.2%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.7%	0.0%	0.3%	0.0%	1.3%	0.0%
	Rollover	2.7%	1.3%	1.3%	2.4%	2.6%	0.3%	0.3%	1.6%	2.3%	1.0%	0.2%	1.6%	0.8%	1.8%	0.3%	0.0%	0.8%	1.8%	1.1%	2.2%	0.0%	0.3%	0.0%	2.3%	0.6%
	Sideswipe	0.8%	1.4%	2.7%	1.4%	3.2%	0.3%	0.2%	0.8%	3.1%	1.0%	0.0%	2.9%	1.1%	0.8%	0.2%	0.0%	0.0%	0.7%	2.0%	2.9%	0.0%	0.0%	0.0%	5.8%	0.3%
Unknown	0.3%	1.0%	0.6%	0.2%	1.6%	0.2%	0.0%	0.5%	1.1%	0.3%	0.0%	1.1%	0.5%	0.3%	0.0%	0.0%	0.0%	0.4%	0.5%	1.3%	0.0%	0.0%	0.0%	1.6%	0.0%	
Alcohol Related	Y	1.6%	3.5%	1.0%	2.1%	4.0%	0.0%	0.5%	1.1%	3.2%	0.8%	0.5%	2.1%	1.1%	1.9%	0.2%	0.2%	0.6%	2.0%	2.0%	2.2%	0.0%	1.0%	0.0%	3.5%	0.6%
	N	29.8%	39.3%	24.8%	33.6%	53.1%	7.2%	9.5%	20.5%	52.3%	11.1%	0.5%	32.2%	26.7%	20.5%	2.9%	0.8%	10.9%	22.9%	30.9%	40.1%	0.3%	1.9%	0.0%	62.1%	9.6%
Hit and Run	Y	2.1%	2.3%	1.1%	1.4%	3.4%	0.6%	0.3%	1.3%	3.2%	0.6%	0.0%	1.4%	1.4%	1.8%	0.3%	0.2%	0.3%	1.5%	2.0%	2.2%	0.0%	0.3%	0.0%	3.9%	0.0%
	N	29.3%	40.6%	24.6%	34.2%	53.8%	6.6%	9.7%	20.3%	52.3%	11.3%	1.0%	32.8%	26.4%	20.6%	2.7%	0.8%	11.2%	23.4%	30.9%	40.1%	0.3%	2.6%	0.0%	61.7%	10.3%
Aggressive Driving	Y	3.4%	3.9%	1.3%	2.9%	5.1%	0.5%	0.8%	2.9%	4.8%	0.0%	0.0%	2.9%	1.9%	3.2%	0.0%	0.0%	0.5%	2.4%	2.9%	3.8%	0.0%	0.0%	0.0%	3.5%	1.0%
	N	28.0%	39.0%	24.5%	32.8%	52.0%	6.7%	9.2%	18.7%	50.7%	11.9%	1.0%	31.4%	25.9%	19.2%	3.0%	1.0%	11.0%	22.5%	29.9%	38.5%	0.3%	2.9%	0.0%	62.1%	9.3%
Distracted Driving	Y	8.1%	11.8%	6.4%	9.6%	14.9%	1.6%	2.9%	4.8%	15.1%	3.2%	0.2%	8.3%	8.3%	6.6%	0.2%	0.3%	2.4%	6.5%	8.3%	11.8%	0.0%	1.3%	0.0%	16.7%	1.3%
	N	23.3%	31.1%	19.3%	26.1%	42.2%	5.6%	7.1%	16.7%	40.4%	8.7%	0.8%	25.9%	19.5%	15.8%	2.9%	0.6%	9.1%	18.3%	24.5%	30.5%	0.3%	1.6%	0.0%	48.9%	9.0%
Intersection Related	Y	14.3%	18.8%	7.7%	13.1%	25.0%	2.6%	4.7%	9.7%	22.2%	4.0%	0.3%	12.2%	10.7%	11.8%	1.3%	0.5%	4.2%	12.9%	14.0%	14.3%	0.0%	1.0%	0.0%	23.5%	4.2%
	N	17.1%	24.0%	18.0%	22.6%	32.2%	4.6%	5.3%	11.9%	33.3%	7.9%	0.6%	22.1%	17.1%	10.6%	1.8%	0.5%	7.4%	12.0%	18.9%	27.9%	0.3%	1.9%	0.0%	42.1%	6.1%
Drug Related	Y	1.8%	2.1%	0.5%	1.1%	3.0%	0.2%	0.8%	0.6%	2.3%	0.5%	0.2%	0.6%	1.4%	1.3%	0.2%	0.2%	0.6%	1.6%	1.3%	1.3%	0.0%	0.3%	0.0%	1.9%	1.0%
	N	29.6%	40.7%	25.3%	34.6%	54.1%	7.0%	9.2%	20.9%	53.3%	11.4%	0.8%	33.6%	26.4%	21.1%	2.9%	0.8%	10.9%	23.2%	31.6%	41.0%	0.3%	2.6%	0.0%	63.7%	9.3%
Aging Driver	Y	2.9%	4.5%	1.9%	2.6%	5.6%	1.1%	1.0%	1.1%	5.8%	1.4%	0.0%	3.0%	2.9%	1.9%	0.3%	0.0%	1.1%	1.6%	4.2%	3.4%	0.0%	0.3%	0.0%	7.4%	1.0%
	N	28.5%	38.3%	23.8%	33.1%	51.5%	6.1%	9.0%	20.5%	49.8%	10.5%	1.0%	31.2%	25.0%	20.5%	2.7%	1.0%	10.4%	23.2%	28.7%	38.8%	0.3%	2.6%	0.0%	58.2%	9.3%
Teenage Driver	Y	2.3%	3.7%	2.3%	2.6%	5.1%	0.5%	0.8%	1.4%	4.7%	1.3%	0.0%	3.4%	1.0%	1.9%	0.3%	0.3%	1.3%	2.4%	2.0%	3.4%	0.0%	0.0%	0.0%	6.1%	0.3%
	N	29.1%	39.1%	23.5%	33.1%	52.0%	6.7%	9.2%	20.1%	50.9%	10.6%	1.0%	30.9%	26.9%	20.5%	2.7%	0.6%	10.2%	22.5%	30.9%	38.8%	0.3%	2.9%	0.0%	59.5%	10.0%
Day of the Week	Monday	5.0%	3.7%	2.4%	4.3%	6.1%	0.6%	1.4%	1.8%	6.6%	1.0%	0.3%	2.7%	3.7%	2.9%	0.3%	0.0%	1.4%	3.8%	3.1%	4.0%	0.3%	0.3%	0.0%	6.8%	1.0%
	Tuesday	2.4%	5.8%	3.9%	3.4%	8.0%	0.6%	0.8%	2.4%	6.6%	2.1%	0.2%	5.1%	3.0%	2.1%	0.6%	0.3%	0.8%	2.4%	4.5%	5.6%	0.0%	1.0%	0.0%	8.7%	1.0%
	Wednesday	3.5%	7.1%	2.7%	5.3%	7.4%	0.6%	1.0%	4.5%	7.1%	0.8%	0.0%	4.5%	4.2%	2.9%	0.2%	0.3%	1.3%	2.4%	6.4%	4.9%	0.0%	0.0%	0.0%	7.7%	1.3%
	Thursday	5.2%	6.8%	4.5%	5.1%	9.9%	1.3%	1.6%	4.0%	9.0%	1.8%	0.0%	5.8%	5.0%	3.5%	0.3%	0.0%	1.8%	3.3%	5.8%	7.4%	0.0%	0.3%	0.0%	11.3%	1.6%
	Friday	5.6%	7.1%	4.2%	6.6%	9.3%	1.1%	2.1%	3.1%	9.7%	1.9%	0.2%	6.4%	3.7%	4.2%	0.5%	0.3%	1.9%	5.3%	4.4%	7.3%	0.0%	0.6%	0.0%	10.0%	2.3%
	Saturday	5.0%	6.9%	4.3%	5.6%	9.1%	1.8%	1.9%	2.7%	9.3%	2.3%	0.0%	5.6%	4.3%	3.4%	0.8%	0.0%	2.4%	4.2%	3.6%	8.2%	0.0%	0.0%	0.0%	12.2%	1.3%
	Sunday	4.7%	5.5%	3.7%	5.4%	7.4%	1.1%	1.1%	3.1%	7.2%	2.1%	0.3%	4.2%	4.0%	3.5%	0.3%	0.0%	1.9%	3.6%	5.1%	4.9%	0.0%	0.6%	0.0%	9.0%	1.9%
Time of Day	12-3 AM	1.8%	3.9%	1.4%	2.9%	3.7%	0.5%	0.3%	1.4%	4.0%	1.1%	0.2%	2.7%	2.9%	1.1%	0.0%	0.0%	0.3%	1.3%	3.1%	3.3%	0.0%	0.3%	0.0%	5.1%	1.3%
	3-6 AM	0.8%	1.1%	0.8%	0.6%	1.9%	0.2%	0.2%	0.8%	1.3%	0.5%	0.0%	1.1%	0.8%	0.3%	0.2%	0.2%	0.2%	0.9%	0.9%	1.1%	0.0%	0.3%	0.0%	1.6%	0.3%
	6-9 AM	2.4%	4.0%	2.7%	2.4%	6.2%	0.5%	0.3%	2.4%	5.3%	1.0%	0.2%	4.0%	2.4%	1.6%	0.3%	0.0%	0.8%	2.0%	3.1%	4.4%	0.0%	0.6%	0.0%	6.8%	1.3%
	9-Noon	2.7%	3.2%	1.9%	4.0%	3.5%	0.3%	0.8%	2.7%	3.7%	0.5%	0.2%	2.7%	1.9%	1.4%	0.6%	0.0%	1.1%	2.4%	2.5%	2.7%	0.3%	0.0%	0.0%	4.8%	0.6%
	Noon-3 PM	5.5%	5.5%	3.9%	5.9%	8.0%	1.1%	2.1%	2.1%	8.2%	2.3%	0.2%	4.2%	4.0%	4.0%	0.3%	0.0%	2.6%	4.9%	4.4%	4.9%	0.0%	1.0%	0.0%	9.0%	1.3%
	3-6 PM	5.8%	7.6%	4.7%	6.6%	10.1%	1.3%	2.6%	3.4%	9.5%	2.4%	0.2%	7.0%	4.8%	4.0%	0.2%	0.2%	1.8%	4.5%	5.8%	8.0%	0.0%	0.6%	0.0%	13.2%	1.3%
	6-9 PM	7.7%	7.9%	3.9%	5.9%	12.2%	1.4%	2.7%	3.9%	10.8%	1.9%	0.2%	4.2%	5.1%	5.9%	0.8%	0.3%	3.2%	4.2%	8.0%	6.0%	0.0%	0.0%	0.0%	8.4%	2.3%
	9-Midnight	4.7%	9.7%	6.4%	7.4%	11.5%	1.9%	1.0%	4.8%	12.7%	2.3%	0.0%	8.3%	5.9%	4.0%	0.6%	0.3%	1.6%	4.7%	5.1%	12.0%	0.0%	0.0%	0.0%	16.7%	1.9%
Lighting Conditions	Dark - Lighted	8.7%	17.6%	10.6%	11.8%	21.9%	3.2%	2.1%	9.3%	20.9%	4.5%	0.0%	13.9%	10.4%	7.8%	0.8%	0.8%	3.2%	7.6%	11.3%	19.1%	0.0%	0.0%	0.0%	26.0%	2.9%
	Dark - Not Lighted	3.4%	2.3%	0.8%	2.7%	3.7%	0.0%	0.5%	1.1%	3.4%	1.3%	0.2%	2.1%	1.8%	1.1%	0.6%	0.0%	0.8%	2.4%	2.2%	1.8%	0.0%	1.0%	0.0%	4.2%	1.3%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	1.3%	1.1%	0.3%	1.1%	1.4%	0.2%	0.3%	0.5%	1.8%	0.2%	0.0%	0.6%	0.5%	1.1%	0.0%	0.0%	0.5%	1.3%	0.4%	0.9%	0.0%	0.0%	0.0%	1.3%	0.3%
	Daylight	17.2%	19.8%	12.6%	18.7%	27.4%	3.5%	6.8%	9.7%	26.6%	5.8%	0.8%	16.0%	14.1%	11.2%	1.4%	0.2%	6.7%	13.4%	16.7%	18.5%	0.3%	1.9%	0.0%	30.9%	5.8%
	Dusk	0.8%	2.1%	1.4%	1.3%	2.7%	0.3%	0.3%	1.0%	2.9%	0.2%	0.0%	1.6%	1.1%	1.1%	0.2%	0.0%	0.3%	0.2%	2.4%	2.0%	0.0%	0.0%	0.0%	3.2%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Attachment C-6
Orange County
Percent of All KSI Crashes Involving Motorcyclists 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	2.3%	0.0%	0.3%	0.0%	5.0%	1.1%	1.8%	7.1%	0.8%	0.0%	1.0%	0.6%	6.3%	4.0%	2.1%	0.0%	1.8%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.3%	0.0%	0.0%	0.0%	1.3%	0.0%	0.6%	1.9%	0.0%	0.0%	0.6%	0.6%	0.6%	1.4%	0.5%	0.0%	0.0%	0.0%
	Left Turn	4.8%	0.6%	0.0%	0.0%	19.6%	2.3%	6.8%	26.7%	1.8%	0.2%	1.9%	5.2%	21.6%	12.9%	8.2%	0.2%	7.2%	0.2%
	Off Road	1.6%	0.3%	0.3%	0.0%	9.8%	1.1%	1.9%	12.4%	0.5%	0.0%	1.6%	1.3%	10.0%	4.3%	4.7%	0.2%	3.4%	0.3%
	Other	2.9%	0.6%	0.3%	0.0%	11.0%	2.9%	5.2%	17.2%	1.8%	0.0%	2.3%	2.6%	14.2%	5.8%	6.9%	0.5%	5.8%	0.0%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	2.3%	0.6%	0.0%	0.0%	9.2%	2.4%	4.5%	13.7%	1.9%	0.5%	1.4%	2.3%	12.4%	3.5%	7.4%	0.3%	4.8%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.6%	0.8%	0.2%	0.0%	0.2%	0.0%	0.8%	0.0%	0.6%	0.0%	0.3%	0.0%
	Rollover	0.6%	0.3%	0.0%	0.0%	3.9%	0.3%	1.1%	5.2%	0.2%	0.0%	1.1%	0.6%	3.5%	2.1%	1.8%	0.3%	1.0%	0.2%
	Sideswipe	1.0%	0.3%	0.0%	0.0%	2.7%	1.0%	1.3%	4.0%	1.0%	0.0%	0.2%	0.5%	4.3%	1.3%	1.4%	0.0%	2.3%	0.0%
	Unknown	1.3%	0.0%	0.0%	0.0%	1.1%	0.3%	0.5%	1.6%	0.3%	0.0%	0.3%	0.0%	1.6%	0.6%	0.2%	0.0%	1.1%	0.0%
Alcohol Related	Y	0.6%	0.3%	0.3%	0.0%	3.9%	0.3%	1.9%	6.1%	0.0%	0.0%	1.0%	0.5%	4.7%	2.3%	2.3%	0.0%	1.4%	0.2%
	N	16.4%	2.6%	0.6%	0.0%	60.1%	11.3%	22.5%	84.9%	8.4%	0.6%	10.0%	13.2%	70.7%	34.1%	31.6%	1.4%	26.2%	0.5%
Hit and Run	Y	0.6%	0.0%	0.0%	0.0%	4.0%	1.0%	1.0%	5.0%	0.5%	0.0%	0.8%	1.0%	3.7%	2.9%	1.3%	0.2%	1.1%	0.0%
	N	16.4%	2.9%	1.0%	0.0%	59.9%	23.5%	23.5%	86.0%	7.9%	0.6%	10.1%	12.7%	71.7%	33.5%	32.5%	1.3%	26.6%	0.6%
Aggressive Driving	Y	2.6%	0.6%	0.6%	0.0%	5.6%	1.8%	1.8%	8.1%	0.5%	0.0%	0.5%	1.6%	6.4%	3.4%	2.1%	0.0%	2.9%	0.2%
	N	14.5%	2.3%	0.3%	0.0%	58.3%	22.7%	22.7%	82.9%	7.9%	0.6%	10.5%	12.1%	68.9%	33.0%	31.7%	1.4%	24.8%	0.5%
Distracted Driving	Y	3.9%	1.0%	0.0%	0.0%	17.1%	6.4%	6.4%	24.5%	1.6%	0.2%	2.9%	4.0%	19.3%	10.5%	9.3%	0.2%	6.3%	0.0%
	N	13.2%	1.9%	1.0%	0.0%	46.9%	18.0%	18.0%	66.5%	6.8%	0.5%	8.1%	9.7%	56.0%	25.9%	24.5%	1.3%	21.4%	0.6%
Intersection Related	Y	8.4%	0.6%	0.6%	0.0%	26.1%	9.7%	9.7%	37.0%	3.5%	0.3%	4.0%	5.8%	31.1%	17.4%	12.7%	0.5%	10.0%	0.3%
	N	8.7%	2.3%	0.3%	0.0%	37.8%	14.8%	14.8%	53.9%	4.8%	0.3%	6.9%	7.9%	44.3%	19.0%	21.1%	1.0%	17.7%	0.3%
Drug Related	Y	0.0%	0.3%	0.0%	0.0%	3.2%	0.8%	0.8%	4.2%	0.2%	0.0%	0.6%	1.0%	2.7%	2.1%	1.3%	0.0%	1.0%	0.0%
	N	17.0%	2.6%	1.0%	0.0%	60.7%	23.7%	23.7%	86.8%	8.2%	0.6%	10.3%	12.7%	72.6%	34.3%	32.5%	1.4%	26.7%	0.6%
Aging Driver	Y	1.0%	0.3%	0.0%	0.0%	5.8%	2.7%	2.7%	8.5%	0.6%	0.2%	1.0%	1.0%	7.4%	3.7%	3.2%	0.0%	2.4%	0.0%
	N	16.1%	2.6%	1.0%	0.0%	58.1%	21.7%	21.7%	82.4%	7.7%	0.5%	10.0%	12.7%	68.0%	32.7%	30.6%	1.4%	25.3%	0.6%
Teenage Driver	Y	1.0%	0.3%	0.0%	0.0%	4.2%	2.1%	2.1%	6.6%	1.6%	0.0%	0.6%	1.0%	6.6%	2.9%	2.7%	0.0%	2.6%	0.0%
	N	16.1%	2.6%	1.0%	0.0%	59.7%	22.4%	22.4%	84.4%	6.8%	0.6%	10.3%	12.7%	68.8%	33.5%	31.1%	1.4%	25.1%	0.6%
Day of the Week	Monday	1.0%	0.0%	0.0%	0.0%	6.4%	2.6%	2.6%	10.3%	0.8%	0.0%	1.6%	2.1%	7.4%	5.6%	3.2%	0.2%	2.1%	0.0%
	Tuesday	1.9%	0.3%	0.0%	0.0%	5.8%	3.3%	3.3%	10.8%	1.3%	0.0%	1.3%	1.3%	9.5%	3.9%	4.2%	0.0%	4.0%	0.0%
	Wednesday	2.9%	1.0%	0.3%	0.0%	7.8%	2.4%	2.4%	12.1%	1.1%	0.2%	1.4%	1.9%	10.0%	3.4%	5.0%	0.2%	4.5%	0.3%
	Thursday	2.3%	0.3%	0.3%	0.0%	9.6%	2.6%	2.6%	14.7%	1.8%	0.0%	1.8%	1.6%	13.0%	6.8%	5.2%	0.3%	4.2%	0.0%
	Friday	4.8%	1.0%	0.0%	0.0%	9.6%	4.3%	4.3%	16.1%	0.8%	0.0%	1.3%	3.1%	12.6%	6.8%	4.8%	0.3%	4.7%	0.3%
	Saturday	3.2%	0.3%	0.0%	0.0%	9.8%	3.1%	3.1%	14.3%	1.6%	0.3%	1.3%	2.7%	12.2%	5.5%	5.2%	0.2%	5.5%	0.0%
	Sunday	1.0%	0.0%	0.3%	0.0%	7.6%	3.4%	3.4%	12.7%	1.0%	0.2%	2.3%	1.0%	10.6%	4.5%	6.3%	0.3%	2.7%	0.0%
Time of Day	12-3 AM	2.3%	0.3%	0.6%	0.0%	3.4%	2.1%	2.1%	6.6%	0.5%	0.0%	0.6%	1.0%	5.5%	1.9%	2.1%	0.2%	2.7%	0.2%
	3-6 AM	0.0%	0.6%	0.0%	0.0%	1.3%	1.0%	1.0%	2.7%	0.0%	0.0%	0.2%	0.8%	1.8%	1.3%	1.3%	0.0%	0.2%	0.0%
	6-9 AM	2.3%	0.0%	0.0%	0.0%	4.7%	2.6%	2.6%	8.1%	1.0%	0.2%	1.0%	0.8%	7.4%	2.3%	3.9%	0.2%	2.7%	0.2%
	9-Noon	1.3%	0.0%	0.0%	0.0%	4.6%	2.0%	2.0%	7.6%	0.3%	0.0%	1.0%	1.0%	6.0%	2.4%	2.9%	0.0%	2.6%	0.0%
	Noon-3 PM	1.0%	0.0%	0.0%	0.0%	9.0%	3.0%	3.0%	13.8%	1.0%	0.0%	2.6%	2.3%	10.0%	5.6%	5.5%	0.5%	3.2%	0.0%
	3-6 PM	4.2%	0.6%	0.0%	0.0%	9.7%	3.7%	3.7%	15.3%	2.6%	0.2%	2.1%	2.3%	13.7%	6.9%	5.0%	0.3%	5.8%	0.0%
	6-9 PM	2.3%	0.0%	0.3%	0.0%	12.4%	3.1%	3.1%	18.7%	0.6%	0.2%	2.7%	3.1%	13.7%	8.5%	5.8%	0.2%	4.8%	0.2%
	9-Midnight	3.9%	1.3%	0.0%	0.0%	11.6%	4.1%	4.1%	18.2%	2.4%	0.2%	0.8%	2.6%	17.4%	7.4%	7.4%	0.2%	5.6%	0.2%
Lighting Conditions	Dark - Lighted	8.0%	2.3%	1.0%	0.0%	20.5%	7.6%	7.6%	33.2%	3.5%	0.2%	1.8%	4.0%	31.1%	12.1%	13.2%	0.5%	10.5%	0.6%
	Dark - Not Lighted	0.3%	0.0%	0.0%	0.0%	2.9%	2.4%	2.4%	6.1%	0.3%	0.0%	1.8%	1.6%	3.1%	3.1%	1.8%	0.0%	1.6%	0.0%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Dawn	0.6%	0.0%	0.0%	0.0%	1.7%	0.4%	0.4%	2.6%	0.2%	0.0%	0.2%	0.6%	1.9%	1.3%	0.6%	0.0%	0.8%	0.0%
	Daylight	7.7%	0.6%	0.0%	0.0%	29.4%	10.3%	10.3%	45.2%	4.0%	0.3%	6.6%	6.6%	36.4%	18.4%	16.9%	0.6%	13.7%	0.0%
	Dusk	0.3%	0.0%	0.0%	0.0%	2.1%	1.0%	1.0%	3.9%	0.3%	0.2%	0.6%	0.8%	2.9%	1.6%	1.3%	0.3%	1.1%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Attachment C-7
Orange County
Percent of All KSI Crashes Involving Bicyclist 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	33.1%	41.6%	25.3%	32.0%	57.9%	10.1%	13.5%	23.7%	54.3%	8.2%	0.4%	33.6%	22.3%	23.5%	4.0%	1.2%	15.4%	25.5%	29.3%	45.2%	0.0%	0.0%	0.0%	76.2%	11.5%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Alcohol Related	Y	0.0%	1.2%	0.4%	0.0%	1.6%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.4%	0.8%	0.4%	0.0%	0.0%	0.0%	0.0%	1.0%	1.0%	0.0%	0.0%	0.0%	0.8%	0.0%
	N	33.1%	40.4%	24.9%	32.0%	56.3%	10.1%	13.5%	23.7%	52.7%	8.2%	0.4%	33.2%	21.5%	23.1%	4.0%	1.2%	15.4%	25.5%	28.4%	44.2%	0.0%	0.0%	0.0%	75.4%	11.5%
Hit and Run	Y	6.9%	8.2%	5.3%	5.3%	12.6%	2.4%	2.4%	4.9%	11.0%	2.0%	0.0%	8.5%	3.6%	4.9%	0.8%	0.0%	2.4%	4.3%	7.2%	9.6%	0.0%	0.0%	0.0%	18.0%	1.6%
	N	26.1%	33.5%	20.0%	26.7%	45.3%	7.7%	11.0%	18.8%	43.3%	6.1%	0.4%	25.1%	18.6%	18.6%	3.2%	1.2%	13.0%	21.2%	22.1%	35.6%	0.0%	0.0%	0.0%	58.2%	9.8%
Aggressive Driving	Y	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	N	32.7%	41.6%	25.3%	31.6%	57.9%	10.1%	13.5%	23.3%	54.3%	8.2%	0.4%	33.6%	22.3%	23.1%	4.0%	1.2%	15.4%	25.5%	28.8%	45.2%	0.0%	0.0%	0.0%	76.2%	11.5%
Distracted Driving	Y	4.9%	8.6%	5.7%	4.0%	11.3%	3.6%	1.2%	3.7%	13.1%	1.2%	0.0%	6.5%	4.9%	4.9%	1.2%	0.0%	1.6%	2.9%	7.2%	10.6%	0.0%	0.0%	0.0%	16.4%	4.1%
	N	28.2%	33.1%	19.6%	27.9%	46.6%	6.5%	12.2%	20.0%	41.2%	6.9%	0.4%	27.1%	17.4%	18.6%	2.8%	1.2%	13.8%	22.6%	22.1%	34.6%	0.0%	0.0%	0.0%	59.8%	7.4%
Intersection Related	Y	18.0%	17.1%	10.2%	13.8%	27.9%	3.2%	6.1%	14.3%	21.2%	3.7%	0.0%	12.1%	8.5%	15.0%	2.4%	0.4%	6.5%	15.9%	12.0%	17.3%	0.0%	0.0%	0.0%	32.8%	2.5%
	N	15.1%	24.5%	15.1%	18.2%	30.0%	6.9%	7.3%	9.4%	33.1%	4.5%	0.4%	21.5%	13.8%	8.5%	1.6%	0.8%	8.9%	9.6%	17.3%	27.9%	0.0%	0.0%	0.0%	43.4%	9.0%
Drug Related	Y	0.4%	0.8%	0.4%	0.4%	1.2%	0.0%	0.4%	0.0%	1.2%	0.0%	0.0%	0.4%	0.4%	0.4%	0.0%	0.0%	0.4%	0.0%	1.0%	0.5%	0.0%	0.0%	0.0%	0.8%	0.0%
	N	32.7%	40.8%	24.9%	31.6%	56.7%	10.1%	13.1%	23.7%	53.1%	8.2%	0.4%	33.2%	21.9%	23.1%	4.0%	1.2%	15.0%	25.5%	28.4%	44.7%	0.0%	0.0%	0.0%	75.4%	11.5%
Aging Driver	Y	4.1%	4.1%	2.9%	3.6%	7.3%	0.4%	1.6%	3.3%	5.7%	0.4%	0.0%	3.6%	2.8%	3.2%	0.0%	0.0%	1.6%	2.9%	3.8%	4.8%	0.0%	0.0%	0.0%	4.9%	2.5%
	N	29.0%	37.6%	22.4%	28.3%	50.6%	9.7%	11.8%	20.4%	48.6%	7.8%	0.4%	30.0%	19.4%	20.2%	4.0%	1.2%	13.8%	22.6%	25.5%	40.4%	0.0%	0.0%	0.0%	71.3%	9.0%
Teenage Driver	Y	2.0%	2.9%	1.2%	2.0%	3.6%	0.8%	0.4%	2.9%	2.9%	0.0%	0.0%	1.2%	1.6%	2.4%	0.4%	0.0%	0.8%	1.9%	2.4%	2.4%	0.0%	0.0%	0.0%	5.7%	0.0%
	N	31.0%	38.8%	24.1%	30.0%	54.3%	9.3%	13.1%	20.8%	51.4%	8.2%	0.4%	32.4%	20.6%	21.1%	3.6%	1.2%	14.6%	23.6%	26.9%	42.8%	0.0%	0.0%	0.0%	70.5%	11.5%
Day of the Week	Monday	6.5%	6.1%	5.3%	6.1%	9.3%	2.4%	2.0%	4.1%	10.6%	1.2%	0.0%	5.7%	4.5%	4.0%	1.2%	0.0%	2.4%	3.8%	5.8%	8.7%	0.0%	0.0%	0.0%	16.4%	0.8%
	Tuesday	5.3%	6.1%	4.9%	5.3%	9.7%	1.2%	2.9%	3.3%	8.6%	1.6%	0.0%	6.1%	2.4%	3.6%	0.0%	0.4%	3.6%	2.4%	5.3%	7.2%	0.0%	0.0%	0.0%	13.9%	0.0%
	Wednesday	3.7%	4.9%	4.1%	3.2%	8.9%	0.8%	1.2%	3.7%	7.3%	0.4%	0.0%	4.9%	2.4%	3.2%	0.8%	0.0%	1.6%	4.3%	3.4%	5.8%	0.0%	0.0%	0.0%	11.5%	0.8%
	Thursday	3.7%	6.5%	2.0%	3.6%	7.3%	1.2%	0.8%	3.7%	6.1%	1.2%	0.4%	5.3%	1.6%	3.6%	0.0%	0.4%	1.2%	3.4%	4.8%	4.8%	0.0%	0.0%	0.0%	11.5%	0.8%
	Friday	6.5%	4.9%	4.1%	6.1%	6.5%	2.8%	2.9%	4.9%	6.1%	1.6%	0.0%	4.9%	3.2%	3.2%	1.2%	0.0%	2.8%	5.8%	3.8%	5.3%	0.0%	0.0%	0.0%	9.8%	1.6%
	Saturday	2.9%	7.3%	3.3%	4.5%	8.1%	1.2%	1.2%	1.6%	9.8%	0.8%	0.0%	3.6%	5.7%	2.0%	0.0%	0.4%	2.0%	1.9%	3.8%	7.7%	0.0%	0.0%	0.0%	7.4%	4.1%
	Sunday	4.5%	5.7%	1.6%	3.2%	8.1%	0.4%	2.4%	2.4%	5.7%	1.2%	0.0%	3.2%	2.4%	3.6%	0.8%	0.0%	1.6%	3.8%	2.4%	5.8%	0.0%	0.0%	0.0%	5.7%	3.3%
Time of Day	12-3 AM	1.6%	2.0%	1.2%	1.6%	2.8%	0.4%	0.4%	1.2%	1.6%	1.6%	0.0%	2.0%	1.2%	0.8%	0.0%	0.0%	0.8%	1.0%	1.9%	1.9%	0.0%	0.0%	0.0%	2.5%	0.0%
	3-6 AM	2.4%	1.2%	1.2%	2.8%	1.6%	0.4%	0.8%	1.2%	2.4%	0.4%	0.0%	2.0%	0.4%	0.8%	0.4%	0.0%	1.2%	1.4%	1.0%	1.9%	0.0%	0.0%	0.0%	3.3%	0.0%
	6-9 AM	6.1%	7.3%																							

Attachment C-7
Orange County
Percent of All KSI Crashes Involving Bicyclist 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	12.3%	0.0%	0.0%	0.0%	65.3%	11.0%	23.7%	90.6%	7.8%	1.6%	9.0%	6.9%	84.1%	38.8%	32.2%	0.4%	26.9%	1.6%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alcohol Related	Y	0.0%	0.0%	0.0%	0.0%	1.2%	0.4%	0.0%	1.2%	0.4%	0.0%	0.0%	0.0%	1.6%	0.8%	0.4%	0.0%	0.4%	0.0%
	N	12.3%	0.0%	0.0%	0.0%	64.1%	10.6%	23.7%	89.4%	7.3%	1.6%	9.0%	6.9%	82.4%	38.0%	31.8%	0.4%	26.5%	1.6%
Hit and Run	Y	2.5%	0.0%	0.0%	0.0%	12.7%	5.3%	5.3%	18.8%	1.2%	0.4%	2.4%	1.6%	16.3%	8.6%	5.7%	0.0%	5.7%	0.4%
	N	9.8%	0.0%	0.0%	0.0%	52.7%	18.4%	18.4%	71.8%	6.5%	1.2%	6.5%	5.3%	67.8%	30.2%	26.5%	0.4%	21.2%	1.2%
Aggressive Driving	Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%
	N	12.3%	0.0%	0.0%	0.0%	65.3%	23.3%	23.3%	90.2%	7.8%	1.6%	9.0%	6.9%	83.7%	38.4%	32.2%	0.4%	26.9%	1.6%
Distracted Driving	Y	0.8%	0.0%	0.0%	0.0%	13.5%	4.1%	4.1%	17.1%	1.6%	0.4%	0.8%	0.8%	17.6%	6.1%	4.5%	0.0%	8.2%	0.4%
	N	11.5%	0.0%	0.0%	0.0%	51.8%	19.6%	19.6%	73.5%	6.1%	1.2%	8.2%	6.1%	66.5%	32.7%	27.8%	0.4%	18.8%	1.2%
Intersection Related	Y	5.7%	0.0%	0.0%	0.0%	29.0%	11.0%	11.0%	40.4%	4.5%	0.4%	3.3%	2.9%	39.2%	20.0%	13.9%	0.4%	10.6%	0.4%
	N	6.6%	0.0%	0.0%	0.0%	36.3%	12.7%	12.7%	50.2%	3.3%	1.2%	5.7%	4.1%	44.9%	18.8%	18.4%	0.0%	16.3%	1.2%
Drug Related	Y	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	1.2%	0.4%	0.0%	0.0%	0.0%	1.6%	0.8%	0.4%	0.0%	0.4%	0.0%
	N	12.3%	0.0%	0.0%	0.0%	64.1%	23.7%	23.7%	89.4%	7.3%	1.6%	9.0%	6.9%	82.4%	38.0%	31.8%	0.4%	26.5%	1.6%
Aging Driver	Y	2.5%	0.0%	0.0%	0.0%	8.2%	1.2%	1.2%	10.2%	0.8%	0.0%	0.4%	0.0%	10.6%	5.3%	2.0%	0.0%	3.7%	0.0%
	N	9.8%	0.0%	0.0%	0.0%	57.1%	22.4%	22.4%	80.4%	6.9%	1.6%	8.6%	6.9%	73.5%	33.5%	30.2%	0.4%	23.3%	1.6%
Teenage Driver	Y	0.0%	0.0%	0.0%	0.0%	4.1%	0.8%	0.8%	4.9%	1.2%	0.0%	0.0%	0.0%	6.1%	2.0%	2.0%	0.0%	1.6%	0.4%
	N	12.3%	0.0%	0.0%	0.0%	61.2%	22.9%	22.9%	85.7%	6.5%	1.6%	9.0%	6.9%	78.0%	36.7%	30.2%	0.4%	25.3%	1.2%
Day of the Week	Monday	0.8%	0.0%	0.0%	0.0%	11.6%	2.2%	2.2%	14.7%	2.4%	0.8%	1.2%	1.6%	15.1%	9.0%	2.0%	0.4%	5.7%	0.8%
	Tuesday	2.5%	0.0%	0.0%	0.0%	7.6%	5.8%	5.8%	15.9%	0.4%	0.0%	0.8%	1.6%	13.9%	4.9%	6.9%	0.0%	4.1%	0.4%
	Wednesday	0.0%	0.0%	0.0%	0.0%	6.9%	3.6%	3.6%	11.8%	0.4%	0.4%	0.8%	1.2%	10.6%	5.3%	4.9%	0.0%	2.0%	0.4%
	Thursday	1.6%	0.0%	0.0%	0.0%	5.4%	4.3%	4.3%	10.6%	1.2%	0.4%	2.4%	1.2%	8.6%	3.7%	6.5%	0.0%	2.0%	0.0%
	Friday	2.5%	0.0%	0.0%	0.0%	9.4%	1.4%	1.4%	13.9%	1.6%	0.0%	1.2%	0.4%	13.9%	6.9%	4.1%	0.0%	4.5%	0.0%
	Saturday	2.5%	0.0%	0.0%	0.0%	9.1%	2.2%	2.2%	12.7%	0.8%	0.0%	1.6%	0.8%	11.0%	4.5%	3.3%	0.0%	5.7%	0.0%
	Sunday	2.5%	0.0%	0.0%	0.0%	8.0%	1.4%	1.4%	11.0%	0.8%	0.0%	0.8%	0.0%	11.0%	4.5%	4.5%	0.0%	2.9%	0.0%
Time of Day	12-3 AM	1.6%	0.0%	0.0%	0.0%	2.9%	0.4%	0.4%	4.5%	0.4%	0.0%	0.4%	0.0%	4.5%	2.0%	1.6%	0.0%	1.2%	0.0%
	3-6 AM	0.0%	0.0%	0.0%	0.0%	2.5%	1.4%	1.4%	4.5%	0.0%	0.4%	0.4%	0.8%	3.7%	2.4%	0.8%	0.4%	0.4%	0.8%
	6-9 AM	0.8%	0.0%	0.0%	0.0%	9.8%	5.1%	5.1%	16.7%	0.4%	0.4%	1.6%	2.9%	13.1%	5.7%	5.3%	0.0%	6.1%	0.4%
	9-Noon	1.6%	0.0%	0.0%	0.0%	8.7%	3.3%	3.3%	13.1%	2.0%	0.4%	0.4%	0.4%	14.7%	5.3%	4.9%	0.0%	4.9%	0.4%
	Noon-3 PM	2.5%	0.0%	0.0%	0.0%	7.2%	2.5%	2.5%	11.0%	2.0%	0.4%	0.8%	1.2%	11.4%	6.1%	4.1%	0.0%	3.3%	0.0%
	3-6 PM	1.6%	0.0%	0.0%	0.0%	9.4%	3.3%	3.3%	15.1%	1.2%	0.0%	1.6%	1.6%	13.1%	6.1%	8.6%	0.0%	1.6%	0.0%
	6-9 PM	1.6%	0.0%	0.0%	0.0%	9.8%	4.7%	4.7%	16.7%	1.2%	0.0%	1.6%	0.0%	16.3%	7.3%	5.3%	0.0%	5.3%	0.0%
	9-Midnight	2.5%	0.0%	0.0%	0.0%	7.6%	0.4%	0.4%	9.0%	0.4%	0.0%	2.0%	0.0%	7.3%	3.7%	1.6%	0.0%	4.1%	0.0%
Lighting Conditions	Dark - Lighted	5.7%	0.0%	0.0%	0.0%	13.8%	3.3%	3.3%	20.8%	0.8%	0.4%	1.2%	0.0%	20.8%	7.8%	6.5%	0.4%	6.9%	0.4%
	Dark - Not Lighted	0.0%	0.0%	0.0%	0.0%	4.7%	1.8%	1.8%	7.3%	0.4%	0.4%	2.0%	0.8%	5.3%	3.7%	2.0%	0.0%	2.0%	0.4%
	Dark - Unknown Lighting	0.0%	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.4%	0.0%	0.0%	0.4%
	Dawn	0.0%	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	2.4%	0.4%	0.0%	0.4%	0.0%	2.4%	1.6%	0.0%	0.0%	1.2%	0.0%
	Daylight	6.6%	0.0%	0.0%	0.0%	35.1%	15.2%	15.2%	56.7%	6.1%	0.8%	4.9%	6.1%	52.7%	24.9%	22.9%	0.0%	15.5%	0.4%
	Dusk	0.0%	0.0%	0.0%	0.0%	1.1%	0.4%	0.4%	1.6%	0.0%	0.0%	0.0%	0.0%	1.6%	0.4%	0.0%	0.0%	1.2%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.4%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%

Attachment C-8
Orange County
Percent of All KSI Crashes Involving Pedestrians 2018-2022

Mode:	All Collisions	Number of Lanes			Turn Lanes			Posted Speed					Roadway Classification						AADT (2022)			Context Classification				
All		3 Lanes or Less	4-5 Lanes	6+ Lanes	None	1 to 2	3+	25 or less	30-35	40-45	50-55	60+	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	None	< 15000	15,000-30,000	30,000+	C1	C2	C2T	C3C	C3R
		2-3	4-5	6-8				0-25	30-35	40-45	50-55	60+														
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	23.1%	37.9%	39.0%	27.8%	61.8%	10.4%	10.0%	20.1%	59.8%	10.1%	0.0%	42.9%	28.4%	15.7%	1.7%	0.1%	11.1%	15.3%	30.9%	53.9%	0.0%	0.7%	0.0%	68.9%	6.3%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Alcohol Related	Y	0.7%	1.4%	0.4%	1.0%	1.3%	0.3%	0.1%	1.0%	1.2%	0.3%	0.0%	1.1%	0.7%	0.6%	0.0%	0.0%	0.1%	0.6%	1.4%	0.6%	0.0%	0.2%	0.0%	1.9%	0.2%
	N	22.4%	36.4%	38.6%	26.8%	60.5%	10.1%	9.8%	19.1%	58.7%	9.8%	0.0%	41.8%	27.7%	15.1%	1.7%	0.1%	11.0%	14.6%	29.4%	53.2%	0.0%	0.5%	0.0%	67.0%	6.1%
Hit and Run	Y	6.9%	6.6%	7.1%	6.3%	12.7%	1.6%	3.0%	4.5%	11.8%	1.3%	0.0%	7.8%	6.1%	2.9%	0.3%	0.0%	3.4%	3.5%	6.8%	9.0%	0.0%	0.0%	0.0%	11.5%	1.2%
	N	16.2%	31.2%	31.9%	21.5%	49.1%	8.8%	6.9%	15.6%	48.0%	8.8%	0.0%	35.1%	22.3%	12.8%	1.4%	0.1%	7.7%	11.7%	24.1%	44.9%	0.0%	0.7%	0.0%	57.4%	5.2%
Aggressive Driving	Y	0.6%	0.7%	1.0%	0.6%	1.6%	0.1%	0.3%	0.6%	1.3%	0.1%	0.0%	1.4%	0.3%	0.3%	0.0%	0.0%	0.3%	0.3%	0.6%	1.3%	0.0%	0.0%	0.0%	1.4%	0.0%
	N	22.5%	37.1%	38.0%	27.2%	60.2%	10.3%	9.7%	19.5%	58.5%	10.0%	0.0%	41.5%	28.1%	15.4%	1.7%	0.1%	10.8%	15.0%	30.2%	52.6%	0.0%	0.7%	0.0%	67.4%	6.3%
Distracted Driving	Y	3.5%	3.5%	3.2%	3.1%	6.4%	0.9%	1.4%	2.2%	6.4%	0.1%	0.0%	3.6%	2.6%	1.9%	0.1%	0.0%	2.3%	1.8%	2.9%	4.5%	0.0%	0.2%	0.0%	5.4%	0.7%
	N	19.7%	34.4%	35.8%	24.7%	55.3%	9.6%	8.5%	17.9%	53.5%	10.0%	0.0%	39.4%	25.8%	13.8%	1.6%	0.1%	8.8%	13.5%	28.0%	49.4%	0.0%	0.5%	0.0%	63.5%	5.6%
Intersection Related	Y	7.9%	10.1%	11.4%	5.4%	19.5%	4.3%	2.9%	7.1%	16.8%	2.7%	0.0%	11.4%	8.3%	5.4%	0.7%	0.1%	3.3%	5.5%	8.4%	15.3%	0.0%	0.2%	0.0%	18.0%	2.1%
	N	15.2%	27.7%	27.6%	22.4%	42.2%	6.1%	7.1%	13.0%	43.1%	7.4%	0.0%	31.5%	20.1%	10.3%	1.0%	0.0%	7.8%	9.8%	22.5%	38.6%	0.0%	0.5%	0.0%	50.8%	4.2%
Drug Related	Y	0.3%	1.0%	0.7%	0.6%	1.1%	0.3%	0.1%	0.3%	1.4%	0.1%	0.0%	0.7%	0.9%	0.1%	0.0%	0.0%	0.3%	0.0%	1.0%	1.0%	0.0%	0.0%	0.0%	0.9%	0.2%
	N	22.8%	36.8%	38.3%	27.2%	60.6%	10.1%	9.8%	19.8%	58.4%	10.0%	0.0%	42.2%	27.5%	15.5%	1.7%	0.1%	10.8%	15.3%	29.9%	52.9%	0.0%	0.7%	0.0%	67.9%	6.1%
Aging Driver	Y	1.9%	2.7%	2.6%	2.3%	4.9%	0.3%	0.9%	1.4%	4.3%	0.6%	0.0%	3.1%	2.3%	1.0%	0.1%	0.0%	0.9%	1.3%	2.4%	3.7%	0.0%	0.0%	0.0%	5.9%	0.2%
	N	21.2%	35.1%	36.4%	25.5%	56.9%	10.1%	9.1%	18.6%	55.5%	9.5%	0.0%	39.8%	26.1%	14.7%	1.6%	0.1%	10.3%	14.0%	28.5%	50.2%	0.0%	0.7%	0.0%	63.0%	6.1%
Teenage Driver	Y	1.0%	1.6%	2.5%	1.6%	3.1%	0.3%	0.6%	1.0%	2.9%	0.6%	0.0%	1.9%	2.0%	0.6%	0.0%	0.0%	0.6%	0.6%	0.6%	3.7%	0.0%	0.0%	0.0%	3.7%	0.0%
	N	22.1%	36.3%	36.6%	26.2%	58.6%	10.1%	9.4%	19.1%	56.9%	9.5%	0.0%	41.1%	26.4%	15.1%	1.7%	0.1%	10.6%	14.6%	30.2%	50.2%	0.0%	0.7%	0.0%	65.1%	6.3%
Day of the Week	Monday	3.3%	4.3%	5.3%	4.0%	7.7%	1.3%	1.7%	1.9%	7.4%	2.0%	0.0%	5.8%	3.3%	2.0%	0.3%	0.0%	1.6%	1.9%	3.5%	7.4%	0.0%	0.0%	0.0%	9.6%	1.2%
	Tuesday	3.3%	5.5%	6.4%	5.0%	8.8%	1.4%	1.4%	3.3%	8.8%	1.6%	0.0%	6.1%	4.6%	2.3%	0.3%	0.0%	2.0%	2.6%	3.9%	8.5%	0.0%	0.0%	0.0%	11.9%	0.7%
	Wednesday	3.6%	5.1%	5.6%	4.3%	8.3%	2.0%	1.7%	2.9%	8.7%	1.0%	0.0%	6.1%	3.3%	2.4%	0.6%	0.0%	2.1%	2.6%	4.0%	7.4%	0.0%	0.2%	0.0%	8.9%	1.2%
	Thursday	3.0%	5.8%	5.8%	2.7%	9.8%	2.0%	1.3%	3.3%	8.2%	1.7%	0.0%	6.6%	3.9%	2.3%	0.3%	0.1%	1.4%	1.8%	4.2%	8.7%	0.0%	0.2%	0.0%	10.1%	0.7%
	Friday	3.8%	6.9%	6.2%	4.1%	11.4%	1.4%	0.9%	3.6%	10.8%	1.6%	0.0%	7.3%	5.8%	2.3%	0.3%	0.0%	1.3%	3.2%	5.5%	9.0%	0.0%	0.2%	0.0%	10.3%	1.6%
	Saturday	3.2%	6.4%	5.1%	4.7%	8.7%	1.0%	1.9%	2.9%	8.8%	1.0%	0.0%	6.0%	4.4%	2.4%	0.0%	0.0%	1.6%	1.6%	5.9%	6.9%	0.0%	0.0%	0.0%	8.2%	0.7%
	Sunday	2.9%	3.9%	4.6%	3.0%	7.0%	1.3%	1.0%	2.2%	7.1%	1.2%	0.0%	5.0%	3.1%	2.0%	0.0%	0.0%	1.1%	1.6%	3.9%	5.9%	0.0%	0.0%	0.0%	9.8%	0.2%
Time of Day	12-3 AM	2.3%	3.5%	4.9%	3.7%	5.1%	1.9%	1.2%	2.2%	5.9%	1.4%	0.0%	5.7%	2.4%	1.3%	0.0%	0.0%	1.3%	1.1%	3.2%	6.3%	0.0%	0.0%	0.0%	8.2%	0.5%
	3-6 AM	2.6%	2.9%	2.6%	2.3%	4.3%	1.4%	0.6%	2.0%	4.5%	1.0%	0.0%	3.4%	2.1%	1.6%	0.1%	0.0%	0.7%	1.6%	3.1%	3.5%	0.0%	0.0%	0.0%	5.6%	0.5%
	6-9 AM	2.5%	4.2%	3.9%	2.6%	7																				

Attachment C-8
Orange County
Percent of All KSI Crashes Involving Pedestrians 2018-2022

Mode:	All Collisions	Context Classification				Bike Lane/Paved Shoulder > 4 ft			Bike Slots			Sidewalks			Median Presence				
All																			
		C4	C5	C6	None	None	One Side	Both Sides	None	One Side	Both Sides	None	One Side	Both Sides	None	Grass	Multiple	Paved	Other
Type	Angle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Animal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Head On	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Left Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Off Road	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Pedestrian	20.6%	1.9%	1.6%	0.0%	66.5%	13.0%	20.5%	87.1%	11.7%	1.2%	5.9%	8.1%	86.0%	37.1%	30.5%	1.6%	30.3%	0.4%
	Rear End	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Right Turn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Rollover	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sideswipe	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alcohol Related	Y	0.5%	0.0%	0.0%	0.0%	1.7%	0.1%	0.7%	2.3%	0.1%	0.1%	0.4%	0.4%	1.7%	1.4%	0.7%	0.0%	0.4%	0.0%
	N	20.1%	1.9%	1.6%	0.0%	64.7%	12.9%	19.8%	84.8%	11.6%	1.0%	5.5%	7.7%	84.2%	35.7%	29.8%	1.6%	29.9%	0.4%
Hit and Run	Y	4.4%	0.2%	0.7%	0.0%	15.6%	3.5%	3.5%	19.5%	1.2%	0.0%	1.2%	2.5%	17.1%	10.4%	4.0%	0.3%	5.8%	0.1%
	N	16.2%	1.6%	0.9%	0.0%	50.9%	17.1%	17.1%	67.6%	10.5%	1.2%	4.8%	5.6%	68.9%	26.7%	26.4%	1.3%	24.6%	0.3%
Aggressive Driving	Y	0.9%	0.2%	0.0%	0.0%	1.0%	0.7%	0.7%	1.7%	0.6%	0.0%	0.3%	0.1%	1.9%	1.2%	0.6%	0.0%	0.6%	0.0%
	N	19.7%	1.6%	1.6%	0.0%	65.5%	19.8%	19.8%	85.4%	11.1%	1.2%	5.6%	7.9%	84.1%	36.0%	29.9%	1.6%	29.8%	0.4%
Distracted Driving	Y	1.9%	0.2%	0.0%	0.0%	7.5%	1.9%	1.9%	9.5%	0.6%	0.0%	1.0%	0.4%	8.7%	4.2%	2.7%	0.3%	2.7%	0.1%
	N	18.7%	1.6%	1.6%	0.0%	59.0%	18.6%	18.6%	77.6%	11.1%	1.2%	4.9%	7.7%	77.3%	32.9%	27.7%	1.3%	27.6%	0.3%
Intersection Related	Y	6.1%	0.9%	1.4%	0.0%	19.8%	4.6%	4.6%	25.0%	4.0%	0.4%	0.9%	2.0%	26.6%	10.3%	7.7%	0.3%	11.3%	0.0%
	N	14.5%	0.9%	0.2%	0.0%	46.7%	15.9%	15.9%	62.1%	7.7%	0.7%	5.1%	6.1%	59.4%	26.9%	22.8%	1.3%	19.1%	0.4%
Drug Related	Y	0.7%	0.0%	0.0%	0.0%	1.6%	0.1%	0.1%	1.6%	0.3%	0.1%	0.1%	0.1%	1.7%	0.6%	0.6%	0.0%	0.9%	0.0%
	N	19.9%	1.9%	1.6%	0.0%	64.9%	20.4%	20.4%	85.5%	11.4%	1.0%	5.8%	7.9%	84.2%	36.6%	29.9%	1.6%	29.5%	0.4%
Aging Driver	Y	1.6%	0.0%	0.0%	0.0%	4.8%	2.0%	2.0%	6.8%	0.3%	0.1%	0.1%	0.6%	6.5%	2.9%	2.0%	0.0%	2.2%	0.1%
	N	19.0%	1.9%	1.6%	0.0%	61.7%	18.5%	18.5%	80.3%	11.4%	1.0%	5.8%	7.5%	79.5%	34.2%	28.5%	1.6%	28.2%	0.3%
Teenage Driver	Y	0.7%	0.0%	0.0%	0.0%	3.6%	1.0%	1.0%	4.5%	0.4%	0.1%	0.1%	0.9%	4.0%	1.7%	1.4%	0.3%	1.6%	0.0%
	N	19.9%	1.9%	1.6%	0.0%	62.9%	19.5%	19.5%	82.7%	11.3%	1.0%	5.8%	7.2%	81.9%	35.4%	29.0%	1.3%	28.8%	0.4%
Day of the Week	Monday	3.5%	0.0%	0.0%	0.0%	8.1%	2.3%	2.3%	11.0%	1.9%	0.1%	0.9%	0.9%	11.3%	4.2%	4.6%	0.6%	3.6%	0.0%
	Tuesday	2.1%	0.0%	0.0%	0.0%	8.9%	3.5%	3.5%	13.7%	1.4%	0.0%	1.0%	1.2%	13.0%	6.2%	4.8%	0.1%	4.0%	0.0%
	Wednesday	3.3%	0.0%	0.0%	0.0%	9.9%	1.3%	1.3%	12.3%	1.7%	0.3%	0.7%	1.6%	12.0%	5.8%	3.0%	0.0%	5.5%	0.0%
	Thursday	3.3%	0.9%	0.0%	0.0%	7.5%	3.9%	3.9%	12.1%	2.3%	0.1%	0.7%	1.6%	12.3%	5.1%	4.2%	0.1%	5.1%	0.1%
	Friday	4.7%	0.2%	0.2%	0.0%	10.6%	3.0%	3.0%	14.5%	2.2%	0.3%	0.7%	1.0%	15.2%	6.4%	5.5%	0.1%	4.9%	0.0%
	Saturday	2.8%	0.2%	0.9%	0.0%	9.7%	2.7%	2.7%	13.3%	1.2%	0.1%	1.0%	0.9%	12.7%	5.3%	4.8%	0.3%	4.0%	0.1%
	Sunday	0.9%	0.5%	0.5%	0.0%	7.1%	2.4%	2.4%	10.3%	1.0%	0.1%	0.9%	1.0%	9.5%	4.2%	3.6%	0.3%	3.2%	0.1%
Time of Day	12-3 AM	2.3%	0.5%	0.2%	0.0%	7.1%	1.2%	1.2%	9.0%	1.6%	0.1%	0.7%	0.6%	9.4%	3.6%	3.5%	0.0%	3.6%	0.0%
	3-6 AM	1.4%	0.2%	0.2%	0.0%	4.8%	1.3%	1.3%	6.8%	1.3%	0.0%	1.2%	0.6%	6.4%	3.6%	2.0%	0.0%	2.5%	0.0%
	6-9 AM	1.9%	0.9%	0.0%	0.0%	6.9%	1.9%	1.9%	9.2%	1.3%	0.0%	0.6%	1.6%	8.4%	3.5%	4.0%	0.4%	2.6%	0.0%
	9-Noon	1.6%	0.0%	0.2%	0.0%	5.0%	0.9%	0.9%	6.4%	0.3%	0.0%	0.3%	0.3%	6.1%	2.5%	1.4%	0.1%	2.6%	0.0%
	Noon-3 PM	1.2%	0.0%	0.2%	0.0%	4.7%	1.2%	1.2%	6.5%	0.4%	0.0%	0.3%	0.9%	5.8%	3.2%	1.7%	0.0%	1.9%	0.1%
	3-6 PM	2.8%	0.0%	0.0%	0.0%	6.7%	1.5%	1.5%	8.8%	0.6%	0.1%	0.6%	0.6%	8.4%	4.5%	1.7%	0.4%	2.9%	0.0%
	6-9 PM	5.6%	0.0%	0.2%	0.0%	14.5%	5.5%	5.5%	21.5%	3.5%	0.3%	0.9%	1.6%	22.8%	8.4%	7.9%	0.4%	8.4%	0.1%
	9-Midnight	3.7%	0.2%	0.5%	0.0%	12.1%	5.5%	5.5%	18.9%	2.7%	0.6%	1.4%	2.0%	18.8%	7.9%	8.1%	0.1%	5.9%	0.1%
Lighting Conditions	Dark - Lighted	11.9%	1.4%	1.2%	0.0%	28.5%	9.1%	9.1%	40.9%	6.4%	0.7%	1.2%	2.0%	44.8%	15.5%	14.3%	0.7%	17.2%	0.3%
	Dark - Not Lighted	1.2%	0.0%	0.0%	0.0%	8.7%	3.6%	3.6%	13.0%	2.7%	0.3%	3.0%	2.5%	10.5%	6.9%	6.5%	0.3%	2.3%	0.0%
	Dark - Unknown Lighting	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
	Dawn	0.0%	0.2%	0.0%	0.0%	1.3%	0.5%	0.5%	2.0%	0.3%	0.0%	0.1%	0.4%	1.7%	0.7%	0.7%	0.0%	0.9%	0.0%
	Daylight	6.8%	0.2%	0.5%	0.0%	21.0%	5.0%	5.0%	28.0%	1.7%	0.1%	1.4%	2.6%	25.9%	12.9%	7.7%	0.6%	8.7%	0.1%
	Dusk	0.5%	0.0%	0.0%	0.0%	1.9%	0.8%	0.8%	2.7%	0.3%	0.0%	0.1%	0.4%	2.5%	0.9%	1.2%	0.0%	1.0%	0.0%
	Other	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.3%	0.0%	0.0%	0.1%	0.3%	0.1%	0.1%	0.0%	0.1%	0.0%
	Unknown	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%

What Is Vision Zero Central Florida & Why Do We Need to Take Action?

Every week, 5 people die and 35 people are seriously injured in Central Florida crashes. Vision Zero is an international movement to reach zero traffic fatalities.

Vision Zero Central Florida's goal is simple: saving lives. Zero traffic deaths. Everyone should be able to travel safely around Central Florida without the fear of death or serious injury.

This coordinated planning effort led by MetroPlan Orlando in partnership with local agencies will result in a comprehensive **Vision Zero Safety Action Plan** for our three-county region (Orange, Osceola, Seminole), as well as additional action plans tailored for each county and city.



VISION ZERO
CENTRAL FLORIDA

Counting down to zero traffic deaths



metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP

This work is being funded by a \$3.79 million Safe Streets and Roads for All federal grant.

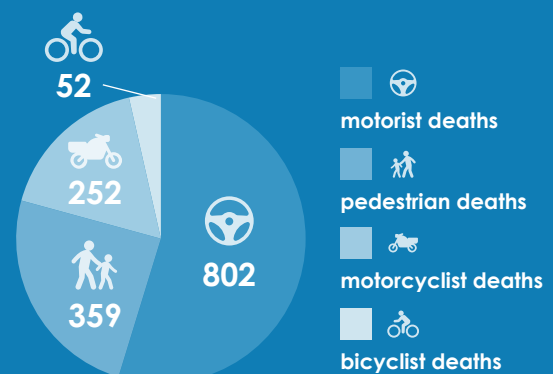
What will the Vision Zero Safety Action Plan Include?

The regional plan and each county or city action plan will include the following:

- **High Injury Network:** Analyzing data to identify places on the transportation system with the highest risk for fatal and serious injury crashes so that we can focus on our most important problem areas.
- **Equity Component:** Identifying and prioritizing efforts in disadvantaged communities that are disproportionately affected by traffic crashes.
- **List of Priority Streets and Intersections:** Producing a list of feasible projects that have the most safety impact for the region.
- **Educational and Enforcement Programs:** Identifying key behavioral changes needed to reduce crashes and methods for encouraging those changes.
- **Sustained Effort:** Establishing a defined process and identifying an organization responsible for carrying out, updating, and monitoring progress.
- **Public Meetings:** Public engagement is a key part of the study.
- **Outcome:** Identified projects will be included in MPO or local jurisdiction priority projects list for funding/implementation.

3-COUNTY REGION (2018-2022)

327,500 total crashes
9,500 serious injuries
1,465 deaths including:



41% of our traffic deaths occur on 2% of our roadways.

HOW CAN YOU GET INVOLVED?

This planning initiative encourages participation from people of all ages across our region, including community leaders, residents, and visitors. Join us in this quest to eliminate deaths and serious injuries on Central Florida's roads. We can save lives when each of us does our part and we all work together.



Visit our website to review crash data, learn more about safety, provide feedback and get details for upcoming events:

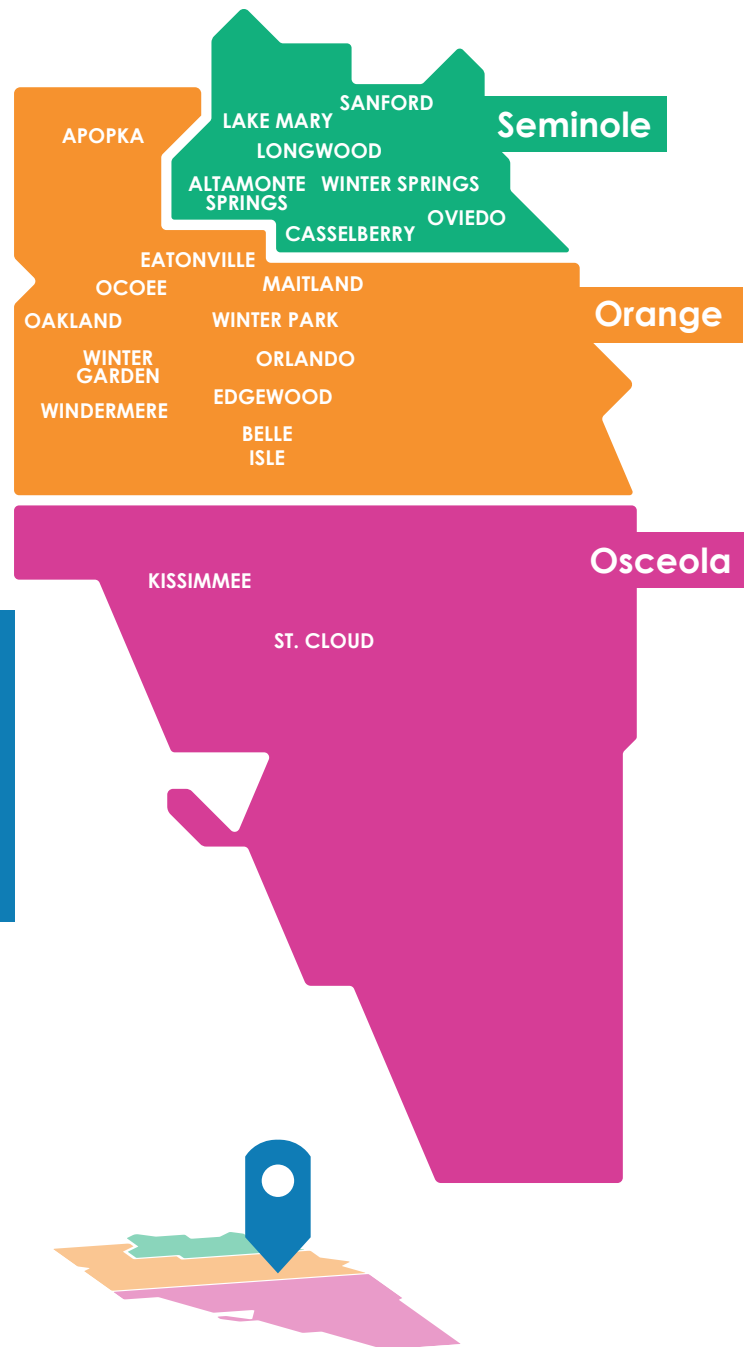
VisionZeroCFL.gov



HEAR FROM YOUR NEIGHBORS

Central Floridians know firsthand why we need Vision Zero. Hear what they said by watching a short video and share the need for safer roads:

<https://bit.ly/VZCFvideo>



HELP IDENTIFY SAFETY PROBLEMS

Sometimes crash data doesn't tell the whole story - and that's where you can help make transportation safer! Go to the "Help Identify Safety Problems" tab on VisionZeroCFL.gov to tell us about areas where you feel unsafe traveling.

Questions? Email

VisionZero@MetroPlanOrlando.gov
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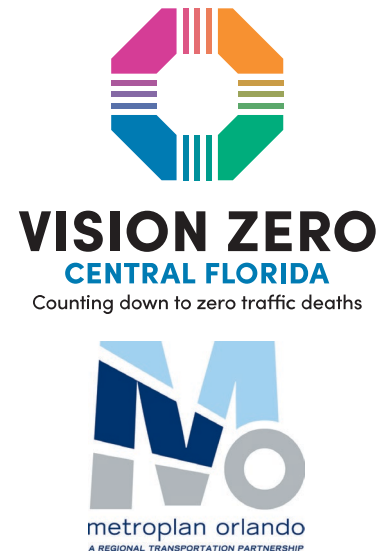
Memorandum

Date: April 25, 2024

To: Vision Zero Central Florida Partners – Public Information Officers

From: Mary Ann Horne, MetroPlan Orlando
Kathrin Tellez, Fehr & Peers

Subject: **Vision Zero Central Florida – Social Media Post Guidance**



Introduction

A core element of Vision Zero action plans is **authentic engagement**. While engagement can come in many forms—including in-person workshops and meetings, safety audits, surveys, and newsletters—social media plays a special role. It can bring awareness to the issue, provide educational materials, and serve as a call to action—all to a broad audience that might not otherwise be aware of efforts to improve safety on our streets.

Social Media Messages

A series of social media messages have been developed that pivot from messages prepared by the National Highway Traffic Safety Administration (NHTSA – [trafficsafetymarketing.gov](https://www.nhtsa.gov/traffic-safety-campaigns)). The messages have been tailored with statistics relevant to our local crash patterns, and they apply the Vision Zero Central Florida branding. Social media posts have been developed to highlight the:

- High fatal crash rate in Central Florida
- Dangers of driving under the influence of drugs and/or alcohol
- Importance of seatbelt use
- Importance of helmet use
- Importance of following traffic rules
- Dangers of distracted driving
- Special circumstances of teen driving
- Disproportionate impact to vulnerable road users
- Dangers of hit-and-run crashes

Local jurisdictions can customize the posts with their logo and additional local information if desired. For example, posts related to driving under the influence could be paired with information about how to get a safe ride home in a local community. Posts can also be timed with other traffic safety campaigns for greater effect. Sample posts for each potential campaign are presented in **Table 1** and the 2024 NHTSA Traffic Safety Campaigns are summarized in **Table 2**.

Table 1: Draft Posts

Topic	Caption	Image
High fatal crash rate in Central Florida	Join us on our quest to reach zero traffic deaths on Central Florida roads. To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	 5 people are killed on Central Florida roads every week. THAT'S 15% HIGHER THAN THE NATIONAL AVERAGE. VISION ZERO CENTRAL FLORIDA VisionZeroCFL.gov
Dangers of driving under the influence of drugs and/or alcohol	If you think getting high makes you a better driver, you're wrong – dead wrong. If You Feel Different, You Drive Different. Or Think driving yourself home after drinking is cheaper? Think again! Average rideshare ? \$25 Average DUI ? \$10,000 The choice is simple — if you've been drinking, call a sober friend, rideshare, or taxi to get you home safely. Or Would you ruin the day? Ruin a year? Ruin a family? Drunk driving ruins lives. If you've been drinking, call a sober friend, rideshare, or taxi to get you home safely. Or Be the life of the party. And the next one. Don't drive drunk or high. To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	 1 in 5 deadly crashes on Central Florida roads involves drunk driving. 1 in 6 involves drugs. SAVE A LIFE. DON'T DRIVE DRUNK OR HIGH. VISION ZERO CENTRAL FLORIDA VisionZeroCFL.gov
Importance of seatbelt use	While we are doing our part to make our roads safer, we need you to do yours by always wearing your seatbelt and making sure all your passengers are secured. Buckle Up. Every Trip. Every Time. Or Click it or Ticket. To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	 1 in 3 people who die in Central Florida car crashes are not wearing a seatbelt. WEARING A SEATBELT CAN SAVE YOUR LIFE. VISION ZERO CENTRAL FLORIDA VisionZeroCFL.gov

Topic	Caption	Image
Importance of helmet use	While we are doing our part to make our roads safer, we need you to do yours by always wearing a helmet. To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	
Importance of following traffic rules	Think you don't have time to stop for a red light? You are dead wrong. Or Stop on Red Or To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	
Dangers of distracted driving	While we are doing our part to make our roads safer, we need you to do yours by paying attention. Don't drive distracted. Eyes Forward. Or Put the Phone Away or Pay To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	
Special circumstances of teen driving	Targeted to parents: Your teen looks up to you more than you think. Set a good example when you're behind the wheel—don't drive distracted or impaired, don't speed and always wear a seat belt. #TeenDriver #Parents: We all know parenting #teens can be challenging. While some battles aren't worth fighting, protecting your teen behind the wheel is. Before you hand over the car keys, make sure they know the rules of the road in Florida. Targeted to teens: Hey teens! Drive like your friends' lives depend on it! Take it slow. #TeenDriver You're in the driver's seat now. Be Safe. Everyone buckles up. #TeenDriver To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	

Topic	Caption	Image
Vulnerable Road Users	Safer speeds save lives. Watch out for others on our roads. To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	
Dangers of hit-and-run crashes	If you are involved in a crash, stay at the scene and call for help. It's not just the law – you could save a life. Or Just stop. Stay at the scene and call for help. To learn about what's being done to improve road safety and how you can help, visit VisionZeroCFL.gov. #VisionZero	

Source: Fehr & Peers and MetroPlan Orlando, Based on NHTSA Safety Campaigns

Table 2: 2024 NHTSA Traffic Safety Campaigns

Month	Monthly Campaign	Other Campaigns
January		- Impaired Driving – Buzzed Driving is Drunk Driving - National Passenger Safety Week (January 24-27)
February		Impaired Driving – Fans Don't Let Fans Drive Drunk
March		- Vehicle Safety Recall Week (March 4-10) - Impaired Driving – Buzzed Driving is Drunk Driving
April	National Distracted Driving Month	- Distracted Driving (April 1-8) – U Drive. U Text. U Pay. Pay Attention or Pay the Price - Drug Impaired Driving Campaign (April 20) – If you feel different, you drive different - Alcohol Awareness month (National Institute of Health)
May	- National Youth Traffic Safety Month - National Bicycle Safety Month - Motorcycle Awareness Month	- National Heatstroke Prevention Day (May 1) - Click it or Ticket (May 13-June 2)
June		- Tire Safety Week (dates not determined yet) - Secure your Load Day (June 6)
July	Vehicle Theft Prevention Month	- Impaired Driving/Drug Impaired Driving (July 4) – Buzzed Driving Is Drunk Driving - Speed Campaign (July 8-31)
August		Impaired Driving/Drug Impaired Driving (August 14–September 2) – Drive Sober or Get Pulled Over
September		- Child Passenger/Occupant Protection Safety Week – (September 15-21) - National Seat Check Saturday (September 21)

Month	Monthly Campaign	Other Campaigns
October	• Pedestrian Safety Month	• Teen Driver Safety Week/Teen Driving Issues (October 20-26) • National School Bus Safety Week (October 21-25) • Impaired Driving (October 31) – Buzzed Driving is Drunk Driving
November		• Drunksgiving/Blackout Wednesday/Thanksgiving (November 23-30) – Buzzed Driving is Drunk Driving • Occupant Protection (November 23-December 1) – Buckle Up. Every Trip. Every Time
December	• National Drunk & Drug-Impaired Driving Prevention Month	• Impaired Driving/Drug Impaired Driving (December 1–December 10) – Buzzed Driving Is Drunk Driving / If You Feel Different, You Drive Different • Older Driver Safety Week (December 2–6) • Impaired Driving Drug-Impaired Driving (December 11–January 1, 2025) Drive Sober or Get Pulled Over / If You Feel Different, You Drive Different / Drive High, Get a DUI • TV Bureau of Advertising Roadblock (December 26–January 1, 2025) – Buzzed Driving Is Drunk Driving

Source: <https://www.trafficsafetymarketing.gov/sites/tsm.gov/files/2024-03/communications-calendar-2024-15962-v7-tag.pdf> and https://www.trafficsafetymarketing.gov/sites/tsm.gov/files/2023-12/events-calendar-2024-15963_v8-tag.pdf

Draft posts are provided as an attachment, and the original files are available for customization. Agency Public Information Officers are encouraged to look at the resources available from NHTSA as well as the Florida Department of Transportation (FDOT – [fdot.gov/Safety](https://www.fdot.gov/Safety)) for additional messages.

Content Sharing

Once your social media message has been refined to reflect your community, be sure to tag MetroPlan Orlando as well as other Vision Zero Partners. For example, if you are a city, consider tagging your County as well. District 5 of the Florida Department of Transportation has a social media presence and can help amplify your message.

Consider cross posting on several social media platforms and translating messages into languages prevalent in your community to reach a wider demographic. The platforms most used in the region include:

- Facebook
- Instagram
- X (formerly twitter)
- LinkedIn
- TikTok
- NextDoor

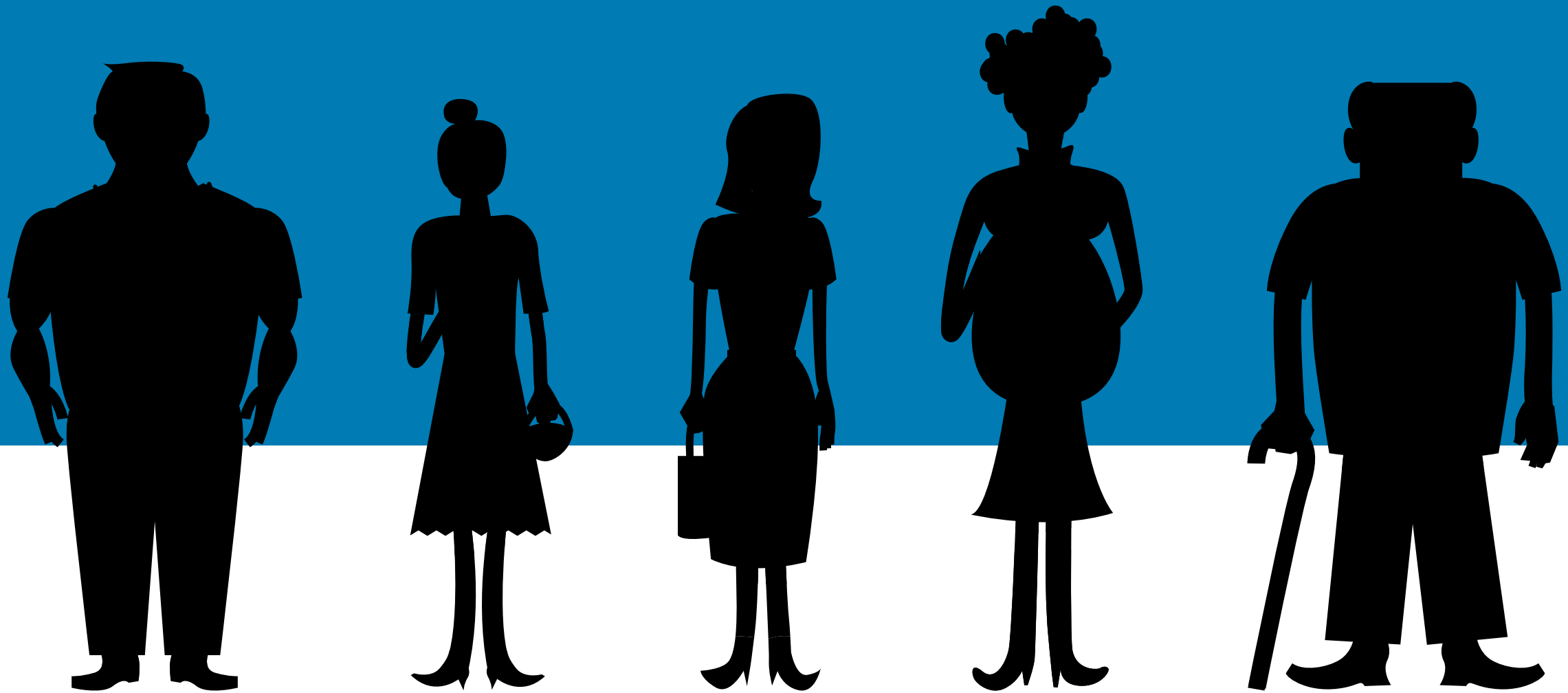
Once content is shared, please let us know if you find these templates useful or have suggestions for future templates. If you have a success story, please let us know so we can highlight your agencies' efforts in a future MetroPlan Orlando Newsletter. For maximum benefit, each post should include a hyperlink to the Vision Zero Central Florida hub site where people can find additional information,

provide feedback, and learn how to get involved – [VisionZeroCFL.gov](https://www.visionzeroCFL.gov) as well as link to Vision Zero resources in your community, such as your Action Plan as well as any upcoming activities.

This completes our Social Media Post Guidance. If you have questions or feedback, please contact Mary Ann Horne at MaryAnn.Horne@metroplanorlando.gov.

Attachments: PDF of Campaigns

5 people are killed on Central Florida roads every week.



**THAT'S 15% HIGHER THAN THE
NATIONAL AVERAGE.**

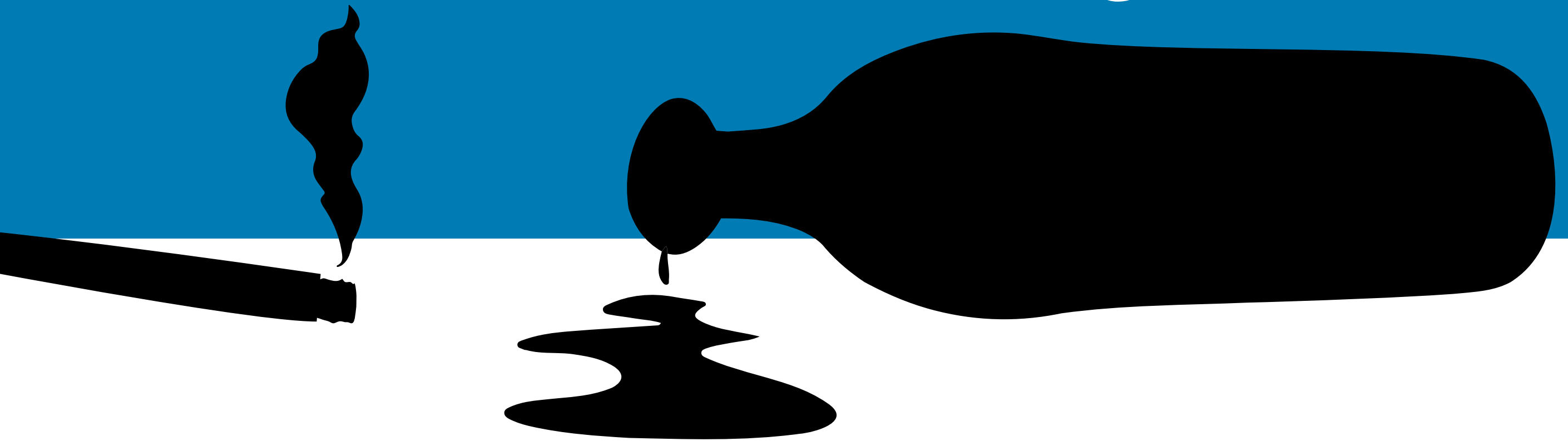


VISION ZERO
CENTRAL FLORIDA

VisionZeroCFL.gov



1 in 5 deadly crashes
on Central Florida roads
involves **drunk driving**.
1 in 6 involves **drugs**.



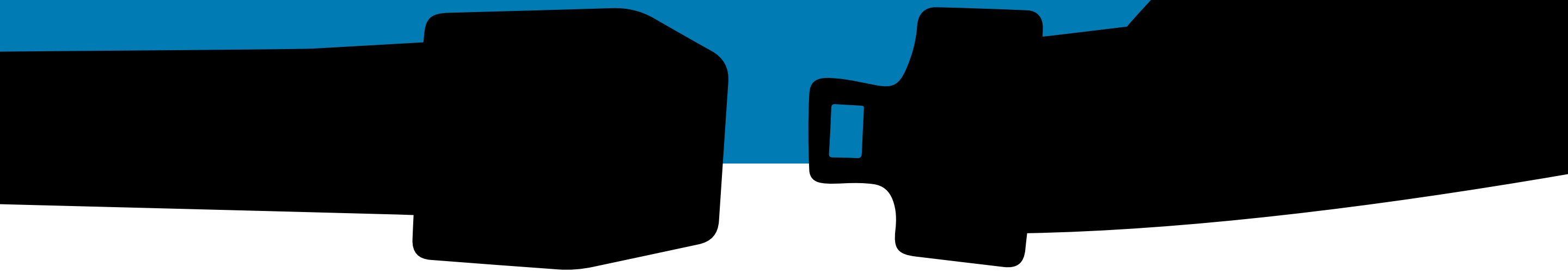
SAVE A LIFE. DON'T DRIVE DRUNK OR HIGH.



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



**1 in 3 people who die
in Central Florida car
crashes are not
wearing a seatbelt.**



WEARING A SEATBELT CAN SAVE YOUR LIFE.



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



Almost half the people
killed on motorcycles
in Central Florida were
not wearing helmets.



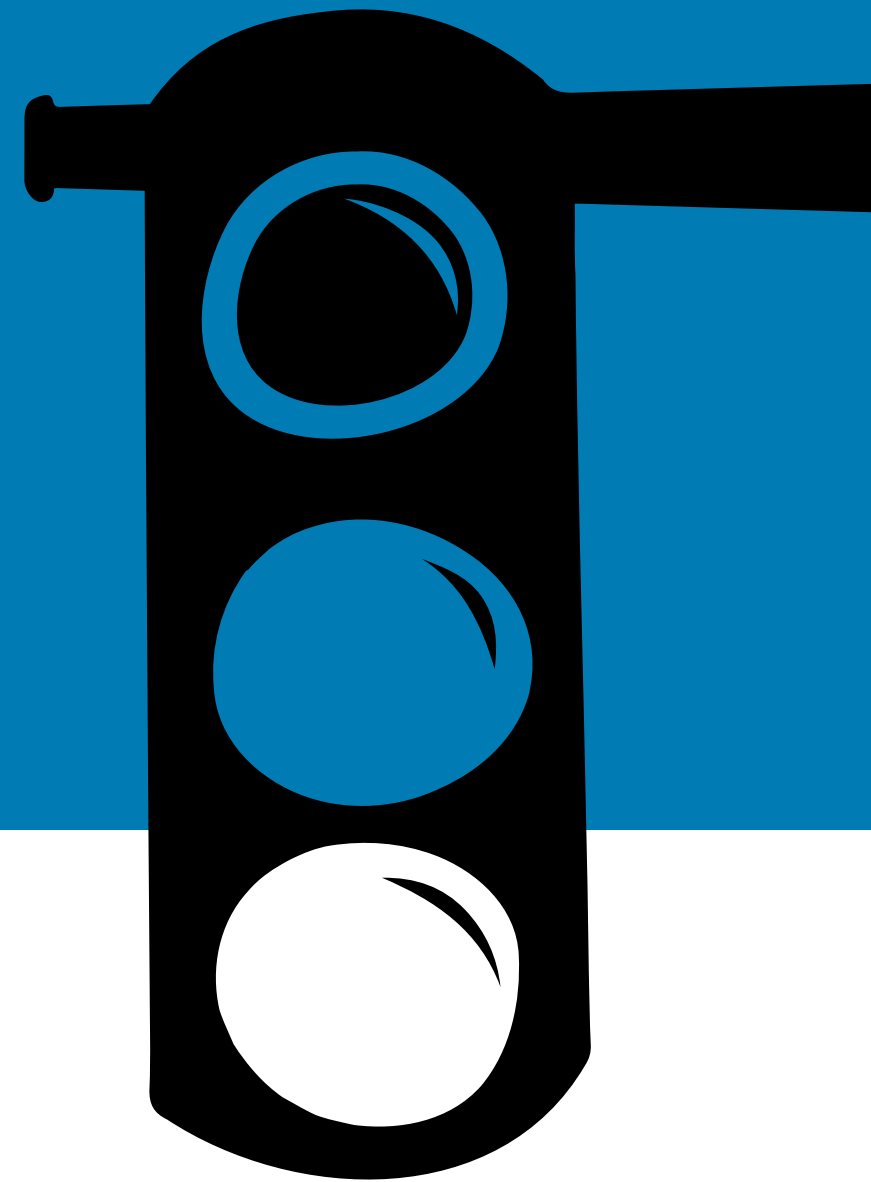
WEARING A HELMET CAN SAVE YOUR LIFE.



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



Red light running killed
or seriously injured over
300 people in our
community in the
past 5 years.



STOPPING ON RED SAVES LIVES.



VISION ZERO
CENTRAL FLORIDA

VisionZeroCFL.gov



1 in 3 serious injury crashes in Central Florida involves

distracted driving.



PAYING ATTENTION CAN SAVE A LIFE.



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



Only 6% of drivers
in Central Florida
are **teens**. But
they're in 13% of
serious injury
crashes.



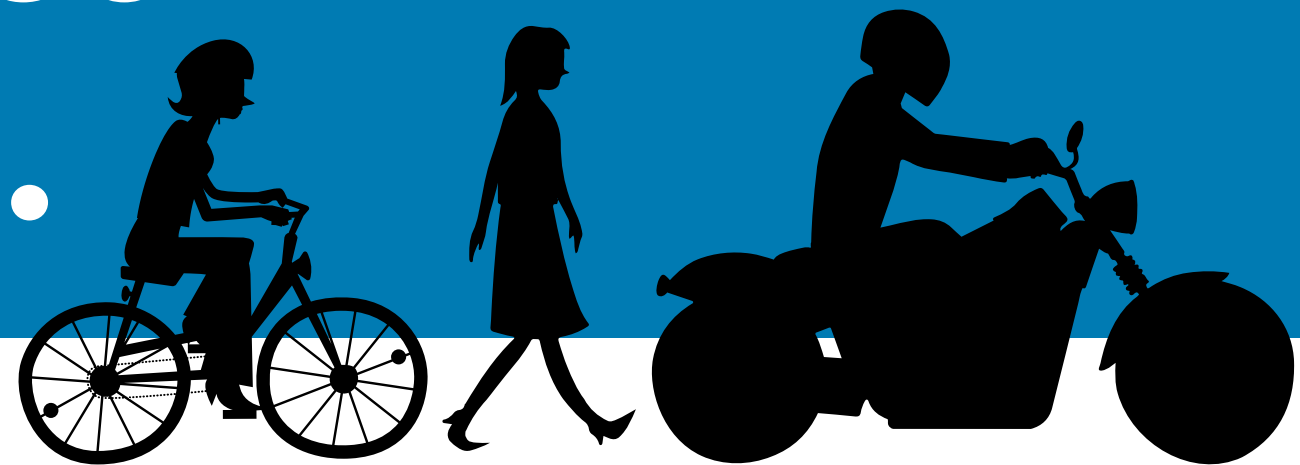
TEACH YOUR TEENS SAFE DRIVING!



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



About 3% of all crashes involve people walking, biking, or motorcycling. But those make up half the fatal crashes in Central Florida.



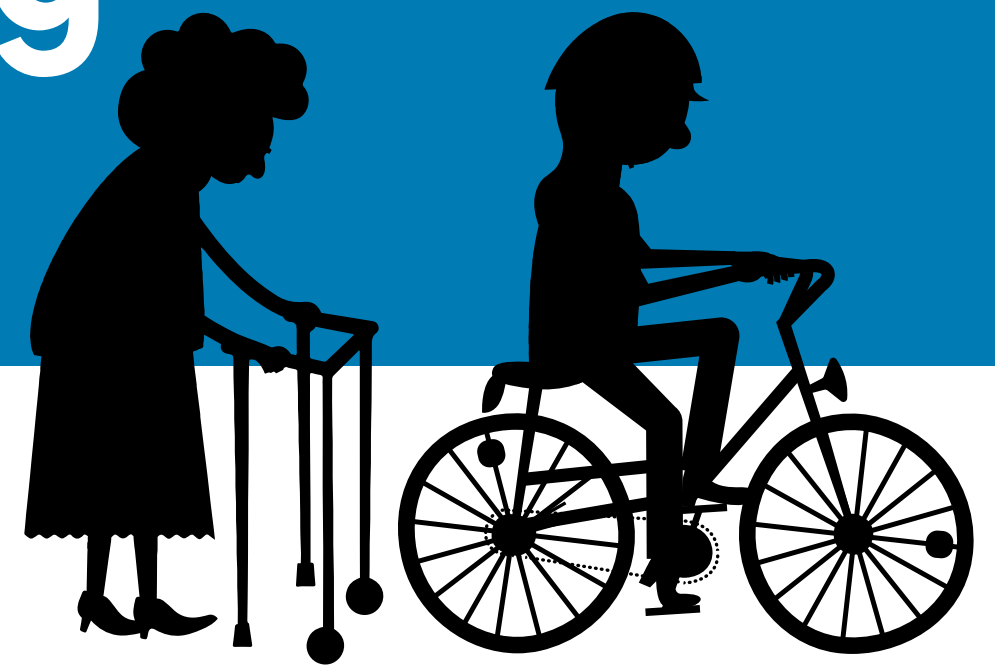
**MAINTAIN SAFE SPEEDS AND
SHARE THE ROAD WITH OTHERS.
THEY BELONG THERE TOO.**



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



10% of all serious injury crashes are hit-and-runs. That number doubles when the person hit is walking or biking in Central Florida.



**IF YOU HIT SOMEONE, DON'T RUN!
PULL OVER AND MAKE SURE THEY'RE OK.**



VISION ZERO
CENTRAL FLORIDA
VisionZeroCFL.gov



Technical Appendix

E- Local Engagement Plan



Crosswalk at the Bluford Avenue and McKey Street intersection



Memorandum

Date: December 11, 2023

To: City of Ocoee

From: Ryan Mansfield, Kittelson & Associates

Subject: **City of Ocoee Safety Action Plan - Public Engagement Strategy**



Introduction

The MetroPlan Orlando region has an overall fatal crash rate 15 percent higher than the national average and 10 percent higher than the statewide average. MetroPlan Orlando, the Metropolitan Planning Organization, is preparing a Regional Vision Zero Action Plan to understand where crashes are most likely to occur, why crashes result in fatalities and serious injuries, and how to reduce the severity and frequency of these crashes. This effort will be rooted in the core elements of Vision Zero and the Safe System approach. The purpose of the Action Plan is to identify projects, programs, and strategies to eliminate fatalities and serious injuries on the region's roadways.

In coordination with the Regional Vision Zero Action Plan, the City of Ocoee will prepare its own Vision Zero Action Plan, which will also be rooted in the core elements of Vision Zero and the Safe System approach. The purpose of the Action Plan is to identify projects, programs, and strategies to eliminate roadway related fatalities and serious injuries within the City.

The following memorandum outlines potential stakeholder and public engagement opportunities for the City of Ocoee to further Vision Zero efforts in Central Florida that complement the regional strategies.

Funding for this effort is provided by the U.S. Department of Transportation's Safe Streets for All (SS4A) grant program. The SS4A grant program is funding the preparation of regional, county, and all local agency Vision Zero action plans in the MetroPlan Orlando region.

Core Elements of Vision Zero

The [Vision Zero Network](#) has established ten core elements that communities must meet to become a designated Vision Zero community. Meeting these elements opens the way to pursue supplemental planning and implementation funds through the USDOT's SS4A program. The ten core elements are structured in three primary categories, as summarized in **Table 1** along with their applicability to the Plan Approach. The elements noted in *blue italics* directly relate to Stakeholder and Public Engagement.

Table 1 | Core Elements of Vision Zero and Applicability to Regional and Local Plans

General Strategy	Strategy Details	Plan Approach
Category: Leadership and Commitment		
Public, High-Level, and Ongoing Commitment	<i>Key elected officials and leaders within public agencies, including transportation, public health, and police, commit to the goal of eliminating traffic fatalities and serious injuries within a specific timeframe. Leadership across these agencies consistently engages in prioritizing safety via a collaborative working group and other resource sharing efforts.</i>	Resolution guidance will be provided to support adoption. All agencies in the region are expected to adopt a Vision Zero Resolution.
Authentic Engagement	<i>Meaningful and accessible community engagement toward Vision Zero strategy and implementation is employed, with a focus on equity.</i>	<i>A variety of engagement activities have been identified as part of the regional and local Vision Zero action plans, as described in this document.</i>
Strategic Planning	A Vision Zero Action Plan is developed, approved, and used to guide work. The Plan includes explicit goals and measurable strategies with clear timelines, and it identifies responsible stakeholders.	The primary product of this process is a Vision Zero Action Plan.
Project Delivery	Decision-makers and system designers advance projects and policies for safe, equitable multimodal travel by securing funding and implementing projects, prioritizing roadways with the most pressing safety issues.	The primary components of project identification and prioritization will include safety and equity.
Category: Safe Roadways and Safe Speeds		
Complete Streets for All	Complete Streets concepts are integrated into communitywide plans and implemented through projects to encourage a safe, well-connected transportation network for people using all modes of transportation. This prioritizes safe travel of people over expeditious travel of motor vehicles.	Safety projects will be developed through the Complete Street lens to balance the competing needs of all roadway users, prioritizing the most vulnerable.
Context-Appropriate Speeds	Travel speeds are set and managed to achieve safe conditions for the specific roadway context and to protect all roadway users, particularly those most at risk in crashes. Proven speed management policies and practices are prioritized to reach this goal.	Speed is one of the leading contributors to fatal crashes in the region and identifying appropriate target speeds on high crash corridors will be a key strategy.

General Strategy	Strategy Details	Plan Approach
Category: Data-driven Approach, Transparency, and Accountability		
<i>Equity-Focused Analysis and Program</i>	<i>Commitment is made to an equitable approach and outcomes, including prioritizing engagement and investments in traditionally under-served communities and adopting equitable traffic enforcement practices.</i>	<i>Equity factors will be incorporated into the analysis and project prioritization.</i>
Proactive, Systemic Planning	A proactive, systems-based approach to safety is used to identify and address top risk factors and mitigate potential crashes and crash severity.	A detailed crash analysis will be conducted to identify top crash locations and causes.
Responsive, Hot Spot Planning	A map of the community's fatal and serious injury crash locations is developed, regularly updated, and used to guide priority actions and funding.	The mapped data will help inform project prioritization and will be used in the prioritization of improvements.
Comprehensive Evaluation and Adjustments	Routine evaluation of the performance of all safety interventions is made public and shared with decision makers to inform priorities, budgets, and updates to the Vision Zero Action Plan.	MetroPlan Orlando will take the lead on updating crash data in a safety dashboard annually and reevaluating the high injury network every 3 to 5 years.

Note: The elements noted in *blue italics* directly relate to Stakeholder and Public Engagement.

Source: Vision Zero Network, 2023

Stakeholder Engagement Strategies

The City of Ocoee will identify representatives from local agency staff and safety partners to take part in a Local Agency Working Group. **Local Agency Working Group meetings** will be organized around the topics of Vision Zero and Safe Systems Approach, Community Crash Profiles, Policy Assessment and Countermeasures, and Priority Projects. Members of the Working Group may also participate in the following:

- **Stakeholder conversations** with stakeholders that may not be in the Working Group.
- **Presentations to City Boards and Commissions** will provide opportunities for feedback from jurisdictional leaders as the plan progresses to ensure political support.

The City of Ocoee will reach out to residents and business owners using the following tools:

- **Post project materials** and a link to the Regional Safety Dashboard with local safety information on the **City's website**; this will provide access to the regional feedback map and online survey.
- Have a project information booth at up to two local community events or other venues where large groups of people are expected. These **Pop-up Events** will host engaging and interactive activities to inform, educate and receive feedback.

Within the Action Plan, a summary of public engagement activities and feedback received throughout the process will be provided, as well as a summary of how that feedback was incorporated into the plan. Additional information about stakeholder and public engagement strategies is provided in **Table 2** and a schedule is provided in **Table 3**.

Table 2 | Stakeholder and Public Engagement Strategies

Strategy	Description	Goal	Considerations
Working Group	The working group will include staff from key departments that have responsibility for some aspect of the transportation system, with periodic feedback from elected officials.	Obtain feedback on plan analyses and materials as they are prepared to understand concerns and perspectives of others in the local jurisdiction.	The consultant team will lead four Working Group meetings.
Project Website	A project link on the City's website that can be linked to the MetroPlan Orlando SS4A site developed for the project.	Website can serve as a landing page for project materials, links to resources, and links to on-line mapping and survey.	MetroPlan Orlando is developing a regional website which includes a Crash Database with information for all jurisdictions in the region, online mapping tool, and online surveys. The City can use their local website to host local documents and link to the regional website for additional information.
Pop-up Event	Host engaging and interactive activities at key community locations. Examples could include a sidewalk pop-up with a community input activity adjacent to a park or in a major pedestrian serving commercial area.	Reach people where they are and reach those who are not typically engaged in the planning process.	The consultant team will attend up to two pop-up events.
Social Media Posts	A series of project branded social media posts, including a variety of materials and messages, posted on the City's social media platforms.	Reach people through social networks, encourage residents to share with their social network.	Using a diversity of platforms to maximize reach. The City can consider posting on social media platforms about the project.
Passive Engagement Opportunities	Passive engagement opportunities such as flyers at community centers and libraries, social media posts directing the public to the project website, branded comment boxes that allow community members to submit their concerns, sidewalk decals/stickers temporary installed at high pedestrian generator locations.	Meet people where they are and provide project information.	The consultant team will develop a flyer describing overall project goals and links to the website for the City.

Source: MetroPlan Orlando, 2023

Table 3 | Stakeholder and Public Engagement Schedule

Strategy	October	November	December	January	February	March	April	May	June
Kick-Off Meeting									
Working Group #1: Vision Zero & Safe Systems Approach									
Working Group #2: Community Crash Profiles									
Working Group #3: Policy Assessment & Countermeasures									
Working Group #4: Priority Projects									
Project Website									
Pop-up Events									
Social Media Posts									
Passive Engagement Opportunities									
Regional Online Mapping									



Technical Appendix

F- Local Engagement Materials



Crosswalk at the Bluford Avenue and McKey Street intersection





What is Vision Zero?

Vision Zero is Ocoee’s approach to eliminate traffic-related fatalities and serious injuries:

- Reframes traffic deaths as **preventable**.
- Integrates **human failings** into the approach.
- Focuses on preventing **fatal and severe crashes** rather than eliminating all crashes.
- Aims to establish **safe systems** rather than relying on individual responsibility.
- Applies **data-driven** decision making.
- Establishes road safety as a **social equity issue**.

What are we doing?

Developing a Comprehensive Safety Action Plan to eliminate traffic related fatalities and serious injuries.

- Data-driven analysis to identify the High Injury Network, which is where serious and fatal crashes are occurring.
- Public outreach to identify issues and possible solutions.
- Recommendations to reduce serious and fatal crashes, including:
 - Systemic countermeasure to reduce crashes
 - Specific road projects to reduce crashes
 - Actionable, measurable strategies and policy changes

Elements of a Vision Zero Plan



Questions?

Contact information:

Ginger Corless: vcorless@ocoee.org

Sarah Larsen: sarah.larsen@metroplanorlando.gov

Ryan Mansfield: rmansfield@kittelson.com

Help us develop a vision zero plan so we can all travel safely!



Visit our interactive map to identify existing safety problems or tell us how you would improve the city streets

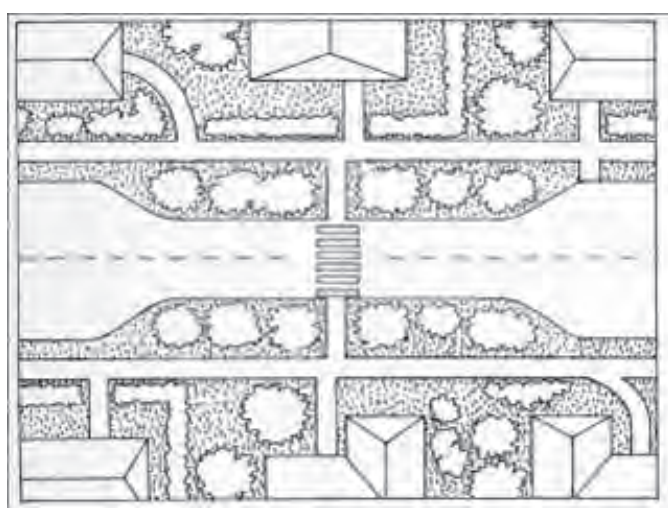


Visit the Vision Zero Website to learn more

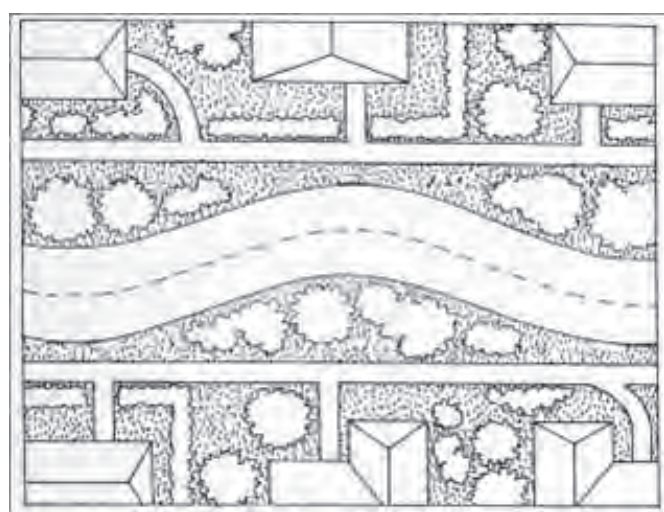
Traffic Safety Toolbox



Speed Management



Chokers



Chicanes



Bike Lanes



Crosswalks



Traffic Signals



Lighting



Roundabouts



Raised Crosswalks



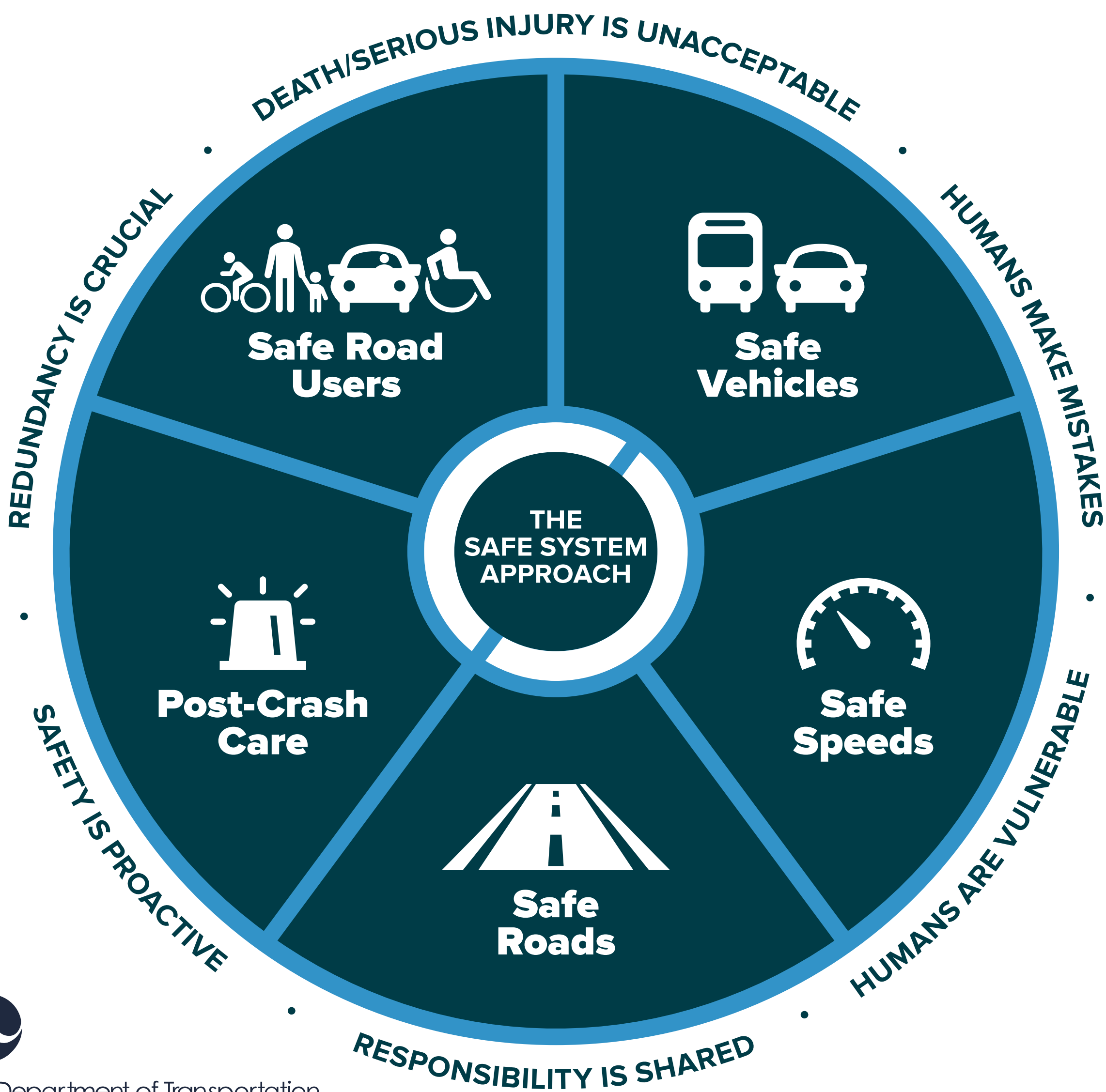
Rumble strips

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Elements of a Vision Zero Plan



U.S.Department of Transportation
Federal Highway Administration

Questions?

Contact information:

Sarah Larsen: sarah.larsen@metroplanorlando.gov

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Help us develop a vision zero plan so we can all travel safely!



Visit our interactive dashboard to observe local crash trends



Visit the Vision Zero Website to learn more

Crashes by Time of Day and Severity

Hour of Day	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal
0:00	60	10	0	0	0
1:00	20	10	0	0	0
2:00	10	10	0	0	0
3:00	10	10	0	0	0
4:00	10	10	0	0	0
5:00	20	10	0	0	0
6:00	50	20	0	0	0
7:00	120	30	0	0	0
8:00	150	30	10	0	0
9:00	180	40	20	0	0
10:00	240	50	30	0	0
11:00	320	50	30	0	0
12:00	290	50	30	0	0
13:00	330	50	30	0	0
14:00	340	50	30	0	0
15:00	290	50	30	0	0
16:00	260	50	30	0	0
17:00	230	50	30	0	0
18:00	180	50	30	0	0
19:00	120	30	10	0	0
20:00	80	20	10	0	0
21:00	40	10	10	0	0

100% of fatal crashes
occurred on roadways posted at 35 mph or above

Crashes by Time of Day and Severity

Hour of Day	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal
0:00	0	0	0	0	0
3:00	0	0	0	0	0
6:00	1	0	0	1	0
9:00	8	3	0	0	0
12:00	7	0	2	0	0
15:00	5	2	1	0	0
18:00	9	3	1	0	0
21:00	3	0	0	2	0
24:00	1	0	0	0	0
1:00	4	0	1	0	0
4:00	1	0	0	0	0
7:00	1	0	0	1	0
10:00	10	2	0	0	0
13:00	7	0	2	0	0
16:00	11	2	2	0	0
19:00	6	3	1	0	0
22:00	5	1	0	0	0
25:00	3	0	0	0	0
28:00	1	0	0	0	0
31:00	2	0	0	0	0

50% of serious injury crashes
occurred on roadways posted at 35 mph or higher

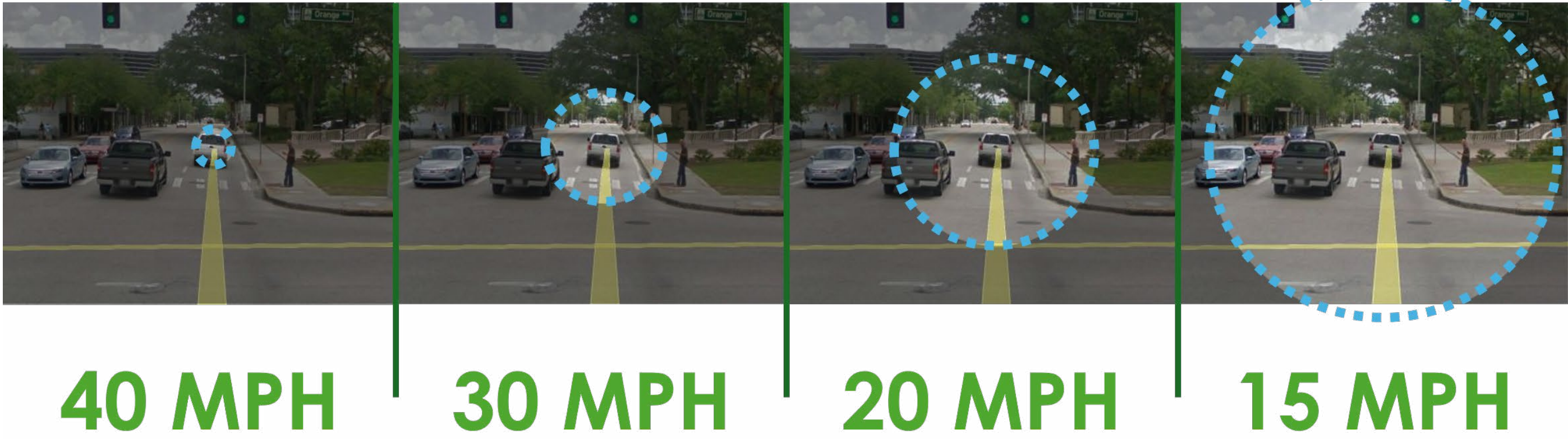
Crashes by Time of Day and Severity

Hour of Day	Property Damage Only	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal
0:00	80	10	5	0	0
1:00	30	10	5	0	0
2:00	25	10	5	0	0
3:00	20	10	5	0	0
4:00	20	10	5	0	0
5:00	25	10	5	0	0
6:00	70	10	5	0	0
7:00	100	10	5	0	0
8:00	100	20	10	10	0
9:00	120	20	10	10	0
10:00	140	20	10	10	0
11:00	150	20	10	10	0
12:00	180	20	10	10	0
13:00	210	20	10	10	0
14:00	230	20	10	10	0
15:00	230	20	10	10	0
16:00	240	20	10	10	0
17:00	240	20	10	10	0
18:00	170	20	10	10	0
19:00	140	20	10	10	0
20:00	110	20	10	10	0
21:00	70	10	5	0	0
22:00	50	10	5	0	0

90% of fatal crashes
occurred on roadways posted at 35 mph or higher

Higher Speed Risks and Countermeasures

Speed Influences Drivers' Cone of Vision



Pedestrian’s Risk of Death or Serious Injury



Countermeasures you would like to see

Vote for Intersection and Corridor Potential Countermeasures

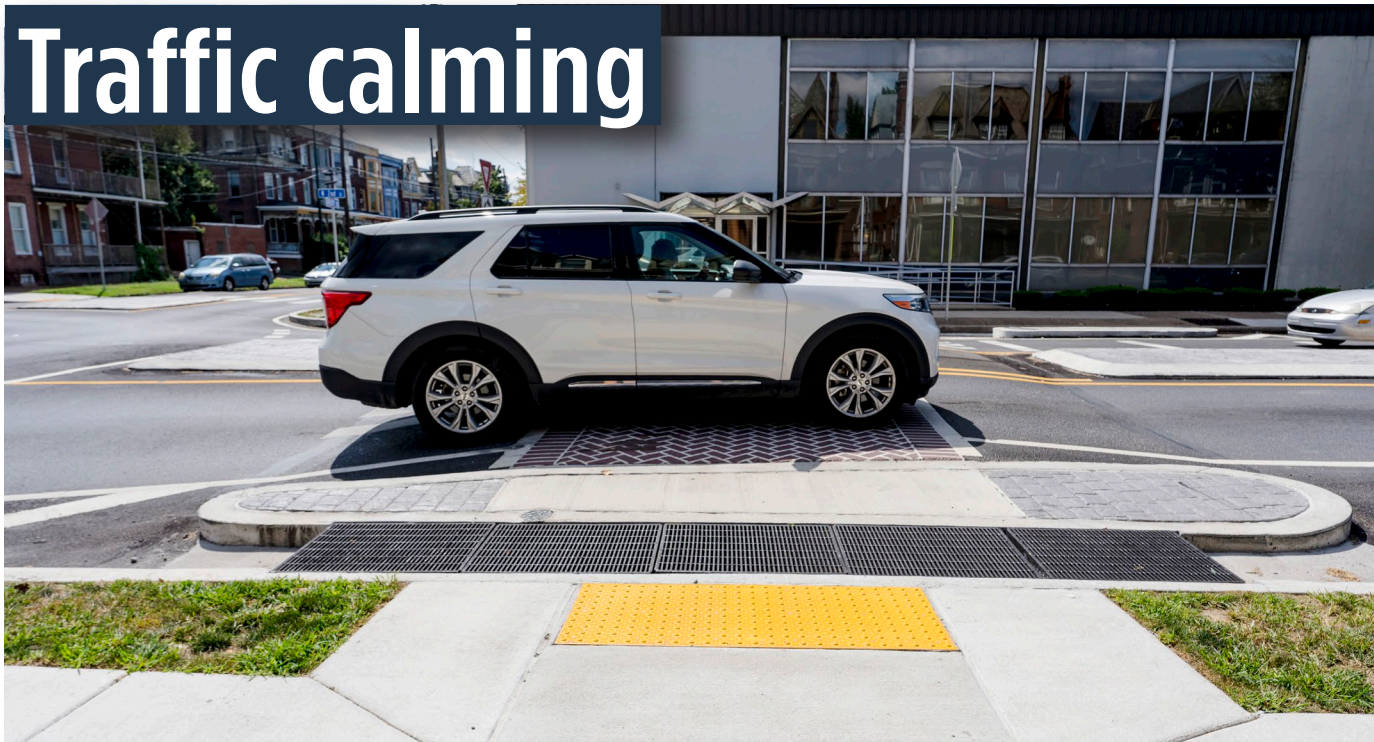
Flashing Yellow Arrow



Protected Intersection



Traffic calming



Speed enforcement



Roundabouts



Delineators



Vote for Pedestrian/Bicycle Potential Countermeasures

Separate Bicycle Lanes



Pedestrian safety improvements



Add/Widen Sidewalk



Midblock Pedestrian Crossing



Shorter signal cycle lengths



High Injury Network

Municipality	% of Severe Injury Crashes Covered by the High Injury Network	% of Fatal Crashes Covered by the High Injury Network
Town of Oakland	100%	N/A*
City of Winter Garden	59%	86%
City of Ocoee	54%	100%

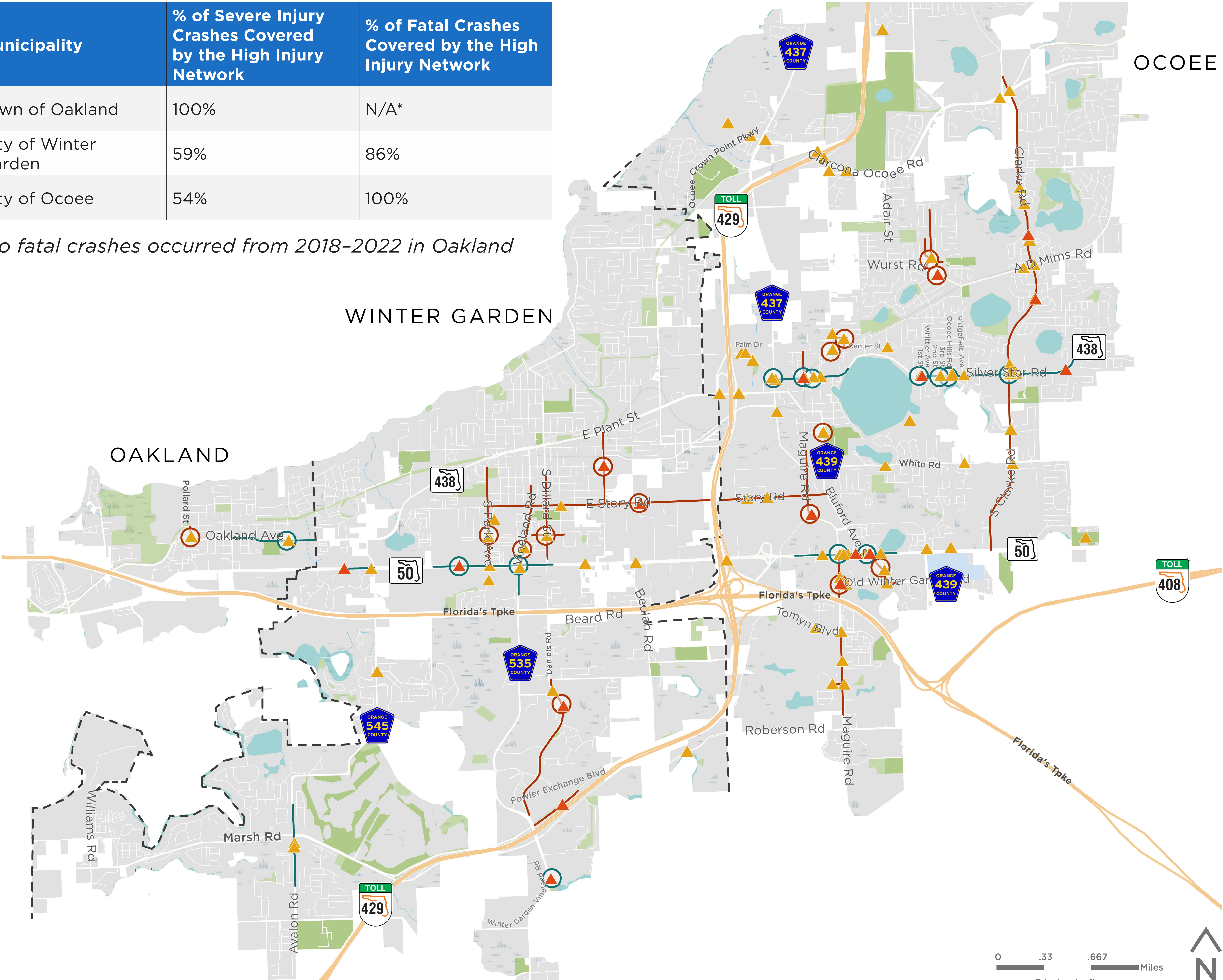
*No fatal crashes occurred from 2018-2022 in Oakland

LEGEND

- State and County Road High Injury Network
- Local Road High Injury Network
- State and County Road High Injury Network Intersection
- Local Road High Injury Network Intersection
- Fatal Crash
- Severe Injury Crash
- City/Town Boundary

The High Injury Network is a collection of roadways where a disproportionate number of fatal and severe injury crashes occur.

Focusing efforts on these roadways can have a large impact on reducing severe injuries and fatalities on our roadway system.



Elected Officials Guide



VISION ZERO **CENTRAL FLORIDA**

Counting down to zero traffic deaths

Why We Need Vision Zero



More people die on Central Florida roads each year, outpacing even the rapid population growth in our region. Traditional ways of addressing transportation safety clearly are not working, and we need a culture shift. **The good news is we can eliminate traffic deaths**, if we make safety a part of all we do. Vision Zero is a global movement to end traffic deaths and serious injuries by taking a systemic approach to road safety. Traffic deaths and injuries are unacceptable -- and preventable. **We CAN reach our goal of zero deaths** and serious injuries, if we all work together. As elected officials, you have an important role. This guide offers background data, along with some ways you can help Central Florida get to zero.

In Our Region

CRASHES ON HIGH-SPEED ROADS

72%

of crashes that result in a death or serious injury occur on roads with a posted speed of 40 mph or greater

LATE NIGHT CRASHES

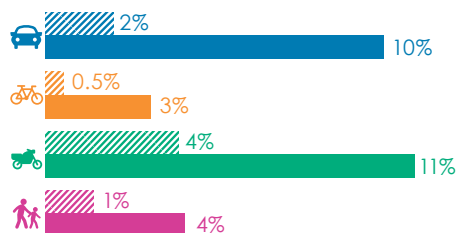
Crashes that happen between
midnight - 6 AM
are more likely to result in a death or serious injury

CRASHES ON MULTI-LANE ROADS

74%

of crashes involving death or serious injury to a pedestrian occur on roads with four or more lanes

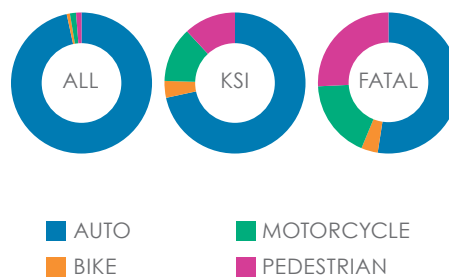
ALCOHOL-INVOLVED CRASHES



▨ % OF ALL CRASHES

■ % OF ALL CRASHES WHERE SOMEONE IS KILLED OR SEVERELY INJURED

ALL CRASHES BY MODE



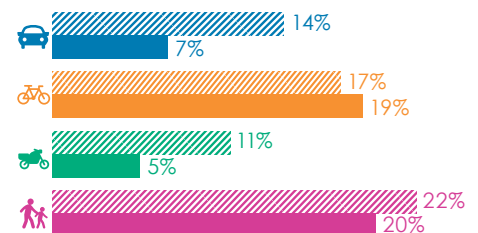
■ AUTO

■ BIKE

■ MOTORCYCLE

■ PEDESTRIAN

HIT AND RUN CRASHES



▨ HIT & RUN AS A % OF ALL CRASHES

■ HIT & RUN AS A % OF CRASHES WHERE SOMEONE WAS KILLED OR SEVERELY INJURED

How Vision Zero Approaches Crashes

TRADITIONAL APPROACH

- Traffic deaths are inevitable
- Human behavior needs to be perfect
- We should prevent all crashes
- Individual responsibility is the key to saving lives
- Incorporating safety improvements is too expensive

VS

VISION ZERO APPROACH

- Traffic deaths are preventable
- Plans should anticipate human mistakes
- We should concentrate on preventing fatal and severe crashes
- A safe systems approach is the key to saving lives
- Eliminating deaths and serious injuries is not expensive

Your Role as an Elected Official



How do we get to Vision Zero?

Vision Zero is **holistic and includes a variety of strategies**, including behavior, infrastructure, legislative, and policy changes.

Vision Zero evaluation **establishes a high injury network (HIN)** where most serious crashes happen and identifying root causes of crashes that may be infrastructure or behavior based.

Vision Zero also **identifies short-term fixes and strategies** where they're most needed, along with long-term projects that will transform infrastructure.

What is your part in the solution?

You are a community influencer. Share the Vision Zero message with the media, your constituents, community groups and at community events and encourage people to tell their stories.

You set local policy and strategic direction. Actively participate in creation of your jurisdiction's plan and look for ways to infuse Vision Zero into all actions (ordinances, development review, long range plans, etc.).

You can advocate at the state level for legislative changes that will give local governments more tools in the safety toolbox.

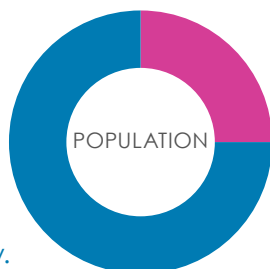
Different Populations Face Different Impacts

Constituents in your community may face the effects of crashes in very different ways or more profoundly than others, leading to social equity issues which elected officials should be prepared to address. One way to understand this issue is through the lens of **transportation disadvantaged communities**, which are designated through consideration and analysis of many factors, including poverty rates, motor vehicle ownership, and access to destinations.

Although only

25%

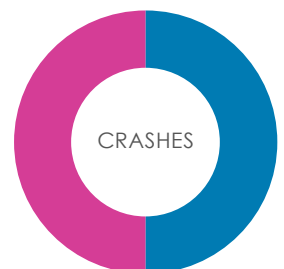
of the regional population lives in a designated transportation disadvantaged community.



Almost

50%

of all crashes and 54% of fatal crashes occur within or adjacent to these communities.



Tools to Help You Support Safety



Hub Site

View local crash statistics for your jurisdiction and see who the contact person is for your Vision Zero Action Plan: visionzerocfl.gov



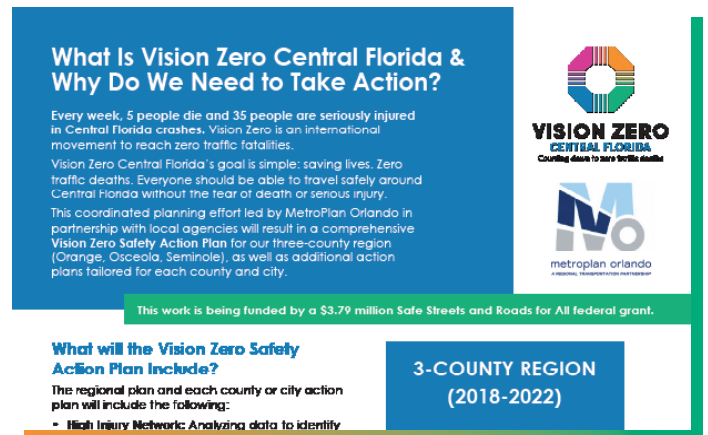
Safety Videos

Understand the perspectives of locals impacted by crashes, and learn what we can do next as a region: youtube.com/@metroplan_orlando



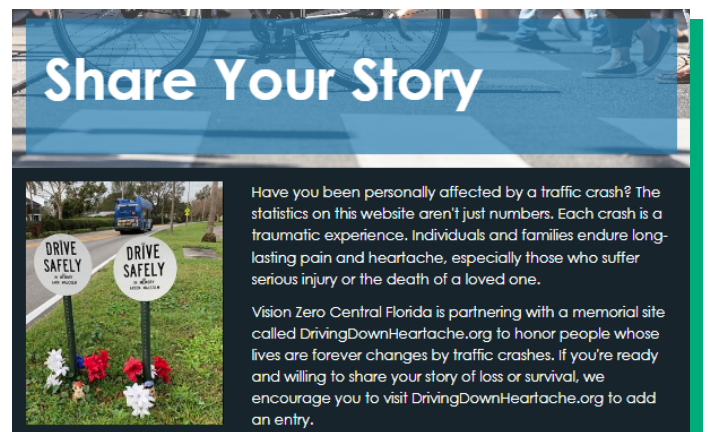
Fact Sheets and Communication Tools

Download studies, one-pagers, and other tools for the region at-large and for each county: visionzerocfl.gov/pages/project-resources



Story Sharing

Encourage constituents to share personal stories online of loss or survival: drivingdownheartache.org/



QUESTIONS?

MetroPlan Technical Project Manager: Mighk Wilson - Mighk.Wilson@MetroPlanOrlando.gov

MetroPlan Community Outreach Strategist: Mary Ann Horne - MaryAnn.Horne@MetroPlanOrlando.gov

General Inquiries: VisionZeroCFL@MetroPlanOrlando.gov

Take Action



Step Up as a Safety Champion

Commit to supporting the **Vision Zero principles** for eliminating traffic deaths and serious injuries by the year 2050. More information is provided on the next page and at <https://visionzeronetwerk.org/>

Learn more about safety by attending a Vision Zero **speaker series webinar**. More information is provided at <https://www.visionzerocfl.gov/pages/project-resources>

Familiarize yourself with the parts of your jurisdiction that lie within or close to the **High-Injury Network**.

Promote traffic safety to your constituency through email messages, newsletters, social media, speaking engagements, etc.

Support your jurisdiction's Vision Zero Resolution and **Vision Zero Action Plan**.

Pledge to use the word crash or collision **instead of Accident**.

Familiarize yourself with the Vision Zero Action plan for **the entire region**.



Be a Voice for Change

Support a **Vision Zero event** sponsored by MetroPlan Orlando or your local jurisdiction – or organize one of your own!

Hold conversations with residents about the fundamentals and benefits of Vision Zero – particularly among underserved communities along the High Injury Network.

Submit a **guest column** to your community paper or other local media outlet.

Incorporate **Vision Zero messages** when you speak to community groups.

More About Vision Zero



DEFINITION

Vision Zero is an international movement to reach zero traffic fatalities. Vision Zero Central Florida's goal is simple: saving lives. Zero traffic deaths. Everyone should be able to travel safely around Central Florida without the fear of death or serious injury.

Vision Zero recognizes that humans make mistakes and therefore the transportation system should be designed to minimize the consequences of human error. The Vision Zero approach is fundamentally different from the traditional traffic safety approach in American communities in

six key ways.

SOURCE: VISION ZERO NETWORK

1 Reframes traffic deaths as **preventable**.

2 Integrates **human failing** into the approach.

3 Focuses on preventing **fatal and severe crashes** rather than eliminating all crashes.

4 Aims to establish **safe systems** rather than relying on individual responsibility.

5 Applies **data driven** decision making - using facts and metrics to guide strategic choices aligned with goals.

6 Establishes road safety as a **social equity issue**, identifying the need for improved impartiality, fairness and justice.

How Speed Affects Traffic Crashes

SPEED IS A FUNDAMENTAL PREDICTOR OF CRASH SURVIVAL.

IF HIT BY A PERSON DRIVING AT...



DEATH RISK

10%



DEATH RISK

50%



DEATH RISK

90%

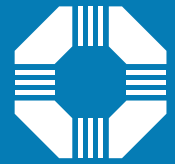
RESEARCH SHOWS

Increasing vehicle speeds from **20 MPH** to **40 MPH** increases the likelihood of a pedestrian death when hit from **10%** to **90%**.

Lower speeds increase a driver's **field of vision** and allow for more time to react to unexpected situations in the road.

SOURCES: PROPUBLICA, VISION ZERO NETWORK

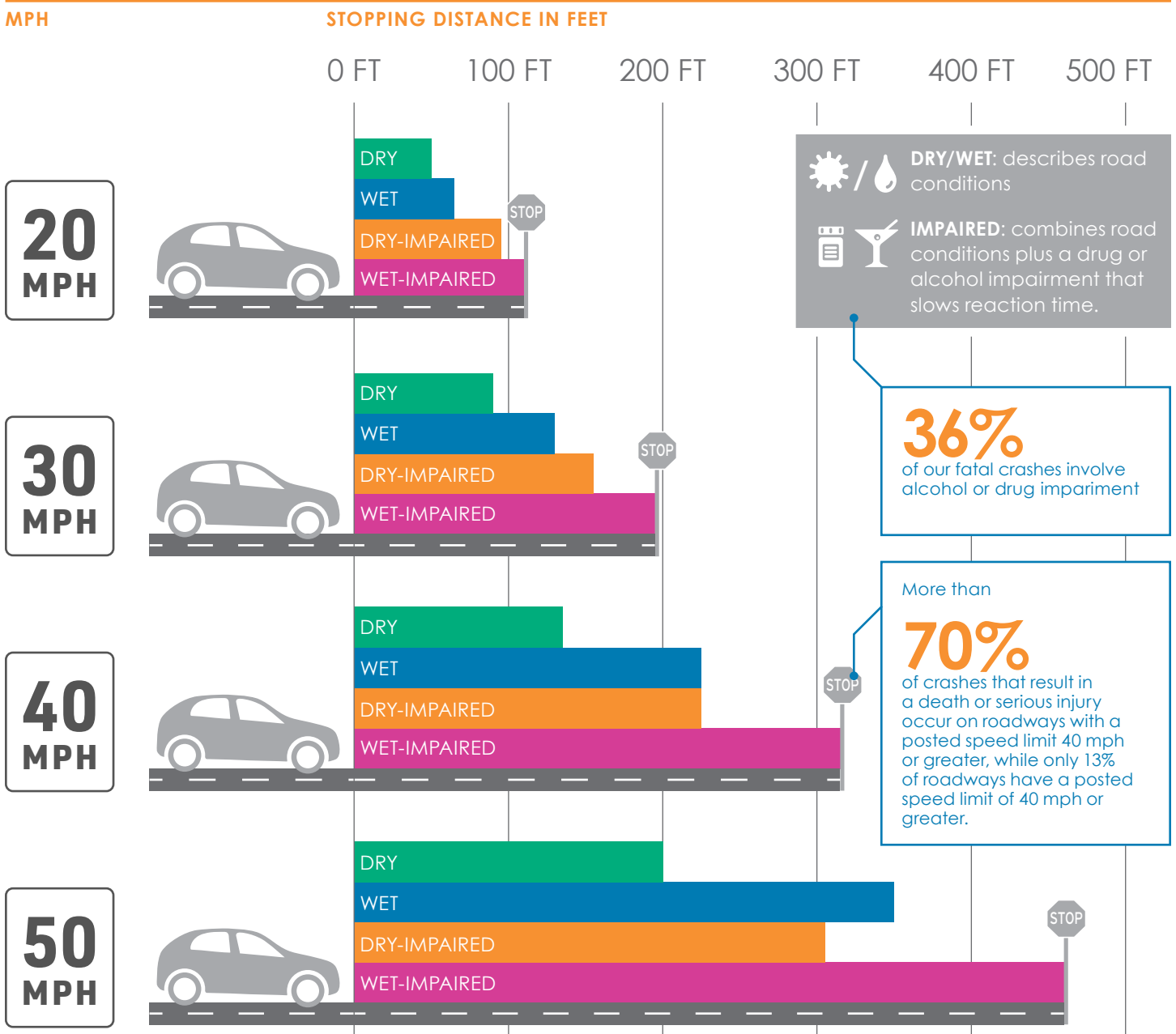
Vehicle Stopping Distances



VISION ZERO
CENTRAL FLORIDA
Counting down to zero traffic deaths

CONDITIONS PLUS SPEED IMPACT CHANCE OF CRASH.

Depending on speed and roadway conditions, the distance needed to fully stop and prevent a crash can vary. Note that this distance includes perception or reaction time; actual distances will also vary based on the type of vehicle and its condition.





All too often our news media and crash reporting refer to **preventable crashes as accidents**. This word choice implies that nothing could have been done to prevent a crash.

Let's commit to using the word "crash" or "collision" not "accident" to acknowledge that roadway crashes can be systematically addressed as the reality is that we can prevent these tragedies by taking a proactive, preventative approach which prioritizes transportation safety as a public health issue.

Changing How We Speak Based on the Data

Research conducted at the University of South Florida¹ related to framing of media reports in bicycle crashes found that news reports:

"...largely functioned to **remove blame from the motorist** and to highlight the bicyclist's actions. These linguistic strategies reflect the **assumption that responsibility for safety rests on the bicyclist** and detracts attention from potential social policy reform that would lead to fewer bicyclist fatalities."

Rethinking Traditional Approaches

"Before the labor movement, factory owners would say 'it was an accident' when American workers were injured in unsafe conditions.

Before the movement to combat drunk driving, intoxicated drivers would say 'it was an accident' when they crashed their cars.

Planes don't have accidents. They crash. Cranes don't have accidents. They collapse. And as a society, we expect answers and solutions."²

¹ [HTTPS://JOURNALS.SAGEPUB.COM/DOI/ABS/10.1177/0361198119839348](https://journals.sagepub.com/doi/abs/10.1177/0361198119839348)

² [HTTPS://CRASHNOTACCIDENT.COM/](https://crashnotaccident.com/)

Vision Zero

Key Terms



High Injury Network (HIN) A collection of streets where a disproportionate number of crashes that result in someone being killed or severely injured (KSI) occur.

KSI An acronym that refers to crashes where someone was killed or suffered a serious injury.

Safe System Approach The Safe System approach aims to eliminate death and serious injuries for all roadway users. It takes a holistic view of the transportation system that anticipates human mistakes and seeks to keep impacts of crashes at levels the human body can withstand.

Serious Injury Crash A crash that results in severe laceration, broken or distorted extremities, crush injuries, significant burns, unconsciousness when taken from crash scene, suspected skull, chest, or abdominal injury or paralysis.

Signal Four Analytics Source of crash data for the region, based on data received from the Florida Department of Highway Safety and Motor Vehicles (FLHSMV). Also known as Signal4.

SS4A The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program with \$5 billion in appropriated funds over 5 years, 2022-2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Preparation of this plan is funded with a \$3.79 million SS4A grant.

Underserved Community As defined by the USDOT, disadvantaged communities experience a disproportionate burden as a result of underinvestment in transportation, based on the following five components: Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability.

Vision Zero A strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.

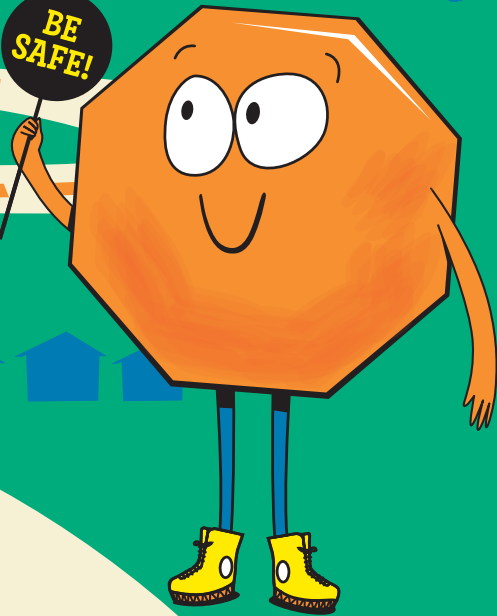
Vulnerable Road User (VRU) A term used to describe those unprotected by an outside shield as they sustain greater risk of injury in any crash with a vehicle, e.g., people walking, people bicycling and people motorcycling.



Path to Safety

Central Florida

A Transportation Activity Book



BE
SAFE!

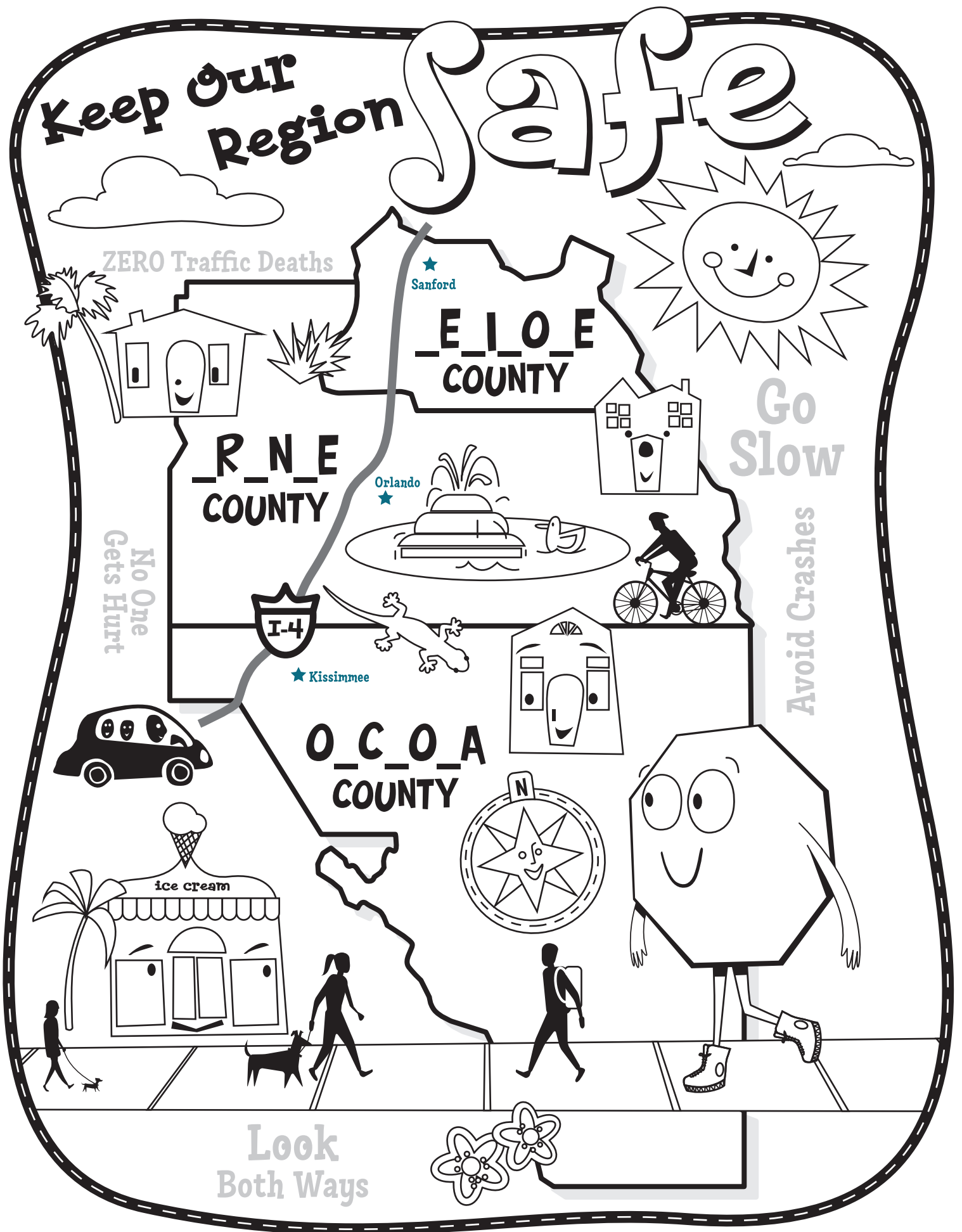
BROUGHT TO YOU BY:



metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP



VISION ZERO
CENTRAL FLORIDA



Vision Zero:

Let's All Do Our Part for Safety

Everybody in Central Florida is going somewhere, and we all want to arrive safely. Nobody should die or get badly hurt just trying to get around – even if they make a mistake. This is what we mean by **Vision Zero**: Zero deaths or serious injuries on our roads.

To do this we need vehicles, drivers, and roads that are all as safe as possible. We are all responsible for making sure that everyone stays safe -- whether we are driving, walking, riding a bicycle, or zipping along on a scooter. This book will show you some ways you can be a Vision Zero Hero and make Central Florida safer.



What do these signs mean?

Have you ever seen one of these beside the road? It is called a memorial marker.

These round signs say "DRIVE SAFELY" and then the name of a person who died in a traffic crash. Sometimes there are flowers or other things near them. Memorial markers are put there by people who want us to know about and remember loved ones who died on the roads – and to ask us all to be careful.



Can you do
the safety math?



A crash happens about every 8 minutes in Central Florida.

How many crashes happen in an hour?*

(Hint: 1 hour = 60 minutes)

60 minutes $\div$ 8 minutes = _____

(# of crashes per hour)

How many crashes happen in a day?***

_____ (# of crashes in an hour)

X 24 hours in a day = _____

(# of crashes in a day)



*About 7.5 crashes every hour. **180 crashes every day.

Build **Good** Safety

Pay Attention to What You're Doing



Helmets

Everyone who rides a bike or scooter should wear a good-fitting helmet, and if you are younger than 16, **it's the law.**

Face it:

Your head is no match for the pavement on the road or sidewalk. If you fall, you'll get hurt.

Fill in the Box

How can you pay more attention and be safer at each of these times?

When going
to school

When playing in
the neighborhood

When traveling with
your family

Habits Now

and What's Going on Around You

Watch the Road

You need to keep eyes and ears on the road at all times. Don't get distracted by devices or conversations. **Keep the earphones off** until you have safely arrived.



Seatbelts

Drivers and passengers must buckle up on the road -- no matter how short the trip or where you sit in the vehicle. When crashes happen, **your seatbelt can save your life**. Many people who aren't wearing seatbelts when a crash happens get badly injured!



Safety is important for **everyone** — everywhere we go. Even before you learn to drive, you need to know how to stay safe when walking or riding a bicycle, skateboard or scooter.

Safety

It's Our
#1 Priority

Identify & match the traffic sign graphic

Draw a line from the picture to
the matching definition.

1.



STOP

Stop, and look both ways.
Continue only when safe.

2.



YIELD

Slow down. Be ready
to stop for other traffic.

3.



WALK

You can cross the street
in this direction.

4.



DON'T WALK

Don't cross yet. Wait
for a "Walk" signal.

5.



RAILROAD CROSSING

Tracks are nearby. Watch
for trains, and stay clear.

Word Search

See if you can find these words in the puzzle:

CAUTION

HELMET

YIELD

CROSS

LIGHT

GUARD

SIGNAL

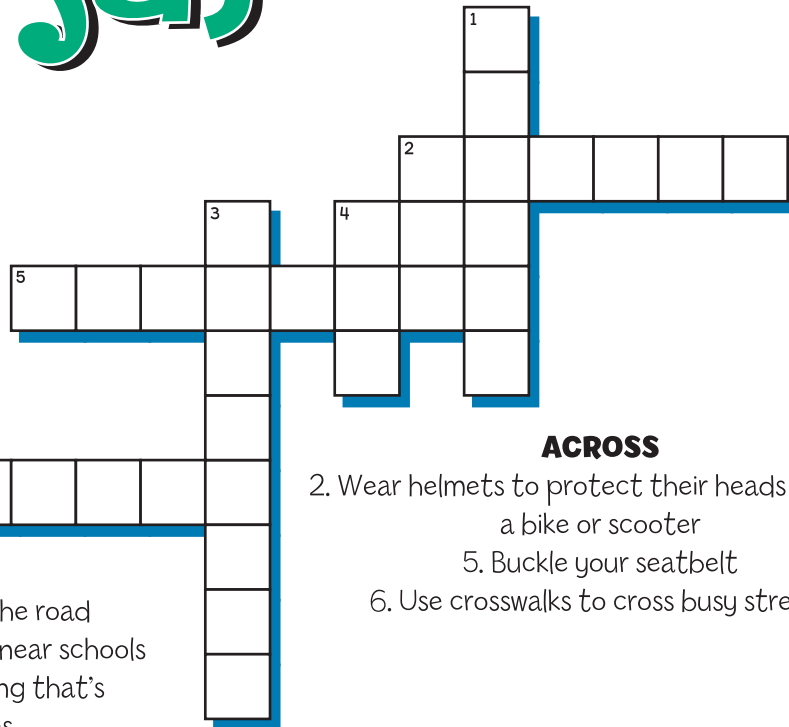
H	E	D	U	T	G	L	N
L	E	X	L	U	I	O	S
I	L	L	A	E	I	S	S
G	I	R	M	T	I	R	O
H	D	W	U	E	P	Y	R
T	Q	A	C	Q	T	L	C
U	C	S	I	G	N	A	L

Who Does This to Stay Safe?

Use the clues to fill in the words on the puzzle

Look for:

CROSSING RIDERS
DRIVER WALKERS
EVERYONE YOU



DOWN

1. Obey the speed limit on the road
3. _____ guards stop traffic near schools
4. Pay attention to everything that's happening at all times

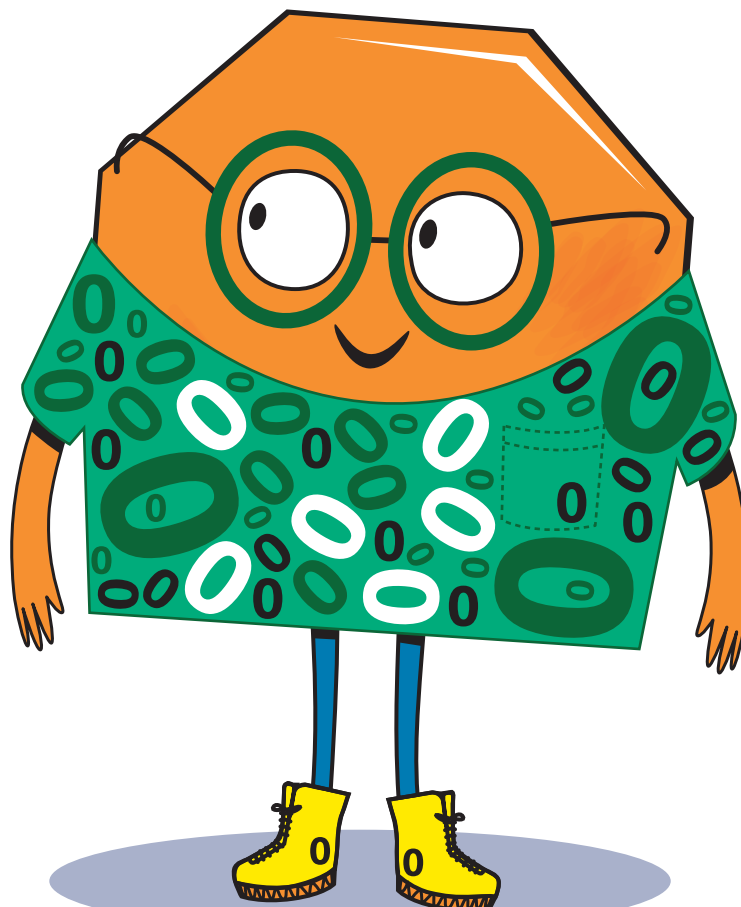
ACROSS

2. Wear helmets to protect their heads when on a bike or scooter
5. Buckle your seatbelt
6. Use crosswalks to cross busy streets

Answers: Driver; 2. Riders; 3. Crossing; 4. You; 5. Everyone; 6. Walkers

Count The Zeros

Zero (0) is an important number, even though it means none. Zero (0) is our goal for traffic deaths in Central Florida - because we want none. So, always keep zero (0) in mind. How many zeros (0) can you find in this picture?



Answer: 52 zeros (not counting the eyes)



VISION ZERO
CENTRAL FLORIDA

Contact Us



VisionZeroCFL.gov
VisionZero@MetroPlanOrlando.gov

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What Is Vision Zero Central Florida & Why Do We Need to Take Action?

Every week, 5 people die and 35 people are seriously injured in Central Florida crashes. Vision Zero is an international movement to reach zero traffic fatalities.

Vision Zero Central Florida's goal is simple: saving lives. Zero traffic deaths. Everyone should be able to travel safely around Central Florida without the fear of death or serious injury.

This coordinated planning effort led by MetroPlan Orlando in partnership with local agencies will result in a comprehensive **Vision Zero Safety Action Plan** for our three-county region (Orange, Osceola, Seminole), as well as additional action plans tailored for each county and city.



VISION ZERO
CENTRAL FLORIDA

Counting down to zero traffic deaths



This work is being funded by a \$3.79 million Safe Streets and Roads for All federal grant.

What will the Vision Zero Safety Action Plan Include?

The regional plan and each county or city action plan will include the following:

- **High Injury Network:** Analyzing data to identify places on the transportation system with the highest risk for fatal and serious injury crashes so that we can focus on our most important problem areas.
- **Equity Component:** Identifying and prioritizing efforts in disadvantaged communities that are disproportionately affected by traffic crashes.
- **List of Priority Streets and Intersections:** Producing a list of feasible projects that have the most safety impact for the region.
- **Educational and Enforcement Programs:** Identifying key behavioral changes needed to reduce crashes and methods for encouraging those changes.
- **Sustained Effort:** Establishing a defined process and identifying an organization responsible for carrying out, updating, and monitoring progress.
- **Public Meetings:** Public engagement is a key part of the study.

Outcome: Identified projects will be included in MPO or local jurisdiction priority projects list for funding/implementation.

3-COUNTY REGION (2018-2022)

325,775 total crashes

1,466 deaths

9,500 serious injuries

OCOE (2018-2022)

13 people were killed on our roadways, including:



9 motorist deaths



4 pedestrian deaths



0 motorcyclist deaths



0 bicyclist deaths

excludes limited access facilities

Orange County

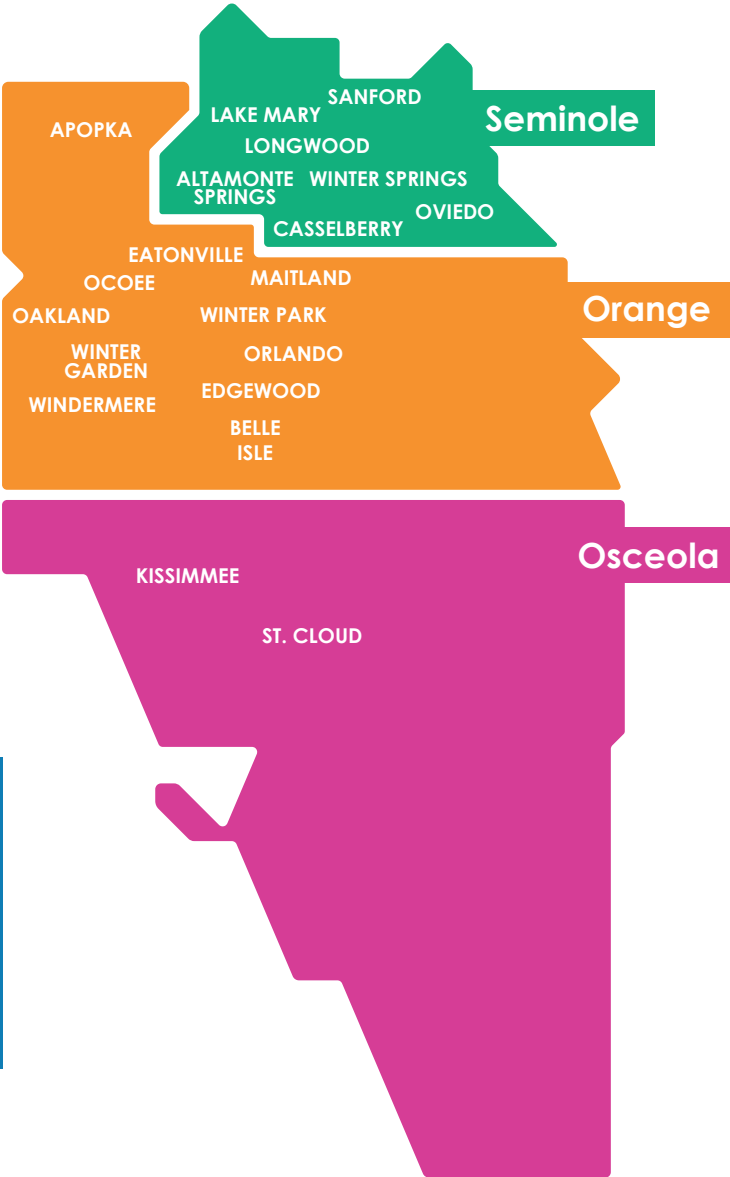
Vision Zero Action Plan Schedule



HOW CAN YOU GET INVOLVED?

This planning initiative is designed to encourage participation from all members of our region, including community leaders, residents, visitors, and people both young and old. Join us in this quest to eliminate deaths and serious injuries on Central Florida's roads.

We can make progress and save lives in the fight for safety by working together and each doing our part.





Visit our website to review crash data, learn information about the study, and find out about upcoming events:
VisionZeroCFL.gov

What is Vision Zero?

Vision Zero is Ocoee's approach to eliminate traffic-related fatalities and serious injuries:

- Reframes traffic deaths as **preventable**.
- Integrates **human failings** into the approach.
- Focuses on preventing **fatal and severe crashes** rather than eliminating all crashes.
- Aims to establish **safe systems** rather than relying on individual responsibility.
- Applies **data-driven** decision making.
- Establishes road safety as a **social equity issue**.



**VISION
ZERO**
COUNTDOWN TO ZERO

Help us develop a vision zero plan so we can all travel safely!



Visit the Vision Zero website to learn more!

<https://www.visionzerocfl.gov/>

Questions?

Contact information:

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Technical Appendix

G- Working Group Meeting Notes



Crosswalk at the Bluford Avenue and McKey Street intersection





City of Ocoee – Vision Zero Action Plan

Working Group 1 Meeting Notes

Date: October 30, 2023

Time: 2:30 – 4:00 PM

Meeting Location: Ocoee City Hall, Lake Olympia Conference Room

Attendees:

- Ginger Corless (City of Ocoee, Deputy Development Services Director & CRA Administrator)
- Luis Martinez (City of Ocoee, GIS)
- Anoch P. Whitfield (City of Ocoee, Planning)
- Tom Smothers (City of Ocoee, Fire Chief)
- Curtis Moser (City of Ocoee, Communications)
- Carolina Vaca (City of Ocoee, CRA)
- Saima Plasencia (City of Ocoee, Police Department)
- Milen Womack (City of Ocoee, Public Works)
- Jason Sartorio (MetroPlan Orlando)
- Ryan Mansfield (Kittelson & Associates)
- Patty Hurd (Kittelson & Associates)
- Chandler Schramm (Kittelson & Associates)

Meeting Notes:

Working Group Member Introductions

- Sign in sheet + introductions

What to Expect from the Plan

- Short term goals: develop the action plan and identify preliminary projects.

Vision Zero:

- Define Safety in our context.
 - Roadways/transportation system
 - Focus on severe injury/fatality occurrences.
- City of Ocoee staff noted multiple barriers to reaching zero serious injury and fatal crashes including:

- Outreach, target audience, education
- High rankings on aggressive driving
- Cost for participation? Plan covered by the grant.
- Previous experience with “Vision Zero”
- Integration with existing social media
- Speed management
- Driver behavior. Cell phones, etc.
- Interconnectivity
- Sidewalk/bike lane gaps
 - Data possibly to be sourced from regional trail masterplan
 - Capture this in GIS (Healthy West Orange Trails, Bike/Walk Central Florida, Luis to coordinate with PJ)

Crash Trends:

- City was interested in data on percent deviation for crashes that aren’t reported
 - City asked if any Information from insurance companies is gathered
 - Impact of human nature into decision making:
 - Habits/trends with tickets vs warnings (cost, time, etc)
 - City was interested in seeing a breakdown by age group for some data sets
- City staff noted several crash trends they have encountered including:
 - Speed on Silver Star, lighting deficiencies, behavior around construction
- Interest in near-misses
 - Videos from red light cameras, but no data
 - Project will look to City staff to help identify some areas where these have been historically bad and ensure they are included in the plan process

Safe Systems Approach

- Interest in distinction between Good vs Fast
- Education on “crashes” vs “accidents”
- City asked if adjacent land-uses are considered when looking at crash areas. The project can certainly make recommendations for code implementation at a local level. Can’t speak to regional level.
- Interest in the crash data on the slower speed roads (leads into the bigger issue of balancing with the regional plan approach and what roads are captured in each)
- City noted that sight distances at access points are poor in many areas; would be helpful to see those included in crash reports

Public Engagement:

- Seasonal target?
 - Winter: tree-lighting/jolly jamboree
 - February: Healthy west-orange block party
 - April: Fire Department open house (700ppl last year)
- City experience:
 - Need a “gimme”/hook/freebie
 - Keep discussion short and engaging

- Social Media has a decent reach so far
 - NextDoor
 - Ocoee Youth Network
 - Shared stories
 - Messaging on Water Bills
 - Printable handouts at City Hall
 - Commission meetings
 - QR codes
 - Senior Center meetings
 - Teen Driving workshops (Auto Auction)
- Coordination with the City Website
 - Link to “Hub”
 - Interest in linking it to the feedback map?
 - City asked if VZero has specific distribution materials? MetroPlan to check, but presumption is no.

Project Schedule

- Working Group meeting #2 coordination to identify possible dates in December.

Miscellaneous:

- City expressed interest in the impact of turning radius on crashes. What are other jurisdictions doing? Patty suggested we can do some research and provide some policy recommendations.
- Kittelson staff will coordinate to include Vision Zero project information on the City of Ocoee website.

Next Steps:

- City staff will provide the following data:
 - Data from movable speed signs (+1 permanent)
 - Data from red-light cameras, especially historical trends, if identifiable
 - Direction on policy content they wish the project to review
 - Ginger to provide data on previous project efforts with similar coverage
- Ongoing coordination on distinction between jurisdictions and coverage (regional vs local)
- Kittelson staff will continue the crash analysis and coordinate with Ginger Corless to schedule the second working group meeting in December.



City of Ocoee – Vision Zero Action Plan

Working Group 2 Meeting Notes

Date: January 18, 2024

Time: 1:30 – 3:00 PM

Meeting Location: Ocoee City Hall, Lake Olympia Conference Room

Attendees:

- Ginger Corless (City of Ocoee, Deputy Development Services Director & CRA Administrator)
- Steve Krug (City of Ocoee)
- Mike Rumer (City of Ocoee)
- Luis Martinez (City of Ocoee, GIS)
- Anoch P. Whitfield (City of Ocoee, Planning)
- Tom Smothers (City of Ocoee, Fire Chief)
- Curtis Moser (City of Ocoee, Communications)
- Carolina Vaca (City of Ocoee, CRA)
- Milen Womack (City of Ocoee, Public Works)
- Sarah Larsen (MetroPlan Orlando)
- Ryan Mansfield (Kittelson & Associates)
- Patty Hurd (Kittelson & Associates)
- Andrew Garrison (Kittelson & Associates)

Meeting Notes:

Resolution

- Resolution will be brought to the Commission when more information about the Safety Action Plan is available
- The Commission may want to make some changes to the resolution language
- Resolution has been brought to the CRA board

High Injury Network

- Maguire Rd is a city road, not a SR
- Blueford Ave & Ohio St intersection is a city intersection
- Update HIN to include Clarke Rd from Clarcona Ocoee to SR 50
- Equity data comes from Justice 40 and ETC data
- Clip the equity map to only show within the city boundary

Crash Profiles

- Clarcona Ocoee Rd and Clarke Rd is going through a widening project and the intersection is being upgraded
- Wesmere Pkey and Maguire Rd is surprising that it showed up on the HIN
- Expected Clarcona Ocoee Rd and Clarke Rd would have more ped crashes
 - There are near misses with the trail crossing

Crash Trends:

- Crash type chart - change the y-axis to show the actual value, keep the % at the top of the bar
- Lighting chart - just added street lighting on SR 50
- All lighting throughout the city was upgraded to LED
- Include comparison to the regional effort, this is what the commission would like to see
 - Compare to regional data, lighting in particular
 - Similar for road user behavior
- Mode share chart - include total numbers as well as percentage
- Define injury severities. What is a severe injury?
- Use consistent language. Update "killed" to "fatal" throughout.

General Discussion

- Keep language simple, avoid acronyms
- Data doesn't support disadvantaged actually experiencing more F&SI
- Are the areas we're calling equity actually equity areas?
- Policy Review
 - Bus Rapid Transit study by us for MetroPlan
- Late April Fire Department event
 - Carolina will help coordinate

Next Steps:

- City staff will provide any policy, guidance, or standards they want reviewed
- Kittelson staff will continue with countermeasure identification based on the identified HIN and policy review
- Kittelson staff will coordinate with Ginger Corless to schedule the third working group meeting in March



City of Ocoee – Vision Zero Action Plan

Working Group 3 Meeting Notes

Date: March 26, 2024

Time: 1:30 – 3:00 PM

Meeting Location: Ocoee City Hall, Lake Olympia Conference Room

Attendees:

- Ginger Corless (City of Ocoee, Deputy Development Services Director & CRA Administrator)
- Mike Rumer (City of Ocoee)
- Luis Martinez (City of Ocoee, GIS)
- Anoch P. Whitfield (City of Ocoee, Planning)
- Tom Smothers (City of Ocoee, Fire Chief)
- Chris McKinsley (City of Ocoee, Police Department)
- Carolina Vaca (City of Ocoee, CRA)
- Milen Womack (City of Ocoee, Public Works)
- Sarah Larsen (MetroPlan Orlando)
- Ryan Mansfield (Kittelson & Associates)
- Patty Hurd (Kittelson & Associates)
- Andrew Garrison (Kittelson & Associates)

Meeting Notes:

High Injury Network

- Kittelson will review crash data on Ocoee Apopka Road to determine whether the roadway should be included in the HIN. This roadway is expected to experience significant development.
- Kittelson will review crash data at Clarke Road & SR 50 to determine whether the intersection should be included in the HIN.
- Kittelson will review crash data at Bluford Avenue & Silver Star Road to determine whether the intersection should be included in the HIN.
 - It was also noted that Bluford Avenue (south of Silver Star Road) has a middle school, elementary school, and associated pedestrian traffic.

Engineering Projects

- SR 50 Corridor
 - Ranked high for BRT.
 - Funding is likely not going to be available for this corridor.
 - Consider cycle track.
 - Need funding for parallel facilities.
 - Old Winter Garden Road is being developed as a parallel facility and will be extended westward through Maguire Road to SR 50 with a connection at Economic Court. This location at Economic Court is a full median opening today and is planned for signalization.
 - Bridge in the Lake Bennet area limits the ability to widen sidewalk.
 - Turnpike exit onto SR 50 has merge conflict issues near Marshall Farms Road.
 - Bluford Avenue is a major focus of the City's trail network and it is a goal to improve connections across SR 50 so citizens can access local parks.
- Silver Star Road Corridor
 - The City recommended that Kittelson review the Silver Star Road corridor plan.
 - The City can provide these plans if needed.
 - This planned project is ranked in the 20's on the MetroPlan Orlando TIP. The City is continuing to push for the project to move up on the MetroPlan list.
 - The downtown master plan studied a roundabout at Silver Star Road & Bluford Avenue, but the study determined there wasn't enough space for a roundabout.
 - The City is pursuing the realignment of Palm Drive near the Silver Star Road corridor.
 - The City is pursuing a roundabout at Franklin Street & Taylor Street.
 - The project is currently unfunded and needs a targeted PD&E study.
 - The City is connecting a trail to Taylor Street.
 - There is missing and/or narrow sidewalk on the north and south side of Silver Star Road corridor. There is also minimal ROW in the area.
 - Cycle track and wide walk will help slow speeds. This will also help disadvantaged communities in the City.
 - There is a new skatepark on the north side of Silver Star Road that will draw new traffic. Wayfinding signage should be used to direct citizens to the park.
- Clarke Road Corridor
 - A signal retiming project was completed before the ongoing widening project from White Road to A D Mims Road.
 - Consider adjusting timing again after widening is complete.
 - New developments are planned north of Silver Star Road so drivers won't need to go south as often.
 - There are high pedestrian volume areas on the corridor near SR 50 and Silver Star Road.
 - The corridor already has friction course on the roadway so High Friction Surface Treatment may not be an appropriate countermeasure.
- Clarcona Ocoee Road Corridor
 - Roadway improvements are ongoing on the eastern portion of the corridor that will reduce traffic on Clarcona Ocoee Road.
 - There is heavy traffic near SR 429 and the two schools in this area.
 - City staff noted that this is a County road not a City road.
 - City staff noted that a signal is planned at the intersection with Fountains West Boulevard.
 - A signal is being installed at Ingram Road/Lake Meadow Road.

- Bluford Avenue Corridor
 - The City will provide the 60% plans for ongoing project in this area.
- Maguire Road/Old Winter Garden Road Intersection
 - New developments are planned to the west of this intersection. Old Winter Garden Road will be extended westward through Maguire Road to SR 50
 - A roundabout probably wouldn't work due to topography so this countermeasure will be removed.
 - Turnpike is redoing the bridge to the south of the intersection.
- Silver Star Road/Clarke Road Intersection
 - City staff asked for clarification on the difference between centerline hardening and median nose extension.
 - Centerline hardening adds vertical features like bollards on the centerline to separate traffic more clearly. A median nose extension pushes the median further into the intersection to reduce the turning movement radii.

Non-Engineering Projects

- Speed zone cameras in school zones will be considered by the City Commission shortly.
 - They could select a pilot project or citywide installation.
- Lowering speed limits would allow golf carts to use the roads more easily, which is not desired. The City is not interested in lowering speeds on City roads.

Policy Review

- Comp Plan
 - The City currently uses AM and PM peak hours and AADT for LOS

Project Prioritization

- Possible additional criteria:
 - Proximity to schools and parks
 - By 2045 goal is to have a park within a 10 minute /1/4 mile walk within every citizen
 - Safe pedestrian connection to parks
 - Connection to trails
 - Does the project have committed funding?

General Discussion

- Kittelson will provide a copy of the elected official guide for the project.
- Provide a graphic of each safety countermeasure Kittelson recommends.
- County requested the City put together list of projects for sales tax initiative.

Next Steps

- Kittelson staff will update the HIN if necessary.
- Kittelson staff will refine projects and prioritization criteria.
- Kittelson staff will coordinate with Ginger Corless to schedule the fourth working group meeting in May/June.



City of Ocoee – Vision Zero Action Plan

Working Group 4 Meeting Notes

Date: March 28, 2024

Time: 1:30 – 3:00 PM

Meeting Location: Ocoee City Hall, Lake Olympia Conference Room

Attendees:

- Ginger Corless (City of Ocoee, Deputy Development Services Director & CRA Administrator)
- Steve Krug (City of Ocoee, Public Works Director)
- Luis Martinez (City of Ocoee, GIS)
- Tom Smothers (City of Ocoee, Fire Chief)
- Carolina Vaca (City of Ocoee, CRA)
- Milen Womack (City of Ocoee, Public Works)
- Kaitlyn Ochoa (City of Ocoee, Community Event Aide)
- Sarah Larsen (MetroPlan Orlando)
- Ryan Mansfield (Kittelson & Associates)
- Patty Hurd (Kittelson & Associates)
- Andrew Garrison (Kittelson & Associates)

Meeting Notes:

Engineering Projects:

- SR 50
 - SR 50 from SR 429 to Clarke Road is within the CRA's boundary
 - The CRA is another agency that will require coordination
 - The CRA plan is currently being updated
 - The CRA is another funding opportunity
 - Clarify which projects are in the CRA
 - Carolina will provide the CRA boundary
 - SR 50 and Bluford is a priority intersection for the CRA
 - The intersection connects two parks
 - Revise lighting countermeasure to be enhanced lighting at intersections rather than corridor lighting
- Silver Star Road

- Call out the Silver Star plan in report and the commission meeting slides (do this for all Ocoee studies)
 - Combine Silver Star ped/bike and intersection projects
 - State put friction course on Silver Star Road
 - Silver Star will be resurfaced in 2028. Highlight which improvements could be worked in to a resurfacing project.
 - Note access to middle school
 - Commission has discussed filling sidewalk gap for a long time. Applied for boardwalk to fill sidewalk gap so as not to trigger need to treat run off.
- Maguire Rd and Old Winter Garden Rd
 - Add crash priority to PPT slide
 - Remove protected left turns countermeasure – left turns are already protected. Heavy southbound congestion would be worsened by protected only left turn.
 - Development is ongoing. Don't reference development in the report, but improvements may be incorporated into development.
 - CRA has earmarked \$800,000 for improvements at this intersection
 - The new Turnpike bridge will be higher, which may cause additional issues at this intersection.
- Clarcona Ocoee Rd and Clarke Rd
 - County has approved plans at this intersection. The left turns will be protected on all four approaches.
 - Remove this project from the list.
- SR 50 and Maguire Rd
 - Is there a predominant direction where sideswipe crashes are occurring?
 - Likely SBL and vehicles in SBR that want to go SBT
 - Check data
- Christine Ave and Mack St
 - There may be ROW issues with fitting sidewalk on the local street.
 - Remove this project from the list.
- All projects
 - Document which projects are within the CRA.
 - Document if there is a correlated local ongoing project.
 - Separate costs into short-, mid-, and long-term in the report.
- Project ranking
 - Keep the project ranking as is but highlight City projects on the list.
- Commission Meeting
 - Discuss project prioritization criteria at City Commission meeting
 - Clarify that the City can go after funding on their own
 - Mention resolution, but don't go into detail
 - Reference that Vision Zero is an international roadway safety effort

Next Steps:

- Commission Meeting:
 - Kittelson will coordinate with MetroPlan to identify someone to present at the City Commission meeting.
 - Will plan for a 5-minute presentation.
 - Target commission meeting on June 18th.
 - Carolina will help coordinate to get on the meeting agenda.

Technical Appendix

H- Non-Engineering Countermeasure Toolkit



Crosswalk at the Bluford Avenue and McKey Street intersection



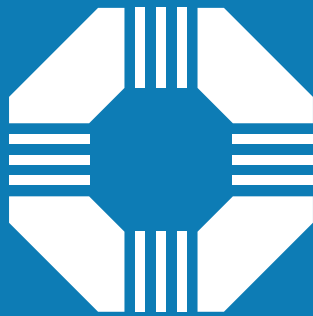
Non-Engineering Countermeasures Toolkit



VISION ZERO CENTRAL FLORIDA

Counting down to zero traffic deaths

Updated April 2024



VISION ZERO

CENTRAL FLORIDA

Counting down to zero traffic deaths

Overview

Introduction & How to Use this Toolkit

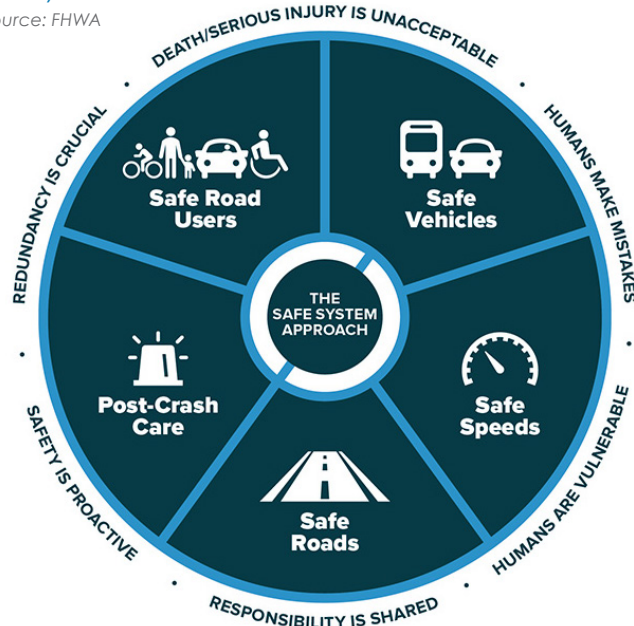
The MetroPlan Orlando Regional Vision Zero Action Plan identifies engineering and non-engineering countermeasures to implement around the region to reach the goal of zero traffic fatalities or serious injuries on our roadways by 2050. Engineering countermeasures aim to change roadway features to remove hazards, manage speeds, separate roadway users in space and time, and increase visibility and awareness. An **Engineering Countermeasure Toolkit** was developed as a part of this process and will aid in the selection of appropriate engineering countermeasures throughout the region.

Non-engineering countermeasures aim to influence users by changing the social environment to encourage or enforce the desired behavior. Strategies can be employed at scale to influence large segments of the community, like through marketing campaigns, and high-visibility enforcement and publicized sobriety checkpoints that affect the social environment by increasing the perceived risk of being caught, or can be focused on specific roadway user types, like teen drivers or motorcyclists. Non-engineering countermeasures fall under the Vision Zero Core Elements of **Authentic Engagement, Strategic Planning, Project Delivery, Equity Focused Analysis and Program, and Proactive, Systemic Planning**.

This toolkit presents non-engineering countermeasures organized into the five categories of the Safe System approach, which include **Safe Road Users, Safe Speeds, Safe Roads, Post Crash Care, and Safe Vehicles**. The non-engineering countermeasures outlined below are not intended to be an exhaustive list of strategies but serve as a framework for identification of non-engineering countermeasures as a part of Action Plan development. As agencies implement non-engineering countermeasures, they should consider how they will reach the most vulnerable populations. References to source documents are provided and users of this guide are encouraged to review applicable source documents related to their specific safety issues and goals.

Safe System Framework

Source: FHWA



ORGANIZATION OF THE TOOLKIT

A. SAFE ROAD USERS

- Public Information Campaigns/Social Marketing Campaigns/Educational Campaigns
- Enforcement

B. SAFE SPEEDS

- Speed Limit Setting
- High Visibility Enforcement
- Automated Enforcement

C. SAFE ROADS

- Improve and Share Data
- Pilot/Demonstration Projects
- Road Maintenance/Maintenance of Traffic
- Policy/Standards
- Grant Opportunities

D. POST CRASH CARE

- Emergency Medical Services
- Trauma Care
- Fatal Crash Response Team
- Traffic Incident Management
- Post Crash Strategies

E. SAFE VEHICLES

- Emerging Technology
- Vehicle Maintenance

A. Safe Road Users

Transportation safety education plays an important role in shaping and shifting behavior. Many jurisdictions across the country are increasing community engagement and education to make streets safer for all. For example, the Florida Department of Transportation (FDOT) has educational campaigns centered on their Target Zero framework under the slogan of **Arrive Alive** that includes TV, radio, social media and in-person outreach.

Strategies included in this section are:

1. Public Information Campaigns / Social Marketing Campaigns / Educational Campaigns
2. Enforcement

Public Information Campaigns / Social Marketing Campaigns / Educational Campaigns

Public Information Campaigns focusing on discouraging risky behavior like drinking and driving and/ or speeding can complement the engineering countermeasures that are designed to target primary risk factors in the MetroPlan Orlando region. These types of campaigns should also be used to encourage positive behaviors such as seat belt usage, increased awareness of pedestrians and bicyclists, and appropriate crosswalk behaviors.

Targeted education, such as on buses and bus shelters, on billboards, at movie theaters, or on local radio stations, may be directed at vulnerable populations with the help of local partners, and at certain behaviors of drivers, pedestrians, and bicyclists to deter risky behaviors that result in specific collision types. Specific locations on the high-injury network, as well as partner agency campaigns with FDOT may also be appropriate for concentrated educational messages. MetroPlan Orlando will consider joint efforts with FDOT and other local partners to develop outreach campaigns focusing on discouraging common violations leading to fatalities and severe injuries on our roadways, based on the collision profiles identified in the Safety Analysis. Education and outreach campaigns should target the behaviors that are most likely to result in crashes where someone is killed or severely injured (referred to as KSI crashes), and/or vulnerable populations including:

1. **Reducing driving under the influence** as 6% of KSI crashes involve someone driving under the influence of alcohol, 3% of KSI crashes involve someone driving under the influence of drugs, 21% of fatal crashes involve someone driving under the influence of alcohol and 16% of fatal crashes involve someone driving with a drug impairment.
2. **Enforcing seatbelt laws** and encouraging **helmet use** as 9% of KSI crashes included a vehicle occupant not wearing a seatbelt, while 38% of motor vehicle occupants who died were not wearing a seatbelt. For motorcycle crashes, 5% of KSI crashes and 43% of fatal crashes involved a motorcyclist not wearing a helmet.
3. **Providing education around driver behavior**, as 24% of KSI collisions were caused by a failure to yield the right-of-way, with another 10% caused by running a redlight or stop sign; aggressive driving was a factor in 5% of KSI crashes; distracted driving was a factor in 29% of KSI crashes; and speeding was a factor in 4% of KSI crashes.
4. **Teens** are disproportionately represented in KSI crashes – they comprise 5.5% of licensed drivers and are involved in 12.5% of KSI crashes.
5. Education focused on people outside of cars and trucks, sometimes referred to as ‘vulnerable road users’, since crashes involving **pedestrians, bicyclists and motorcyclists** accounted for about 3% of overall crashes, 25% of serious injury crashes and 48% of fatal crashes in the region.
6. Almost 20% of pedestrian KSI and 19% of bicyclist KSI crashes were **hit and run**, as compared to 9% of all crashes.

Some examples of educational programs include:

Partner with Local Schools on Transportation Safety

Partnering with local school districts to promote safe road user behavior. Programs can provide education to students based on grade level to teach safe walking and biking strategies, as well as safe driving strategies to older students. The importance of wearing seatbelts and bicycle helmets could also be included in the curriculum. There could be opportunities for schools to support walking school buses, bike rodeos and other strategies that teach students how to walk and bike to school safely, based on the context surrounding their school.

Education campaigns could also **involve students** promoting safer driving to their parents by holding signs during pick-ups and drop-offs, and providing educational materials aimed at parents who might not be aware of seatbelt, cell phone and move-over laws.

Expanding existing **youth programs** presents an opportunity to provide ongoing Safe Routes to School education to all students each year. There are a variety of existing resources available that could be promoted through schools to students taking on-line driver education, including the Teen Driver Challenge (<https://www.flsheriffs.org/law-enforcement-programs/teen-driver-challenge>), free and low cost behind the wheel training provided by the Florida Safety Council (<https://www.floridasafetycouncil.org/categories>), as well as resources that teens can provide to others to promote safe driving (<https://flteensafedriver.org/>). There are also other programs available to high school students to teach them about the dangers of alcohol and driving, including Every 15 Minutes, Sober Graduation, and DUI mock trials, which provide opportunities for local agencies and law enforcement to partner with schools to deliver educational campaigns.

Educational Materials on New Roadway Design Changes

Temporary demonstrations, like pop-up installations, can physically showcase proposed safety infrastructure and emergency response to the public in a tangible way. Using social media platforms and neighborhood community groups to promote materials and videos focused on new types of roadway designs and the region's major violation issues could direct community conversations for meaningful outcomes.

Educational Materials on Traffic Safety Laws

Partnering with the Florida Highway Safety and Motor Vehicles department as well as FDOT to develop materials to send to drivers upon renewal of their driver's license or vehicle registration related to new traffic safety laws, how to use traffic control devices, and sharing the dangers of driving under the influence of drugs or alcohol, or not wearing seatbelts or helmets. These materials could be customized at the regional level based on the most pressing crash issues.

Partner with Local Experts

Local partners should serve as community liaisons between MetroPlan Orlando, counties and cities, and the public. Working with community partners and public institutions that have relationships with residents strengthens the engagement process by building trust and drawing on an established base of stakeholders. Local partners could help tailor the engagement process or incorporate engagement into existing programs and resources to educate people more effectively about roadway safety. These local experts could share information about how to report a crash to law enforcement, how to file an insurance claim, provide bicycle lights and reflective gear to communities who ride in dark conditions, provide helmet fittings and car seat installations, and identify alternative transportation options for aging people or people with disabilities who are no longer able to drive.



Share the Road/Bicyclists May Use Full Lane Awareness Programs

The purpose of these programs is to increase drivers' awareness of bicyclists' rights and the need for mutual respect of bicyclists on the roadway. Educational efforts are intended to improve the safety of all road users, including bicyclists, and to enhance understanding and compliance with relevant traffic laws. These programs should be coupled with providing the appropriate signage and pavement markings depending on the roadway characteristics. **Bicycles May Use Full Lane** signs have been shown to be effective in conveying to motorists that bicyclists may use the travel lane. Placement of road signs and pavement markings along roads that do not have separated bicycle facilities should consider the road context, traffic volumes and prevailing speeds.



Promote Motorcyclist Safety Programs

Motorcyclist safety includes motorcycle safety awareness for non-motorcyclists, such as **Look Twice** campaigns as well as education, including classroom and on-roadway training to help motorcyclists ride more defensively and develop the skills to operate their motorcycle under a variety of conditions, including evasive maneuvers. More information can be found here: <https://www.fdot.gov/Safety/motorcyclesafety.shtm> and <https://www.flhsmv.gov/driver-licenses-id-cards/motorcycle-rider-education-endorsements/florida-rider-training-program-courses/>.

DUI Strategies and Considerations

Crashes involving someone driving under the influence are more likely to result in a fatality or serious injury. As detailed in the Crash Analysis, 21% of fatal crashes involve someone driving under the influence of alcohol and 16% of fatal crashes involve someone driving under the influence of drugs. Considerations for addressing DUI collisions also extend beyond the transportation profession and increasing funding for efforts that focus on prevention and education, such as alcohol problem assessment and treatment programs, would support less-punitive measures to reduce DUI collisions. Strategies generally fall under three categories:

1. **Deterrence policies** focus on raising the actual and perceived risk of detection of driving under the influence. These policies should be highly visible to increase awareness of the risks of driving under the influence. Publicized sobriety checkpoints, saturation patrols, and other forms of high-visibility enforcement are effective for safety outcomes.
2. **Prevention and education policies** focus on mobilizing and educating the community and intervening before driving under the influence takes place. According to NHTSA research, drug use problem assessment and treatment programs, as well as alcohol intervention in settings such as a doctor's office, are highly effective strategies for improving safety outcomes. NHTSA educational campaigns include materials for driving under the influence of alcohol, marijuana, and other drugs, including prescription drugs.
3. **Limited access** policies focus on making underage access to alcohol and drugs more difficult and seek to limit excessive alcohol consumption.

Additionally, there are organizations who provide free rides or tows to people who are impaired, such as the **AAA Tow to Go Program** (<https://www.acg.aaa.com/drivers-safety/tow-to-go.html>). NHTSA has developed a **SaferRide App** (<https://youth.gov/federal-links/saferide-app-could-save-your-life>) that allows users to call a taxi or pre-programmed friend. In some communities, there are also organizations and businesses that provide free or subsidized rides, like the Drunk Driving Prevention Program that serves military bases (<https://www.ddpp.us/>) and local law firms that offer tow service and free ride shares around holidays. When communities have events that include drinking, like around St. Patrick's Day, Fourth of July and New Years, consider partnering with local organizations that can pay for and promote free rides.

Enforcement

When educational campaigns do not yield the desired behavior change, there is a role for the **enforcement of traffic safety laws consistently and fairly**, focused on behaviors that are most likely to result in a severe injury or fatality. In many instances, the enforcement activity can be coupled with education and support, like providing bike lights to people seen riding bikes at night without lights, or people under seen riding a bike without a helmet can be provided with a free helmet along with educational material (people under the age of 16 are required to wear a helmet).

A data driven approach can be used to identify roadways and time of day/days of week when people may be more likely to speed or engage in other undesired behaviors, like driving under the influence. This allows for law enforcement to focus their limited resources, such as along a high injury network corridor or around a cluster of alcohol serving establishments. Additional information about high visibility enforcement and automated enforcement is provided in subsequent sections.



BEST FOOT FORWARD PROGRAM

Best Foot Forward (BFF) focuses on one simple, measurable goal: to get more drivers to yield and stop for pedestrians in marked crosswalks, as Florida law requires. Best Foot Forward works to accomplish this goal using the proven, "Triple-E" approach of combining community education with low-cost engineering changes and high-visibility enforcement.

Within the MetroPlan Orlando Region, the BFF program has resulted in increased yielding rates for pedestrians at 100's of crosswalks and has worked to improve dozens of crossing locations in partnership with local agencies.

For more information visit: <https://www.iyield4peds.org/>.

B. Safe Speeds

Streets and roads within the MetroPlan Orlando region should address the safety of all road users, including those who walk, bike, roll, drive, and take transit. Although engineering countermeasures such as lane narrowing, road diets, and speed feedback signs, can reduce the travel speeds of most drivers to appropriate levels, they should be accompanied by policy and enforcement strategies.

Strategies included in this section are:

1. Speed Limit Setting
2. High Visibility Enforcement
3. Automated Enforcement

Speed Limit Setting

Speed limits and operating speeds are connected, so speed limits are a relevant factor in traffic safety outcomes. As part of the previous version of MUTCD (Section 2B.13), speed limits on roadways were generally set by the 85th percentile travel speed based on an engineering study; the 85th percentile speed represents the speed at which 85 percent of people are driving at or below. The latest version of the MUTCD (Section 2B.21) and the Manual on Speed Zoning for Highways, Roads, and Streets in Florida (Chapter 9) provide some flexibility in setting speed limits where the context of the roadway plays a greater role in setting speed limits that are consistent with the surrounding land use. According to FHWA's Safe System Approach for Speed Management, lowering the speed limit on high-speed roads has a greater effect on mean operating speeds than lowering the speed limits on low-speed roads (even for the same reduction in speed limit). However, even changes in lower speed environments can produce safety benefits, especially for vulnerable road users.

Setting appropriate speed limits for roadways based on their context, accompanied by the appropriate engineering and non-engineering countermeasures, will have the greatest potential to reduce fatal and severe injury outcomes. A holistic approach throughout the region should be employed such that drivers in the region become accustomed to driving at slower speeds. Changes in how traffic signals are operated can help maintain overall travel times along corridors, even when people are driving slower between intersections. Collaboration between agencies, including MetroPlan Orlando, FDOT, counties and local agencies is a critical component.

High Visibility Enforcement

According to National Highway Traffic Safety Administration (NHTSA) research, **High Visibility Enforcement** (HVE) is one of the most effective enforcement strategies for safety outcomes. The goal of HVE is to promote voluntary compliance with traffic laws by providing a multifaceted approach to enforcement that garners public attention through highly visible patrols, such as checkpoints, saturation patrols, or message boards. FDOT provides resources related to HVE through the **Alert Today** initiative. More information and how to apply for HVE activities is provided here: <https://alerttodayflorida.com/HVE>.



Automated Enforcement

Automated enforcement uses cameras and other technology to detect when someone has committed a roadway violation. A strictly data-driven approach to automated enforcement places cameras in locations on the HIN with the highest number of severe collisions. In Florida, the following forms of automated enforcement are legal:

Red-light Cameras

Detects when a vehicle has entered an intersection on a red-light and a citation is mailed to the registered owner of the vehicle, who may not have been the person driving. The first notice of violation does not result in points on your license provided the citation is paid. Angle crashes are the most common crash type related to red-light running, with a disproportionate number resulting in a severe injury or fatality.



School Bus Cameras

Detects when a person illegally passes a school bus in a vehicle. This law went into effect in July 2023, as detailed in Senate Bill 766 (<https://www.flsenate.gov/Session/Bill/2023/766>). Several jurisdictions and school districts are piloting the technology.

School Zone Speed Cameras

Detects people speeding in school zones. This law went into effect in July 2023, as detailed in HB 657 (<https://www.flsenate.gov/Session/Bill/2023/657>). Tickets are sent in the mail to the registered owner of vehicles captured traveling more than 10 miles per hour over the posted school zone limit while the school zone is activated. Several communities and school districts are piloting the technology.

Wrong Way Detection

Detects when a vehicle enters a limited access facility against the flow of traffic. FDOT has deployed wrong way driving technology at numerous off-ramps throughout the region. The system detects when a vehicle is traveling the wrong way on a facility and starts a cascading series of actions, including alerting the driver to their mistake using flashing lights, notifying law enforcement, and notifying other drivers through message boards along the freeway.

Automated speed enforcement outside of school zones is not currently allowed in the State of Florida. Other states have passed legislation to allow for automated speed enforcement in specific circumstances, such as on high crash corridors where speeding is a contributing factor. MetroPlan Orlando will continue to monitor potential changes to state legislation for future use of speed cameras outside of school zones.

C. Safe Roads

Safe Road strategies are typically related to engineering countermeasures (see Engineering Toolkit for details related to engineering countermeasures). However, a non-engineering framework can support implementation of appropriate engineering countermeasures. Strategies that can help supplement road improvements are included in this section.

Strategies included in this section are:

1. Improve and Share Data
2. Pilot/Demonstration Projects
3. Road Maintenance/Maintenance of Traffic
4. Policy/Standards
5. Grant Opportunities

Improve and Share Data

Numerous pieces of data can help inform appropriate engineering and non-engineering countermeasures, including crash data, roadway system data, and population and land use data. Incomplete or inconsistent datasets can also affect the ability of countermeasures to be deployed equally throughout the region. Collaboration with local law enforcement and providing feedback to the Office of Safety, such as noting additional data needs (e.g. better data on scooter or wheelchair usage) can help improve the quality of data collected as part of crash reports. Maintaining a regional Geographic Information System (GIS) database with transportation system information can help identify the characteristics of roadways where a disproportionate number of KSI crashes occur. Near-miss analyses can also help provide a more nuanced review of safety issues at specific locations. Connected vehicle data can also provide regional speed and other roadway system operations data, such as locations of hard braking, that could be used to further identify root causes of crashes or identify locations for enforcement of speeding.

Pilot/Demonstration Projects

There may be unique or innovative transportation safety solutions proposed in some communities where the public and/or elected officials are hesitant to implement a solution new to the community. By implementing a project on a pilot basis (one to three years, with before, during and after evaluations) or a demonstration basis (a very short timeframe ranging from a few hours to a few months), the public and elected officials can learn more about the potential benefits of a treatment before a more permanent installation is completed. Pilots and demonstration projects can also help identify design changes or educational outreach that should be included in the final implementation.

Before and After Studies

Understanding the actual safety benefits of engineering countermeasures deployed across the region can help communities deploy limited resources to strategies that work best to reduce fatal and severe injury crashes.

Road Maintenance/Maintenance of Traffic

Improperly maintained roads can lead to crashes, with vulnerable roadway users disproportionately impacted, such as loose gravel on a roadway that could affect the turning and stopping ability of someone on a motorcycle, or debris in the bike lane that causes a bicyclist to potentially lose control or veer into an adjacent travel lane to avoid a bike lane hazard. Heaved/sinking sidewalks can also pose a trip hazard for pedestrians.

When a roadway or lane closure is required for a land development project, a roadway project, or maintenance, maintenance of traffic (MOT) plans are typically prepared. In some instances, bike lanes and sidewalks are closed with no advance warning, or the detours may be excessively long and then not used, which can lead to negative safety outcomes. Chapter 6 of the 11th Edition of the Manual on Uniform Traffic Control Devices includes additional guidance for how to accommodate bicyclists and pedestrians in work zones.



Policy/Standards

A change in policies and standards may be necessary to change transportation safety outcomes. A separate policy benchmarking process was conducted to identify MetroPlan Orlando policies that could be a barrier to Vision Zero. In some jurisdictions, changing roadway design standards, level of service policies, site development policies and parking policies, may be needed. As Action Plans across the region are adopted and implemented, there will be opportunities to measure progress, identify strategies that are working, and identify new strategies for implementation.

Grant Opportunities

Funding will be a limiting factor in the implementation of engineering countermeasures. Understanding what grant programs are available and their respective requirements can help to provide additional safety funding in addition to the Safe Streets and Roads for all (SS4A) program. [Appendix B](#) provides preliminary information on available transportation safety funding sources.

D. Post Crash Care

Post-crash care is more than just medical care. It also includes the training of personnel, design of roadway infrastructure, and availability and location of emergency vehicles. Post-crash care also includes providing additional resources to the victims and their families such as resources for physical and mental rehabilitation. People who have a traumatic injury are more likely to survive if they receive an appropriate level of care within one hour, and positive outcomes diminish significantly after that hour.

Strategies included in this section are:

1. Emergency Medical Services
2. Trauma Care
3. Fatal Crash Response Team
4. Traffic Incident Management
5. Post Crash Strategies

Emergency Medical Services

People involved in a collision have a higher chance of survival if they can quickly receive medical care. In many cases, law enforcement officers and fire department staff are the first responders to arrive at a collision location. Collisions can also put the lives of first responders and other road users at risk due to increased congestion during the crash response, which may lead to secondary crashes.

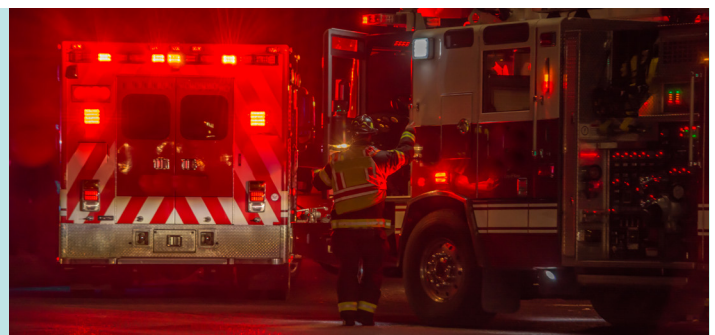
MetroPlan Orlando could coordinate with local partners to improve response times and ensure safety in both arriving and attending to patients at the scene. Strategies include ensuring emergency vehicles are highly visible (e.g., retroreflective striping and chevrons, high-visibility paint, and built-in passive lights) and implementing emergency vehicle signal preemption, which allows emergency vehicles to break a normal signal cycle and proceed through an intersection.

Trauma Care

Effective emergency trauma care coordination can significantly increase crash survival rates and reduce fatalities. MetroPlan Orlando could work with local partners to identify funding sources to improve their existing infrastructure to be able to provide the highest care for victims. Recommended strategies to improve trauma care include providing funding for appropriate first responder equipment (e.g., hydraulic, and pneumatic extrication tools), research for and adoption of technology aimed at reducing triage time (e.g., automatic vehicle reporting of severe crashes to EMS, EMS vehicle collision avoidance systems, and geolocation of nearest EMS vehicles), and promotion of federal- and state-certified training programs.

STOP THE BLEED

Orlando Health offers a community training class called Stop the Bleed that is designed for bystanders who have little or no medical training but who may be called upon as immediate responders to provide initial trauma care and bleeding control to a victim of traumatic injury prior to the arrival of emergency medical services (EMS).



D. Post Crash Care

Fatal Crash Response Team

In the event of a traffic fatality, analysis and evaluation of relevant contributing factors are crucial in reducing the risk of a severe crash at that location. One strategy would be for the formation of a cross-agency group that mobilizes after each fatal crash, including law enforcement, transportation professionals, and public health officials. This would assist with accurate investigation and documentation of potentially relevant infrastructural and environmental crash factors, while identifying additional factors that may have contributed to the fatal crash outcome. It can also expedite interventions to improve the crash location/circumstances and address similar risk factor locations and situations. The selection of appropriate engineering countermeasures should consider emergency response time; however, a slight potential increase in emergency vehicle response time would need to be considered in context with the potential to reduce crash frequency and severity, which could reduce overall calls for service in the region.

Traffic Incident Management

Traffic crashes increase the likelihood of secondary crashes and pose a threat to the safety of incident responders as well as the traveling public. Crashes also affect travel reliability, commerce, and transportation system performance. **Traffic Incident Management (TIM)** consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impacts of traffic incidents; improves the safety of motorists, crash victims, and emergency responders; and reduces the frequency of secondary crashes. TIM is an integral component of the United States Department of Transportation (USDOT) National Roadway Safety Strategy (NRSS), and is specifically called out as a key element for the **post-crash care** objective.

FDOT is primarily responsible for TIM in the region and utilizes their traffic management centers (TMCs) in each of their districts to manage traffic on the state highway system. Several local jurisdictions also have traffic management centers. The incorporation of TIM on additional high crash corridors where systems are not currently deployed could also be considered. FDOT and the University of Central Florida are also working

on traffic incident predictions that could provide advanced warnings to first responders when a crash may be imminent based on conditions to allow for first responders to stage closer to potential crash locations or to deploy enforcement teams to prevent the crash.

Post Crash Strategies

When individuals are injured in collisions, they rely on first responders to quickly locate them, stabilize their injuries, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site and traffic incident management, so that traffic flow may be restored as safely and quickly as possible. Policy action through the justice system and appropriate design of roadways to lessen the risk of future crashes can also help inform safety programs.

Crash reporting practices, such as complete data collection and documentation of road user behavior and infrastructure, and sharing data across agencies or organizations (e.g., law enforcement, health officials, transportation officials, and hospitals) can help lead to a greater understanding of the holistic safety landscape, and thus lead to improved investments in safety.

To ensure a crash survivor receives the care needed to recover and restore body and mind to an active life within society, they require medical rehabilitation with specialists that can range from orthopedics, neurosurgery, physical and occupational therapy, and prosthetics to psychology and neuropsychology.

Severe and fatal collisions not only affect the victim involved, but their family and friends as well. Across the nation and in Canada, there are chapters of Families for Safe Streets. Individual chapters advocate at their state capitol and work with lawmakers and non-profits like Mothers Against Drunk Driving to share their stories and testify before legislative committees and congress. Supporting victims' families can come in many forms. World Day of Remembrance for Road Traffic Victims is an annual event held on the third Sunday in November in remembrance of those who have died or have been affected by motor vehicle collisions, and to draw attention to the goal of Vision Zero.

E. Safe Vehicles

Safe vehicles are another element of the Safe System approach and will increasingly add more redundancy or avoidance features to the system. MetroPlan Orlando and its local partners do not have an influence on vehicle design but could keep vehicle technology advances in mind as part of their future policy and design considerations. For example, smart signal technology, which communicates with devices embedded in newer vehicles, will allow agencies to collect data at multiple intersections, providing a better understanding of how people are using the network in real time.

Strategies included in this section are:

1. Emerging Technology
2. Vehicle Maintenance

Emerging Technology

Leveraging **connected and autonomous vehicle (CAV)** technology and crash-avoidance systems are a key part of the "Safe Vehicles" category. Connected vehicles wirelessly communicate with other vehicles and infrastructure (like signals) to provide data for instantaneous decision-making (e.g., reporting driver speed or collisions). Data from signals in combination with data from vehicles could allow the agencies within the MetroPlan Orlando area to deploy real time speed-related signal operations, allowing for enhanced safety through adaptable systems. The City of Lakeland is using a red-light running detection system to identify when a person driving is likely to run a red light, and the traffic signal automatically extends the all-red time at the intersection to prevent a crash.

Some states are exploring requirements that new vehicles sold after a certain date must include **speed limiter systems** that electronically prevent drivers from driving more than 10 miles per hour over the posted speed limit. The National Transportation Safety Board (NTSB) has also issued a recommendation that speed assistance technology be deployed more widely. The Federal Motor Safety Carrier Safety Administration (FMCSA) is exploring a potential speed limiter mandate for heavy duty trucks. While there are not currently national or State of Florida speed limiter technology requirements, this could change in the future as the technology evolves, and if more traditional approaches to transportation safety (engineering and behavioral strategies) do not yield the desired outcomes.



Vehicle Maintenance

Vehicle maintenance issues can also contribute to traffic crashes, including:

Cracked Windshields

Cracked windshields can obstruct a driver's vision. In a crash situation, seconds count and even a small obstruction can make a difference in the driver's response time.

Lights and Wipers

Light and wipers play a role in safe driving. If you cannot see or be seen, your chances of being involved in a crash increase.

Faulty Brakes

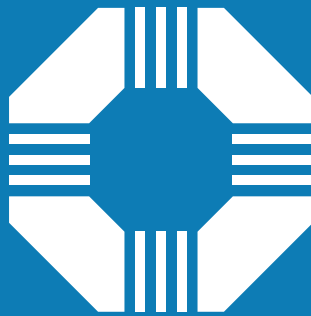
Faulty brakes can increase the distance it takes a person to slow or stop a vehicle.

Improperly Maintained Tires

Improperly maintained tires can increase your chance of roll over crash, especially for trucks and sport utility vehicles. Balding tires can also reduce friction between the tire and roadway surface, increasing the stopping distance, which can be exacerbated on wet pavement.

Approximately 18 people outside of a vehicle were killed on our highways between 2018 and 2022, with most of these people outside a disabled vehicle. The Federal Motor Carrier Safety Administration is conducting a research study on the impact of vehicle maintenance on traffic crashes (<https://www.fmcsa.dot.gov/research-and-analysis/research/impact-vehicle-maintenance-safety>). Community based organizations can be a resource to provide low and no-cost vehicle maintenance to people who are not able to afford basic vehicle maintenance and repairs but are reliant on a vehicle to get to work and provide care for family members.





VISION ZERO

CENTRAL FLORIDA

Counting down to zero traffic deaths

Appendix A - Resources and References

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Appendix B - Federal Funding Opportunities

Grant Name	Awarding Entity	Website	Typical Projects Funded	Standalone	Available Funding	Matching Requirements	Most recent/ Upcoming NOFO Dates	Notes of Interest
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	USDOT	https://www.transportation.gov/RAISEgrants/raise-nofo	Surface transportation projects that have significant local or regional impact; could include projects with a safety component.	No	\$2.2B 2022-26; \$113.75M was for planning, preparation, or design of projects last round	20% match	Nov-23	https://www.transportation.gov/sites/dot.gov/files/2022-09/RAISE%202022%20Award%20Fact%20Sheets_1.pdf
Infrastructure for Rebuilding America Discretionary Grant Program (INFRA)	USDOT	https://www.transportation.gov/grants/infra-grants-program	Primarily freight related.	No	awards range from \$9M to \$150M. Average award is \$40M.	20% match	Mar-23	For projects that improve safety, generate economic benefits, reduce congestion, enhance resiliency, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.
Reconnecting Communities Pilot Program (RCP)	USDOT	https://www.transportation.gov/grants/reconnecting-communities	Highway removal projects, through disadvantaged communities. Would fund replacement infrastructure and includes safety components.	No	\$1B 2022-2026; \$250M for planning; \$750M capital construction	20% match	Sep-23	
Safe Streets and Roads for All (SS4A)	USDOT	https://www.transportation.gov/grants/SS4A	Transportation safety projects.	Yes	\$5B 2022-2026	20% match	Feb-24	Projects must be identified in a comprehensive safety action plan to receive implementation funding.
Federal Transit Administration Capital Funds (FTA)	Federal Transit	https://www.transit.dot.gov/funding/grants/urbanized-area-formula-grants-5307	Funds safe access to transit projects	Yes	\$6.9B in 2022	20% match		See Bicycles and Transit, Flex Funding for Transit Access, the FTA Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law, and FTA Program & Bicycle Related Funding Opportunities
Areas of Persistent Poverty Program (AoPP)	Federal Transit	https://www.transit.dot.gov/grant-programs/areas-persistent-poverty-program	Funds projects that provide access to transit in disadvantaged communities, including safety improvements.	Yes	\$20 M	Minimum federal share is 90%	Jan-23	
Carbon Reduction Program (CRP)	FHWA	https://www.fhwa.dot.gov/environment/sustainability/energy/	Planning, bicycle and pedestrian facilities, bike share programs, road diets, etc.	Yes	Around \$1.2B per year (2022-2026)			Project must be part of the state TIP and consistent with LRSTP and Metropolitan Transportation Plan; does not fund recreational trails
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	FHWA	https://www.fhwa.dot.gov/environment/air_quality/cmaq/	Projects, including bicycle and pedestrian facilities, that reduce emissions.	Yes	Around \$2.4B per year (2022-2026), 2022 Funding for Florida was \$148M			Project for planning, feasibility analyses, and revenue forecasting associated with the development of a project that would subsequently be eligible to apply for assistance under the BIP
Highway Safety Improvement Program (HSIP)	FHWA	https://highways.dot.gov/safety/hsip/shsp	Safety projects on the highway system.	Yes*	\$3B per year (2022-2026)			Projects must be consistent with a state's Strategic Highway Safety Plan, funding is only for Highway projects, public transportation, and port facilities, Small local agencies also eligible

Appendix B - Federal Funding Opportunities

Grant Name	Awarding Entity	Website	Typical Projects Funded	Standalone	Available Funding	Matching Requirements	Most recent/ Upcoming NOFO Dates	Notes of Interest
Railway-Highway Crossings (Section 130) Program (RHCP)	FHWA	https://highways.dot.gov/safety/hsip/xings/railway-highway-crossing-program-overview	Railroad crossing improvements.	Yes*	\$245 M per year			Set aside from HSIP, Small local agencies also eligible
National Highway Performance Program (NHPP)	FHWA	Implementation Guidance for the National Highway Performance Program (NHPP) as Revised by the Bipartisan Infrastructure Law (dot.gov)	Could include safety improvements as part of other improvements.	Yes	\$29B per year (2022-2026)	No match required		Only for Highway projects; Administered by the State
Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation (PRO TECT)	FHWA	https://www.fhwa.dot.gov/environment/sustainability/resilience/	Protecting transportation facilities from flooding.	No	\$1.4B (2022-2026)	20% match, can be combined		Funds can only be used for activities that are primarily for the purpose of resilience or inherently resilience related. With certain exceptions, the focus must be on supporting the incremental cost of making assets more resilient.
Surface Transportation Block Grant Program (STBG)	FHWA	https://www.fhwa.dot.gov/specialfunding/stp/	Planning, bicycle and pedestrian facilities, bike share programs, road diets, etc.	Yes	Around \$14B per year (2022-2026)			If called a bicycle facility, it must be primarily for transportation instead of recreation, but recreational trails are also permitted, Small local agencies also eligible
Transportation Alternatives (TA) Set-Aside	FHWA	https://www.fhwa.dot.gov/environment/transportation_alternatives/	Planning, bicycle and pedestrian facilities, bike share programs, road diets, etc.	Yes	Around \$1.4B per year (2022-2026)	20% match		Part of STBG; Administered by the State, Local agencies also eligible
Recreational Trails Program (RTP)	FHWA	https://www.fhwa.dot.gov/environment/recreational_trails/	Recreational trails	Yes	2022 Funding for Florida was \$2.6M	20% match; Flexibility may apply		Part of STBG; Administered by the State
Safe Routes to School Program (SRTS)	FHWA	https://www.fhwa.dot.gov/environment/safe_routes_to_school/	Projects that improve safety for students going to school	No		20% match; Flexibility may apply		Part of STBG; Administered by the State

Appendix C - FDOT Funding Opportunities

Grant Name	Website	Typical Projects Funded	Standalone	Available Funding	Matching Requirements	Anticipated Solicitation	Notes of Interest
Transportation Alternatives Program (TAP)	https://www.fdot.gov/planning/systems/tap/default.shtm	Bicycle/pedestrian facilities, recreational trails, SRTS projects	Yes	\$49M annually	FDOT covers 20% match with toll credits	District 5 To be determined and announced	Part of the Federal TA set aside of the STBG https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/systems/systems-management/document-repository/tap/ta_set-aside-program_fl_overview-highlights_2015-2021.pdf?sfvrsn=7c0d8522_2
Shared-Use Nonmotorized (Sun) Trail Program	https://www.fdot.gov/planning/systems/suntrail/guidance.shtm	Shared use trails	Yes	\$25M annually		Likely September 2024	Project must be within the Suntrail network, a priority of the applicable jurisdiction, and consistent with applicable plans. Local agency must commit to operation and maintenance of trail. Separate Request for Funding, but must be included in FDOT Work Plan https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/systems/suntrail/guidance/suntrail_guidanceforsubmittaloffundingrequest_ppt.pdf?sfvrsn=3ac9b7ba_2
Highway Safety Improvement Program	Reports and Plans (fdot.gov)	Transportation safety projects	Yes	\$148M in 2022		Jan-24	Must show how project improves safety; part of FHWA HSIP funding
Safe Routes to School	https://www.fdot.gov/Safety/programs/safe-routes.shtm	Transportation safety projects that improve safety for student going to/from school	No	\$7M annually	100% funded, cost-reimbursement	Jan-24	Funded through HSIP

Technical Appendix

I– Benchmarking Evaluation



Crosswalk at the Bluford Avenue and McKey Street intersection



Memorandum

Date: April 30, 2024
To: Vision Zero Central Florida Partners
From: Patty Hurd, PE, AICP, Kittelson and Associates,
Ryan Mansfield, PE, RSP1, Kittelson and Associates
Subject: City of Ocoee – Policy Review and Benchmarking



Overview

This memorandum summarizes the results of a policy review and benchmarking assessment of the City of Ocoee transportation policies, plans, and programs against a framework of Vision Zero and Safe System elements for the City of Ocoee Vision Zero Action Plan. The review identified potential policy barriers to reaching zero serious injuries and fatalities on roads throughout the City and identified specific actions and policy changes that could be integrated into other planning documents.

As a part of the Regional Vision Zero Action Plan, Policy Benchmarking Guidance was developed, which is provided as an Attachment. This policy review and benchmarking follows the guidance outlined in that document, which consists of the following steps:

1. Identify relevant documents and establish a framework for policy review and benchmarking.
2. Review documents and conduct a policy review.
3. Apply benchmarking tool.
4. Incorporate findings into Action Plan.

The outcomes of the first three steps are documented in this technical memorandum along with preliminary Action Plan strategies; these strategies are based on discussions with the City Working Group. Each potential action is organized around the Core Elements of Vision Zero, with the Safe System strategy that the action is aligned with identified. Implementation timing and resource needs are also noted.

Core Elements of Vision Zero

The [Vision Zero Network](#) has established 10 core elements, as summarized in [Table 1](#). They provide a framework for what an effective safety program encompasses. Evaluating existing policies, programs, and projects against these core elements will help local agencies understand what is working to reduce severe crashes and what the gaps are in their existing safety programs. This information can then be used to inform stronger safety-related policies and programs as part of each agency's Action Plan.



Table 1 | Core Elements of Vision Zero

General Strategy	Strategy Details
Category: Leadership and Commitment	
Public, High-Level, and Ongoing Commitment	Key elected officials and leaders within public agencies, including transportation, public health, and police, commit to the goal of eliminating traffic fatalities and serious injuries within a specific timeframe. Leadership across these agencies consistently engages in prioritizing safety via a collaborative working group and other resource sharing efforts.
Authentic Engagement	Meaningful and accessible community engagement toward Vision Zero strategy and implementation is employed, with a focus on equity.
Strategic Planning	A Vision Zero Action Plan is developed, approved, and used to guide work. The Plan includes explicit goals and measurable strategies with clear timelines, and it identifies responsible stakeholders.
Project Delivery	Decision-makers and system designers advance projects and policies for safe, equitable multimodal travel by securing funding and implementing projects, prioritizing roadways with the most pressing safety issues.
Category: Safe Roads and Safe Speeds	
Complete Streets for All	Complete Streets concepts are integrated into communitywide plans and implemented through projects to encourage a safe, well-connected transportation network for people using all modes of transportation. This prioritizes safe travel of people over expeditious travel of motor vehicles.
Context-Appropriate Speeds	Travel speeds are set and managed to achieve safe conditions for the specific roadway context and to protect all roadway users, particularly those most at risk in crashes. Proven speed management policies and practices are prioritized to reach this goal.
Category: Data-Driven Approach, Transparency, and Accountability	
Equity-Focused Analysis and Program	Commitment is made to an equitable approach and outcomes, including prioritizing engagement and investments in traditionally under-served communities and adopting equitable traffic enforcement practices.
Proactive, Systemic Planning	A proactive, systems-based approach to safety is used to identify and address top risk factors and mitigate potential crashes and crash severity.
Responsive, Hot Spot Planning	A map of the community's fatal and serious injury crash locations is developed, regularly updated, and used to guide priority actions and funding.
Comprehensive Evaluation and Adjustments	Routine evaluation of the performance of all safety interventions is made public and shared with decision makers to inform priorities, budgets, and updates to the Vision Zero Action Plan.

Source: Vision Zero Network, 2023

Policy Review and Benchmarking

The following presents the results of the policy review and benchmarking as applied to the plans, policies and programs developed by the City of Ocoee.

Identify and Review Relevant Documents and Establish Review Framework

The following documents were identified in consultation with City staff to be included in the policy review:

- Comprehensive Plan (2002), Transportation Element
- Article 3, Design Standards, 3.02 Streets and Other Pavements
- City of Ocoee Trails Master Plan
- Downtown Ocoee Master Plan (2016)
- SR 50/UCF Connector Alternatives Analysis
- Healthy West Orange Trails Initiative

The documents listed above were then reviewed and relevant pieces of information from the review framework were documented.

Policy Review

Each document noted above was reviewed and information from the review framework categories was documented. The framework tool was used to collect information, by category, from each document. This review was documented in a table summarizing the key content from each document by category, as summarized in [Table 1](#).

Benchmarking

Based on the policy review summary, the benchmarking tool was used to provide a high-level assessment of the overall status of how safety is incorporated and prioritized within existing policies and processes. The assessment aims to identify strengths of the existing safety program, and opportunities for enhancements aligned with Vision Zero and Safe System Approach best practices.

The policy review and benchmarking assessment are summarized in [Table 2](#). Some notable successes from the benchmarking and policy review include:

- The City of Ocoee has multiple policies that align with Vision Zero best practices and prioritize safety, multimodal enhancements, and vulnerable road users.

The City of Ocoee is beginning an update to their Comprehensive Plan. The policy review included an evaluation of elements that are being considered for the Comprehensive Plan updates. Elements that are being considered to include in the Comprehensive Plan updates:

- Context classification
- Level of traffic stress for pedestrians and bicyclists
- Transit level of service

The policy scan and benchmarking assessment also identified opportunities for enhanced alignment with Vision Zero and Safe System Approach best practices. The key opportunities City of Ocoee and the Comprehensive Safety Action Plan could consider are:

- Consider the following updates the Comprehensive Plan:



- Consider including policy to implement a traffic calming plan on local and collector streets
- Consider policy supporting the adoption of a complete streets policy and Vision Zero policy
- Consider adding Complete Streets goal of serving all users to the goals and objectives of the Transportation Element (page 2-35)
- Consider incorporating the High Injury Network under safety enhancements
- Consider adopting a policy to monitor vehicular crashes in the City
- Objective 2.4, policy 2.4.1 – The City shall promote increased parking in the downtown area. Evaluate if this policy is still needed. Consider reviewing the Orlando Code of Ordinances' parking standards to identify amendments needed to promote infill development. Consider including bicycle parking.
- In addition to Policy 3.1.2, consider monitoring speeding on local and collector roadways.
- Consider updating Policy 3.2.3 to require sidewalks on both sides of the road on all roadways, with sidewalks meeting PROWAG standards.

Consider the following updates the Engineering Design Standards:

- Consider including other best practices including Public Right-of-Way Accessibility Guidelines (PROWAG), Americans with Disability Act (ADA), AASHTO Roadside Design Guides, NACTO Urban Street Design Guide, NACTO Urban Bikeway Design Guide, NACTO Don't Give Up at the Intersections
- Consider aligning horizontal alignments minimum design with context classification. Consider a minimum design speed of 25 MPH or 30 MPH for town center.
- Consider reducing minimum radii at intersections based on NACTO guidance or the draft 2015 FDOT Freight Roadway Design Considerations
- Consider including speed management tools appropriate by context classification.
- Consider including streetscape criteria.

Consider the following updates the City Land Development Codes:

- In coordination with the fire department, consider reducing pavement widths in section 5 6-3.C. The current minimum pavement width for a residential street with over 1,500 Average Daily Traffic is 36 feet. Consider introducing yield streets as recommended in the NACTO Urban Street Design Guild, which suggests a curb to curb width of 24-28 feet.
- Consider increasing sidewalk widths in section 5 6-3.H to align with PROWAG standards.
- Consider including criteria for landscape/streetscape space between curb and sidewalk.
- Consider including criteria or recommendations for on-street parking.
- Consider requiring pedestrian and bicycle connections to adjacent developments.

Vision Zero Action Items

Based on the policy benchmarking and subsequent discussions, potential actions to incorporate in the Action Plan were developed, as summarized on the following pages by the core elements of Vision Zero. Also noted with each potential action is which Safe System strategy it aligns with. The actions presented below may be refined and modified as they are incorporated into the Action Plan document; should there be differences between this document and the Action Plan, the Action Plan action items should take precedence.

The initial time frame for implementation was identified for three time periods, assuming actions in the plan would be implemented over a 5-year period:

1. **Immediate** (within one year) – Action is expected to be implemented within one year.
2. **Near-term** (within two to three years) – Action is expected to be implemented within two to three years. These are actions that may require additional resources and collaboration with other agencies.
3. **Longer-term** (within four to five years) – These longer-term actions may be contingent on the completion of prior actions, require additional staffing and other resources, and require significant collaboration with other agencies. Depending on the progress of immediate and near-term actions, some longer-term actions could be accomplished earlier or could be moved beyond five years.

The expected level of staff time/resources was also identified for each action with the following assumptions:

- **Low** – Estimated to be less than 40 hours total time that could be incorporated into existing processes with currently available resources. No additional staffing/funding resources are expected to be required for low effort strategies.
- **Medium** – Estimated to be between 40 and 120 hours of effort. While an individual medium- effort strategy could likely be accomplished with existing resources, it may be difficult to accomplish multiple concurrent medium-effort actions.
- **High** – Estimated to be over 120 hours of effort and additional outside resources, such as data, IT infrastructure, and/or collaboration with outside agencies. While an individual high-effort strategy could be accomplished with existing resources, it may be difficult to accomplish multiple concurrent medium and high-effort actions. Additional staff or consultant support may be needed to accomplish these items within the 5-year time, which could require additional funding resources.

For some actions, it may be a one-time occurrence, and for other activities it may be recurring action that is incorporated into an existing or new process. This is noted as one-time or on-going.

It is expected that the Safety Action Plan would be updated at least every five years and the effectiveness of various strategies assessed, with new actions developed, actions that are

successful retained, and actions that did not yield the expected results discontinued. Actions that are deemed not to be feasible for implementation in this plan may be considered for subsequent plan updates.

For each potential action item, the time frame, level of effort, and if it is a one-time occurrence or an on-going program are noted in the following format.

Summary of Action (Safe System Element) [Time Frame/Staff time and Resources/Duration]

As the following actions are further refined for inclusion in the Action Plan, performance measures will also be developed.

Public, High-Level Commitment

1. Adopt a Vision Zero Resolution that specifies a target date to reach zero or set a specific target goal to reduce fatal and severe injuries (All Safe System Elements). **[Immediate/Low/One-time]**
2. Adopt a Complete Streets policy (Safe Road Users, Safe Speeds). **[Immediate/Low/One-time]**
3. Coordinate with regional Traffic Incident Management (TIM) staff to provide training and resources to local first responders (EMS, Fire and Police) related to Vision Zero and Safe System (Post-crash Care). **[Longer-term/High/On-going]**

Authentic Engagement

1. Incorporate meaningful engagement as part of the development of the upcoming Comprehensive Plan. **[Immediate/Medium/On-going]**

Strategic Planning

1. Update the City Vision Zero Action Plan at least every 5 years (All Safe System Elements). **[Longer-term/High/On-going]**
2. Implement transportation system performance metrics in Comprehensive Plan and Transportation Plan that better align with goals of vision zero, including quality of service (i.e. bicycle level of traffic stress and pedestrian level of traffic stress), accessibility, efficiency metrics (i.e. 24-hour capacity framework, 16-hour efficiency, total hours below capacity, hourly demand-to-capacity) and other potential metrics (Safe Roads, Safe Speeds). **[Near-term/Medium/One-time]**
3. Develop a Safe Routes to School plan to address barriers to walking or biking to school (Safe Roads, Safe Speeds and Safe Road Users). **[Longer-term/High/On-going]**

Project Delivery

1. Incorporate inclusion on the HIN into project prioritization process (Safe Roads and Safe Speeds). **[Longer-term/Medium/On-going]**

Complete Streets for All

1. Apply tools presented in Central Florida's Vision Zero Engineering Countermeasures Toolkit to all roadway design projects (Safe Roads and Safe Speeds). **[Longer-term/Medium/On-going]**



2. Provide Central Florida's Vision Zero Engineering Countermeasures Toolkit to developers as they prepare road plans for new developments. Consider including the Central Florida's Vision Zero Engineering Countermeasures Toolkit in the Design Standards and Guidelines Manual (Safe Roads and Safe Speeds). **[Longer-term/Medium/On-going]**
3. Consider including best practice elements such as the Public Right-of-Way Accessibility Guidelines (PROWAG), Americans with Disability Act (ADA), AASHTO Roadside Design Guides, NACTO Urban Street Design Guide, NACTO Urban Bikeway Design Guide, NACTO Don't Give Up at the Intersections (Safe Roads and Safe Speeds) in City design standards. **[Near-term/low/One-time]**

Context Appropriate Speeds

1. Evaluate potential to include target speed reductions as part of roadway improvements (Safe Speeds). **[Near-term/High/On-going]**
2. Develop traffic calming program (Safe Speeds). **[Near-term/Medium/On-going]**
3. Identify corridors where traffic signal timing strategies could be used to control speeds and conduct a pilot project in partnership with FDOT and Orange County (Safe Speeds). **[Near-term/High/One-time]**

Equity Focused Analysis & Programs

1. Track crash outcomes by disadvantaged community status (Safe Road Users). **[Near-term/High/On-going]**

Proactive/Systemic

1. Develop traffic calming program (Safe Speeds). **[Near-term/Medium/On-going]**
2. Develop speed management plan (Safe Speeds). **[Near-term/Medium/On-going]**

Responsive/Hot Spot

1. 1. Monitor MetroPlan Orlando's annual update of crash dashboard, report on progress and if new focus areas/crash trends are emerging (All Safe System Elements). **[Near-term/High/On-going]**

Evaluation and Adjustment

1. Develop process to conduct before and after studies for City roadway projects (Safe Roads). **[Immediate/High/On-going]**

The final action plan items will be reflected in the Vision Zero Action Plan. Attachments: Benchmarking Guidance

Table 1 | Document Review Summary

Document Name	Description	Safety Policies and Goals	Safety Data and Analysis	Countermeasures	VZ Core Element Link
Comprehensive Plan (2002), Transportation Element	The main objective of the Transportation Element is to determine future transportation needs and establish transportation improvement priorities for the City of Ocoee to the year 2020.	Policy 2.4.2 The City shall ensure streetscape improvements that accommodate pedestrian activity and encourage the use of transit.			Complete Streets for All
		Policy 2.6.1 The City shall increase the number of neighborhoods, commercial areas, parks, and recreation facilities served by transit and bicycle/pedestrian facilities.			Complete Streets for All
		Policy 2.8.1 The City shall ensure connectivity of the sidewalk network and monitor number of sidewalk miles added.	Monitor sidewalk added	Construct sidewalks	Complete Streets for All
		Policy 2.8.2 The City shall ensure the connectivity of the bicycle network and monitor number of bike lane miles added.	Monitor bicycle lanes added	Construct bicycle facilities	Complete Streets for All
		Policy 2.9.1 The City shall increase the number of neighborhoods, commercial areas, parks, and recreation facilities served by bicycle/pedestrian facilities, which connect to the West Orange Trail.		Network enhancements	Complete Streets for All
		Objective 3.1 The City shall seek to minimize the number of traffic accidents on the City's roadways.	Monitor crashes		Responsive, Hot Spot Planning
		Policy 3.1.2 The City shall support improvements, which incorporate traffic calming measures on necessary roadways.		Traffic calming	Context-Appropriate Speeds
		Policy 3.2.1 The City shall support the existence of facilities, which allow bicycles and pedestrians to travel separately from vehicles.		Separated bicycle and pedestrian facilities	Proactive, Systemic Planning
		Policy 3.2.3 The City shall require the presence of two-sided sidewalk coverage on key roads connecting schools and residential areas.		Construct sidewalks	Complete Streets for All

Document Name	Description	Safety Policies and Goals	Safety Data and Analysis	Countermeasures	VZ Core Element Link
Article 3, Design Standards, 3.02 Streets and Other Pavements		3.02.02 Sidewalks/Bikeways: It is the intent of the City that every new residential lot or non-residential development shall construct its portion of the city wide pedestrian/bikeway system. If a variance to these provisions is granted, the Owner/Developer shall execute a sidewalk agreement with the City to ensure the future installation of the facilities.		Construct sidewalks and bicycle facilities	Proactive, Systemic Planning
City of Ocoee Trails Master Plan	Identifies future trails system			Construct sidewalks and bicycle facilities	Proactive, Systemic Planning
Healthy West Orange Trails Initiative	Identifies future trails system	Bluford Multipurpose Path - City to provide a safe route to schools from the Oasis Apartments; Will connect to the City's existing trail that runs north to Silver Star Rd. Connecting at the Middle School it provides an important route to schools for area children. Silver Star/Franklin Complete Street Project - Trails - Includes a cycle track on Silver Star, connection to the WOT west of SR 429. Ocoee Apopka Rd Trails - Palm Parkway north to McCormick Road - 0-12' trails along the west side of Ocoee Apopka. Project is planned as a part of widening project needed for capacity. Clarke Road Multipurpose Paths between A.D. Mims and Clarcona Ocoee Rd - Multipurpose Path to be installed as part of 4-laning Clarke Rd. Tonymyn Blvd/Windermere Rd- important regional connection. Ocoee has identified 12'-multipupose path. The Rd will be widened to 4-lanes.		Construct sidewalks and bicycle facilities	Proactive, Systemic Planning
SR 50/UCF Connector Alternatives Analysis	Recommended alternative includes Bus Rapid Transit (BRT) service traveling in mixed-traffic along SR 50 from Oakland in west Orange County into Downtown Orlando to connect to LYNX Central Station and then on to Alafaya Trail, then up Alafaya Trail to UCF.	Identified pedestrian and bicycle safety and mobility challenges along SR 50. Recommends queue jumps at specific intersections and station locations.	Evaluate safety data		Proactive, Systemic Planning
Downtown Ocoee Master Plan, 2016	The Downtown Master Plan is the springboard to the rediscovering of downtown Ocoee and the rallying cry for the citizens and city leaders to fulfill the vision of a long-deserved rebirth of this gem by the lake.	Connect the West Orange Trail to Downtown by enhancing bicycle facilities on Ocoee Apopka Road, Palm Drive, and Plant/Franklin Street.		Construct sidewalks and bicycle facilities	Proactive, Systemic Planning
		Connect the West Orange Trail to the lake by enhancing bicycle facilities along Oakland Avenue.		Construct sidewalks and bicycle facilities	Proactive, Systemic Planning
		Make additional east-west connections by expanding the grid to the west and filling in missing links where possible		network enhancements	Proactive, Systemic Planning
		Link Silver Star to Oakland and Franklin		network enhancements	Proactive, Systemic Planning
		Be Pedestrian, Bike and Transit Friendly			Proactive, Systemic Planning
		Foster safer routes to school			Proactive, Systemic Planning



Table 2 | Benchmarking Assessment Tool

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice	Notes / Opportunities for Policy/Process Refinement
Category: Leadership and Commitment					
Public, High-Level, and Ongoing Commitment	Agency leadership has made a public commitment to the goal of eliminating traffic fatalities and serious injuries within a specific timeframe.				Plan in process
	Agency leadership is consistently engaged in prioritizing safety via collaborative efforts.			x	
	Key stakeholders have made a clear, public statement in support of Vision Zero efforts and timeline.			x	
	An interdepartmental safety working group regularly coordinates with leadership to discuss progress.			x	
Authentic Engagement	The agency conducts outreach to specific communities, interests, and populations.			x	
	Public meetings and workshops are hosted regularly and at times and locations convenient for the community.			x	
	The community, including historically disadvantaged communities, trust and feel engaged by the agency.			x	
	The stakeholder groups are representative of the community at large.			x	
	The agency engages regularly with community-based organizations and leaders.			x	
	The agency recognizes the value of community input by providing grant opportunities made in partnership with community-based organizations and nonprofits supporting Vision Zero work.	x			
Strategic Planning	Crash data is collected regularly and used to inform decisions before plan development.			x	
	The agency augments traditional crash data from police data with data from other sources, such as hospitals.	x			
	The agency has established an appropriate timeline to reach zero traffic fatalities.				Plan in process
	The agency has established near-term and interim goals for achieving zero traffic fatalities.				Plan in process
	The agency has delineated clear action items to achieve each goal.				Plan in process

	A lead department or position has been established for each action item.	x			
	The lead agency for each action item identifies partners to help complete the action.	x			
	The agency has determined appropriate funding needs for each action item.	x			
	The agency has maintained a Vision Zero website to inform the public about the initiative's progress; this could include a link to regional resources from the agency's home page.			x	Part of regional effort
	A third-party audits Vision Zero progress and reports outcomes on the website.	x			
	Departments and staff are provided resources for safety related training and staff development.			x	
	Staff at multiple levels and in multiple departments are safety champions to ensure continuity when a safety champion departs.			x	
	Adequate policies related to equitable transportation have been formulated.	x			
	The agency has determined suitable performance measures to assess equitable transportation.				Plan in process
	Adequate policies related to multimodal transportation have been formulated.	x			
	Suitable performance measures to assess multimodal transportation have been established.	x			
	The agency has developed policies to maintain bicycle and pedestrian facilities during construction projects that affect roadway operations.			x	
	The agency has established an efficient citizen request process and a methodology for evaluating requests.			x	
Project Delivery	Adequate policies related to transportation safety have been formulated.				Plan in process
	The agency has determined suitable performance measures to assess transportation safety.	x			
	Transportation safety is incorporated into every Capital Improvement Project to the extent applicable.			x	
	FHWA's proven countermeasures are implemented in projects.	x			
	The agency implements NHTSA's Countermeasures that Work.	x			
	The agency shares project outcomes and effectiveness with the public.	x			



	The agency provides funding for projects that reduce fatal and serious injury collisions.			x	
	There is sufficient funding allocated for future projects that may reduce fatal and serious injury collisions.	x			
	The agency applies for grants to fund safety projects from traditional sources.			x	
	The agency applies for grants to fund safety projects from non-traditional sources.			x	
	Projects incentivizing transit, biking, walking, and carpooling over single-occupant vehicles are prioritized and implemented.	x			
Category: Safe Roadways and Safe Speeds					
Complete Streets for All	The agency has allocated adequate funding for complete streets projects.	x			
	The agency has a complete streets plan.	x			
	Complete Street elements have been incorporated into planning documents.	x			
	Vulnerable users are prioritized in project planning and implementation.			x	
	The agency actively coordinates with neighboring member agencies and neighboring municipalities to provide connections for people walking and biking.			x	
	Appropriate practices are followed to set speed limits based on context.			x	
Context Appropriate Speed	The agency suggests specific rules to set speed limits near schools and areas with a high number of vulnerable road users.			x	
	Appropriate procedures are followed to enforce speed limits.			x	
	There are ongoing education programs/campaigns related to traffic speeds.			x	
	The agency follows proper methods to modify existing roadways to achieve safe speeds.				Plan in process
Category: Data Driven Approach, Transparency and Accountability					
Equity Focused Analysis and Programs	The agency has developed effective programs and strategies to help people without housing, and low-income individuals access jobs and services.				
	Equity is a factor in project prioritization.				
	Equity is reflected in the agency's vision and goals for safety.				

	Geographic inequity is considered in the agency's data analysis.				
	The agency reports safety outcomes demographically.				
	Data on distribution of stops and ticketing is analyzed demographically.				
	The agency has formulated effective policies to mitigate the disproportionate impact of fines for minor violations on low-income individuals.				
	Important information and education materials are provided in common languages spoken by residents whose first language is not English.				
	The agency uses data to identify and systematically address trends and risk factors to prevent severe collisions.				
Proactive / Systemic	Common collision patterns have been matched with adequate countermeasures.				Plan in process
	The agency works to continuously improve the accuracy of crash reports.			x	
	The agency uses the High Injury Network (HIN) in project prioritization.	x			
Reactive / Hot Spot	A demographic analysis of the HIN has been conducted.				Plan in process
	The agency routinely monitors and reports collision data to the public.			x	
Evaluation and Adjustment	Intersection design and control decisions are evaluated to reduce kinetic energy transfer to vulnerable users.				Plan in process
	Demonstration projects are used to test the strategies and get feedback from the public.				Plan in process
	The agency has a process to address underreporting of collisions, especially for vulnerable road users.	x			

Attachment

Final Memorandum

Date: October 10, 2023

To: Vision Zero Central Florida Consultants

From: Mighk Wilson, MetroPlan Orlando
Nicole Waldheim and Kathrin Tellez, Fehr & Peers

Subject: **Vision Zero Central Florida – Policy Benchmarking Guidance**



Introduction

The MetroPlan Orlando region has an overall fatal crash rate 15 percent higher than the national average and 10 percent higher than the statewide average. MetroPlan Orlando is preparing a Regional Vision Zero Action Plan to understand where crashes are most likely to occur, why crashes result in fatalities and serious injuries, and how to reduce the severity and frequency of these crashes. This effort will be rooted in the core elements of Vision Zero and the Safe System approach. The purpose of the Action Plan is to identify projects, programs, and strategies to eliminate fatalities and serious injuries on the region's roadways.

Funding for this effort is provided by the U.S. Department of Transportation's Safe Streets for All (SS4A) grant program. The SS4A grant program is funding the preparation of regional, county, and local agency Vision Zero action plans in the MetroPlan Orlando region.

This memorandum outlines a process to benchmark existing policies and guidelines against the Vision Zero core elements to meet the Safe Street for All requirement to review existing regional policies and guidelines.

Core Elements of Vision Zero

The Vision Zero Network has established 10 core elements, as summarized in [Table 1](#). They provide a framework for what an effective safety program encompasses. Evaluating existing policies, programs, and projects against these core elements will help local agencies understand what is working to reduce severe crashes and what the gaps are in their existing safety programs. This information can then be used to inform stronger safety-related policies and programs as part of each agency's Action Plan.

Table 1 | Core Elements of Vision Zero

General Strategy		Strategy Details
Category: Leadership and Commitment		
Public, High-Level, and Ongoing Commitment	Key elected officials and leaders within public agencies, including transportation, public health, and police, commit to the goal of eliminating traffic fatalities and serious injuries within a specific timeframe. Leadership across these agencies consistently engages in prioritizing safety via a collaborative working group and other resource sharing efforts.	
Authentic Engagement	Meaningful and accessible community engagement toward Vision Zero strategy and implementation is employed, with a focus on equity.	
Strategic Planning	A Vision Zero Action Plan is developed, approved, and used to guide work. The Plan includes explicit goals and measurable strategies with clear timelines, and it identifies responsible stakeholders.	
Project Delivery	Decision-makers and system designers advance projects and policies for safe, equitable multimodal travel by securing funding and implementing projects, prioritizing roadways with the most pressing safety issues.	
Category: Safe Roads and Safe Speeds		
Complete Streets for All	Complete Streets concepts are integrated into communitywide plans and implemented through projects to encourage a safe, well-connected transportation network for people using all modes of transportation. This prioritizes safe travel of people over expeditious travel of motor vehicles.	
Context-Appropriate Speeds	Travel speeds are set and managed to achieve safe conditions for the specific roadway context and to protect all roadway users, particularly those most at risk in crashes. Proven speed management policies and practices are prioritized to reach this goal.	
Category: Data-Driven Approach, Transparency, and Accountability		
Equity-Focused Analysis and Program	Commitment is made to an equitable approach and outcomes, including prioritizing engagement and investments in traditionally under-served communities and adopting equitable traffic enforcement practices.	
Proactive, Systemic Planning	A proactive, systems-based approach to safety is used to identify and address top risk factors and mitigate potential crashes and crash severity.	
Responsive, Hot Spot Planning	A map of the community's fatal and serious injury crash locations is developed, regularly updated, and used to guide priority actions and funding.	
Comprehensive Evaluation and Adjustments	Routine evaluation of the performance of all safety interventions is made public and shared with decision makers to inform priorities, budgets, and updates to the Vision Zero Action Plan.	

Source: Vision Zero Network, 2023

Benchmarking Process

The benchmarking process is typically comprised of the following steps, each of which are described in more detail within this memorandum.

1. Identify and review relevant documents and procedures
2. Review and refine benchmarks
3. Conduct initial benchmarking by consultant team and agency staff project manager
4. Facilitate focused benchmarking discussion with stakeholders with knowledge of planning, engagement, project delivery and other elements contained within the benchmarking matrix
5. Identify opportunities for policy enhancements and barriers to change
6. Incorporate findings into Action Plan

Step 1 – Identify and Review Relevant Documents and Procedures

The first step of the benchmarking process is to **identify all relevant local policies, plans, programs, and projects that have a role in transportation safety** and conduct a review.

Documents to review may include, but are not limited to:

- Comprehensive Plan
- Transportation Plans, including active transportation plans
- Capital Improvement Program
- Design policies (multimodal, complete streets, speed, other), standards and guidelines, and land development code requirements
- Department Standard Operating Procedures

As a part of the benchmarking process, clear documentation of critical information from each plan is important. For each document reviewed, it is recommended that the following information, at a minimum, be documented. Each summary element is defined below, and an example summary is provided in [Table 2](#).

Document Name: Name of document (and link to where the document can be found).

Document Description: One to three sentence description of the purpose of the document.

Goals and Policies: Documentation of what is intended to be achieved with transportation safety and supporting guidance, rules, procedures to achieve it.

Data and Analysis: Documentation of existing safety data/analysis or known challenges (if any).

Countermeasures: Documentation of proposed or programmed safety solutions to address key needs.

Vision Zero Link: How the document addresses one or more of the Vision Zero core elements (see Table 1).

Table 2 | Example Plan Documentation

Name	Description	Safety Policies and Goals	Safety Data and Analysis	Countermeasures	VZ Core Element Link	Notes/ Opportunities for Policy/Process Refinement
CIP	Identifies 5-year list of multimodal improvements	Zero fatalities and serious injuries is stated as one of the primary goals for capital projects. Project prioritization approach includes safety criteria.	CIP projects are scored, in part, based on equity criterion. Regional High Injury Network is referenced in the document.	Separated bike lanes Speed studies Traffic calming Restriping	Project Delivery: Working to advance projects and policies for safe, equitable multimodal travel	Start tracking total funding spend on safety projects.

Step 2 – Review and Refine Benchmarks

The next step is to determine how your existing policies and program align with the Vision Zero core elements and where gaps may exist. Potential Vision Zero benchmarks, centered around the core elements of Vision Zero and the Safe System approach, have been developed as presented in [Table 3](#), and provided as an excel spreadsheet, and are intended to help assess what agencies are currently doing well related to Vision Zero and where potential changes to policies, programs and practices could be considered as a part of the development of their Vision Zero Action Plan. Not all benchmarking criteria will apply to all agencies, and some agencies may wish to develop additional criteria.

A process to follow in conducting the benchmarking is provided in the next section.

Table 3 | Vision Zero Benchmarks

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice
Category: Leadership and Commitment				
Public, High-Level, and Ongoing Commitment	Key elected officials and leaders have made a public commitment to the goal of eliminating traffic fatalities and serious injuries within a specific timeframe.			
	Key elected officials are consistently engaged in prioritizing safety via collaborative efforts.			
	Key stakeholders have made a clear, public statement in support of Vision Zero efforts and timeline.			
	An interdepartmental safety working group regularly coordinates with leadership to discuss progress.			
	Public meetings and workshops are hosted regularly and at times and locations convenient for the community.			
Authentic Engagement	The agency conducts outreach to specific communities, interests, and populations.			
	The community, including historically disadvantaged communities, trust and feel engaged by the agency.			
	The stakeholder group is representative of the community at large.			
	The agency engages regularly with community-based organizations and leaders.			
	The agency recognizes the value of community input by providing grant opportunities made in partnership with community-based organizations and nonprofits supporting Vision Zero work.			
	Crash data is collected regularly and used to inform decisions before plan development.			

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice
Strategic Planning	The agency augments traditional crash data from police data with data from other sources, such as hospitals.			
	The agency has established an appropriate timeline to reach zero traffic fatalities.			
	The agency has established near-term and interim goals for achieving zero traffic fatalities.			
	The agency has delineated clear action items to achieve each goal.			
	A lead department or position has been established for each action item.			
	The lead agency for each action item identifies partners to help complete the action.			
	The agency has determined appropriate funding needs for each action item.			
	The agency has maintained a Vision Zero website to inform the public about the initiative's progress; this could include a link to regional resources from the agency's home page.			
	A third-party audits Vision Zero progress and reports outcomes on the website.			
	Departments and staff are provided resources for safety related training and staff development.			
	Staff at multiple levels and in multiple departments are safety champions to ensure continuity when a safety champion departs.			
	Adequate policies related to equitable transportation have been formulated.			
	The agency has determined suitable performance measures to assess equitable transportation.			
	Adequate policies related to multimodal transportation have been formulated.			
	Suitable performance measures to assess multimodal transportation have been established.			
	Non-transportation policies support transportation safety, such as land use, open space, parks, etc.			
	The agency has developed policies to maintain bicycle and pedestrian facilities during construction projects that affect roadway operations.			
	The agency has developed policies to maintain bicycle and pedestrian facilities during construction projects that affect roadway operations.			
	The agency has established an efficient citizen request process and a methodology for evaluating requests.			

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice
Project Delivery	Adequate policies related to transportation safety have been formulated.			
	The agency has determined suitable performance measures to assess transportation safety.			
	Transportation safety is incorporated into every Capital Improvement Project to the extent applicable.			
	FHWA's proven countermeasures are implemented in projects.			
	The agency implements NHTSA's Countermeasures that Work.			
	The agency shares project outcomes and effectiveness with the public.			
	The agency provides funding for projects that reduce fatal and serious injury collisions.			
	There is sufficient funding allocated for future projects that may reduce fatal and serious injury collisions.			
	The agency applies for grants to fund safety projects from traditional sources.			
	The agency applies for grants to fund safety projects from non-traditional sources.			
	Projects incentivizing transit, biking, walking, and carpooling over single-occupant vehicles are prioritized and implemented.			
Category: Safe Roadways and Safe Speeds				
Complete Streets for All	The agency has allocated adequate funding for complete streets projects.			
	The agency has a complete streets plan.			
	Complete Street elements have been incorporated into Comprehensive Plans and other planning documents.			
	Vulnerable users are prioritized in project planning and implementation.			
	The agency actively coordinates with neighboring municipalities to provide connections for people walking and biking.			
	Appropriate practices are followed to set speed limits based on context.			

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice
Context Appropriate Speed	The agency uses specific rules to set speed limits near schools and areas with a high number of vulnerable road users.			
	Appropriate procedures are followed to enforce speed limits.			
	There are ongoing education programs/campaigns related to traffic speeds.			
	The agency follows proper methods to modify existing roadways to achieve safe speeds.			
	The agency follows proper methods to modify existing roadways to achieve safe speeds.			
Category: Data Driven Approach, Transparency and Accountability				
Equity Focused Analysis and Programs	The agency has developed effective programs and strategies to help people without housing, and low-income individuals access jobs and services.			
	Equity is a factor in project prioritization.			
	Equity is reflected in the agency's vision and goals for safety.			
	Geographic inequity is considered in the agency's data analysis.			
	The agency reports safety outcomes demographically.			
	The police department policy for traffic stops consider equity			
	Data on distribution of stops and ticketing is analyzed demographically.			
	The agency has formulated effective policies to mitigate the disproportionate impact of fines for minor violations on low-income individuals.			
	Important information and education materials are provided in common languages spoken by residents whose first language is not English.			
	The agency uses data to identify and systematically address trends and risk factors to prevent severe collisions.			
Proactive / Systemic	Common collision patterns have been matched with adequate countermeasures.			
	The agency works to continuously improve the accuracy of crash reports.			
	The agency uses the High Injury Network (HIN) in project prioritization.			

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice
Reactive / Hot Spot	A demographic analysis of the HIN has been conducted.			
	The agency routinely monitors and reports collision data to the public.			
Evaluation and Adjustment	Intersection design and control decisions are evaluated to reduce kinetic energy transfer to vulnerable users.			
	Demonstration projects are used to test the strategies and get feedback from the public.			
	The agency has a process to address underreporting of collisions, especially for vulnerable road users.			

Steps 3 through 5 – Using the Benchmarks

The following describes how to use the Vision Zero benchmarks to assess your agency's safety program.

Identify Stakeholders: Determine who participates in the benchmarking assessment. This can be done with the Task Force, Steering Committee or Working Group assembled to develop the local agency safety plan, or with a subset of stakeholders who represent transportation and safety interests and have knowledge about the agency's practices. At a minimum, participants should include representatives from Engineering, Planning/Community Development, and Enforcement.

Review and Customize Benchmarks: The benchmarks listed for each of the Vision Zero core elements represent strategies to make improvements and adjustments to a safety program. It is recommended to consider all of these when assessing a safety program, but not required. In coordination with the review committee, review the benchmarks to determine which should be included in the benchmarking assessment, which should not, and any customizations to the language. The strategies provide a starting point but can be revised based on the goals of your safety program.

Populate the Benchmarks: Using the results of the plan review, the consultant team should complete an initial pass through the Table 3 matrices based on their review of various plans and documents, as well as initial discussions with agency staff, and populate and "x" in the appropriate column, denoting the level of institutionalization. A column documenting rationale or notes can be added. In addition to using the plan review to populate the matrix, a discussion with the local agency project manager can be another resource to populate the level of institutionalization columns. An example is summarized in [Table 4](#).

Table 4 | Example of Populating the Benchmarks

Strategy	Benchmarks	Not a Current Practice	Occasional Practice	Institutional Practice	Notes
Project Delivery	The agency has determined suitable performance measures to assess transportation safety.		x		The Comprehensive Plan includes performance measures for severe crashes.
Project Delivery	FHWA's proven countermeasures are implemented in projects.		x		The CIP includes some of the FHWA proven countermeasures including bike lanes and road diets.
Proactive / Systemic	The agency uses the High Injury Network (HIN) in project prioritization.	x			A HIN will be developed as part of the Action Plan and incorporated into future project prioritization.

Stakeholder Workshop: To obtain feedback and input on the benchmarking assessment matrix, a virtual or in-person stakeholder workshop can be held. The goals for the workshop are to:

- Provide education on a Vision Zero safety program and benchmarks.
- Obtain feedback on the already populated benchmarks (based on the inputs from the plan review).
- Finalize the level of institutionalization for all the benchmarks.
- Identify gaps and the associated challenges in the current safety program.

The workshop can be an hour and a half in length and follow this format:

- Overview of safety planning with a focus on Vision Zero and the Safe System Approach. (5 minutes)
- Describe the 10 core Vision Zero elements. (5 minutes)
- Break into three groups – the groups are organized around the Vision Zero categories of 1) Leadership and Commitment 2) Safe Roads and Speeds 3) Data Driven Approach, Transparency and Accountability. Participants will rotate through three groups and spend 25 minutes in each one.

Facilitators will capture the following information:

- Confirm the x's are in the proper institutionalization categories for each benchmark (2 minutes)
- For any benchmarks without an "x" obtain feedback from the group (5 minutes)
- For the benchmarks marked as "occasional" or "not a current practice," discuss why. Obtain feedback on the challenges and solutions. These conversations will form the basis of policy recommendations to be included in the Action Plan (18 minutes)

Table 5 summarizes how to obtain the information. In total this portion of the agenda will be 75 minutes.

- Wrap Up. (5 minutes)

Table 5 | Example of Capturing Feedback on Benchmarks

Strategy	Benchmarks	Status	Notes	Challenges	Ideas
Project Delivery	The agency has determined suitable performance measures to assess transportation safety.	Occasional Practice	The Comprehensive Plan includes performance measures for severe crashes.	Do not have staff resources to track performance measures beyond severe crashes.	Speed is an emphasis area so develop metrics to track this issue. Coordinate with FDOT and MetroPlan Orlando to track outcomes on regional roadways.
Project Delivery	FHWA's proven countermeasures are implemented in projects.	Occasional Practice	The CIP includes some of the FHWA proven countermeasures including bike lanes and road diets.	Not all of the proven countermeasures have political support.	Identify which of the other proven countermeasures could be implemented locally; consider educating elected officials and the public.
Proactive/ Systemic	The agency uses the High Injury Network (HIN) in project prioritization.	Not a Current Practice	A HIN will be developed as part of the Action Plan and incorporated into future project prioritization.	May not have resources to periodically update HIN.	Incorporate HIN and safety analysis into Comprehensive Plan Updates and other planning processes.

Alternative: If a stakeholder workshop is not possible, focused interviews with key stakeholders can be held to obtain input on the benchmarks, areas of success, and gaps/challenges. Identify key stakeholders and set up individual interviews. Provide background on the benchmarks and walk through each one to obtain their input on level of institutionalization. Use the successes and challenges tabs, summarized in Table 5 to capture feedback.

Step 6 – Develop the Action Plan

Based on the benchmarking effort and findings, actions and next steps can be identified to enhance the local safety program.

Drawing from the challenges and ideas generated at the workshop (or interviews), the consultant team will develop a set of next steps to be completed as part of the safety planning process or be included in the plan for further consideration. **Table 6** summarizes how to develop the next steps (in matrix format) related to identified policy, programmatic, and policy changes.

Table 6 | Example Action Plan Template

Strategy	Actions	Near Term Action	Action to be Included in Plan	Longer-Term Consideration
Project Delivery	Make better use of FHWA countermeasure resources	x	x	
Project Delivery	Develop policy to consider FHWA proven countermeasures first in project prioritization		x	x
Project Delivery	Develop metrics to evaluate speed-related severe crashes	x	x	
Proactive / Systemic	Develop HIN and incorporate into project prioritization criteria.	x	x	

Have any questions?

If you have questions related to the policy review, or if you have an approach not included in the list, please contact Mighk Wilson at mwilson@metroplanorlando.org.

Technical Appendix

J- Engineering Countermeasure Toolkit

A horizontal bar with a rainbow color gradient, transitioning from purple on the left to red, orange, yellow, green, and blue on the right.

Crosswalk at the Bluford Avenue and McKey Street intersection

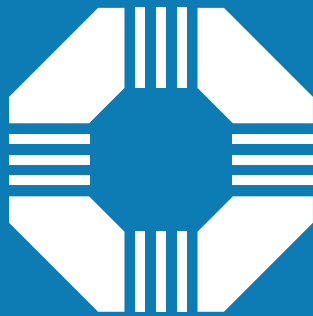


Engineering Countermeasures Toolkit



VISION ZERO CENTRAL FLORIDA

Counting down to zero traffic deaths



VISION ZERO

CENTRAL FLORIDA

Counting down to zero traffic deaths

Overview

Introduction and How to Use this Toolkit

MetroPlan Orlando will complete its first comprehensive Vision Zero Action Plan in Spring 2024. The Plan outlines actions that MetroPlan Orlando, including its 3 counties and incorporated cities, will take in the next five years and beyond to eliminate deaths and serious injuries on the region's roadways by 2050. The purpose of this Engineering Countermeasure Toolkit is to establish a shared understanding of key strategies available to address roadway safety issues in our community that align with the Safe System Approach. The key objectives of this Toolkit are to:

1. Inform partner jurisdictions about safety treatment options and their appropriate uses and contexts,
2. Communicate safety tools using easy-to-understand language and graphics,
3. Facilitate coordination between staff, contractors, developers, and the community when discussing transportation safety improvements, and
4. Create a shared understanding and realistic expectations around safety treatments.

The Toolkit describes a variety of engineering countermeasures, how they can be applied to address safety, and their expected effectiveness i.e., crash reduction, when available. The expected crash reduction is based on Crash Modification Factors from the Federal Highway Administration's (FHWA) Crash Modification Clearinghouse or other published studies. The Toolkit also includes general information about each tool's application, typical placement, estimated costs, and delivery timelines.

This Toolkit is meant to provide guidance for engineering countermeasures applicable to crashes and safety concerns identified in the MetroPlan Orlando region; it does not provide an exhaustive list of all safety countermeasures. This Toolkit is not meant to replace engineering investigation, feasibility evaluation, and design. The selection of engineering countermeasures for a specific location is always subject to professional judgement and context-sensitive design.

The Engineering Countermeasure Toolkit is also not intended to be a menu from which community members can request safety tools for their street. Before staff consider a tool or tools to use in a certain situation, they must first conduct an analysis to understand the existing safety issue. Therefore, to achieve desired safety benefits, community-reported concerns should focus on

Safe System Framework



Sou.

observing and communicating safety issues rather than asking for specific tools. Non-engineering countermeasures are identified in a separate document.

Systemic Treatments

The implementation of systemic treatments is a common Vision Zero approach that implements low-cost safety measures on a network level to reduce the risk of severe and fatal crashes. The treatments that are typically considered for systemic implementation are relatively effective, lower cost, and well-suited for implementation at multiple locations. Some systemic treatments can be implemented with limited study and design, such as retroreflective signal backplates, high-visibility crosswalks or curb extensions created with paint, bollards, and turn wedges. Although systemic treatments are often discussed in contrast with spot treatments, some treatments may be useful in both spot and systemic safety.

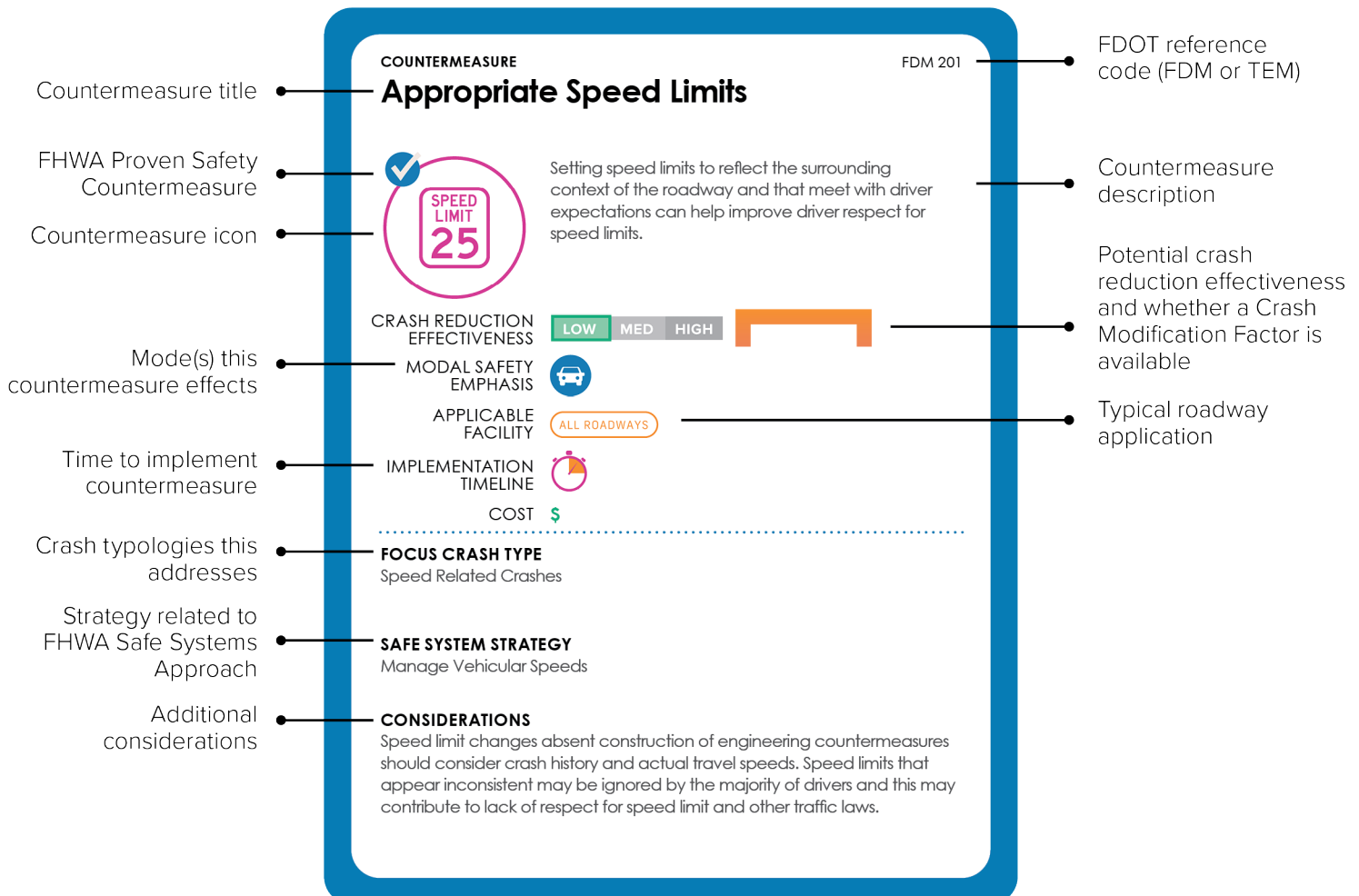
Organization of the Toolkit

The countermeasures are organized into the following categories:

- A. Signals
- B. Signing and Striping
- C. Bikeways
- D. Pedestrian Facilities
- E. Intersections and Roadways
- F. Speed Management
- G. Other Engineering Strategies

For each engineering countermeasure, the following information is provided, with a description of select sections provided below.

What You'll See Inside:



Organization of the Toolkit

Modal Safety Emphasis

Closely related to the countermeasure categories is the "Modal Safety Emphasis" which represents the user group that predominantly benefits from the implementation of the countermeasure. The classification of user groups is not meant to include every possible mode with the understanding that certain countermeasures will benefit modes with closely related travel characteristics. For example, a countermeasure that is designed to reduce left-turn crashes at an intersection will benefit motor vehicles and motorcycles alike. The Modal Safety Emphasis areas include the following user groups:

-  **Pedestrians**
-  **Bicycles**
-  **Motor Vehicles**

Safe System Strategy

Within the Safe System Approach Framework, how we plan, construct, and operate our roadways should anticipate human error and consider human vulnerabilities. Strategies to achieve those goals are highlighted below.

Roads should be designed to encourage appropriate roadway user behavior for the context.

These principles provide a system with built-in redundancies to eliminate or greatly reduce the likelihood of death or serious injury when a crash occurs. However, strategies have varying levels of effectiveness, feasibility, and implementation time frames. FHWA has further developed a draft Safe Systems Solutions Hierarchy (as of July 2023) within the Safe System element of Safe Roads, as described below. Within that framework, the most effective strategies include removing



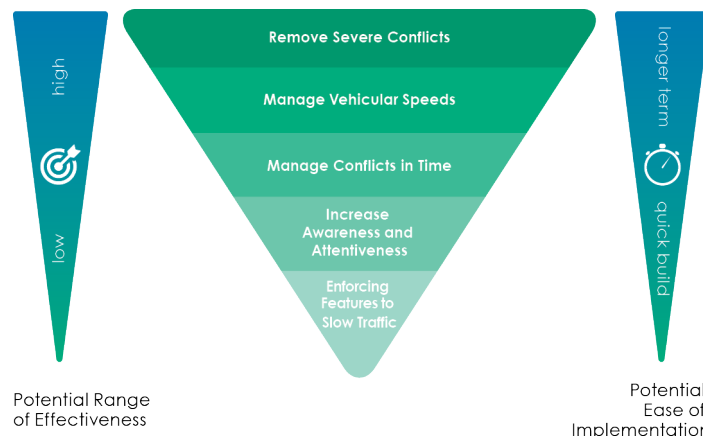
conflicts and minimizing hazards, and where that is not feasible, better management of the conflict through speed reductions and managing conflicts in time.

- **Remove Conflicts:** Eliminate the most severe conflicts between roadway users, such as through the relocation of a utility pole, construction of a roundabout or provision of a median barrier.
- **Manage Vehicular Speeds:** Reduce the speed of vehicles to align with the context of the roadway, the hazards, and conflicts between roadway users; includes horizontal and vertical deflection elements.
- **Manage Conflicts in Time:** Where conflicts cannot be removed, can they be separated in time, through signal timing strategies or providing dedicated space for other roadway users.
- **Increase Attentiveness and Awareness:** Where conflicts cannot be removed, improve the visibility of the conflicts.
- **Implement Enforcing Features to Slow Traffic:** Similar to managing vehicular speeds, these are roadway features that help enforce the desired speed, like speed feedback signs.

Applicable Facility Type

The applicable facility types represent general characteristics for land use and users where each countermeasure might be appropriate. The applicable facilities are categorized using a preliminary context classification system of:

- **Urban Streets** (FDOT Context Classification C4, C5, C6 and CT2)



Organization of the Toolkit

- **Suburban Streets** (C4, C3C and C3R)
- **Rural Roads** (C2)

For purposes of this toolkit, countermeasures for both urban and suburban roadways could be considered on C4 roadways. For strategies related to C1 facilities, please refer to the FDOT Context Classification Guide and the Florida Design Manual (FDM). Some treatments are more appropriate for use on urban arterial streets with higher traffic volumes and a mix of different users, while others are better used on rural roads where speeds tend to be higher. However, choosing the best tool for a location will depend on location-specific characteristics like number of travel lanes, geometry, vehicle speeds, and volumes. The selection of countermeasures should also consider the future roadway context.

Crash Reduction Effectiveness

The potential effectiveness of each countermeasure was based on published research, including information from FHWA's Crash Modification Factor (CMF) Clearinghouse, FHWA's Proven Safety Countermeasures, and other published references (see complete list of references at end of this section). The CMF Clearinghouse provides peer reviewed studies and a link to the applicable study. As this toolkit is intended to be a quick resource guide to help identify the range of potential countermeasures, the anticipated effectiveness of various treatments was summarized into the following categories:

- **Unknown:** No quantitative data is available
- **Low:** Expected Crash Reduction $\leq 30\%$
- **Medium:** $31\% \leq$ Expected Crash Reduction $\leq 60\%$
- **High:** Expected Crash Reduction $\geq 61\%$

The expected crash reduction represents a multiplicative factor indicating the proportion of crashes that are expected to be reduced after the implementation of a countermeasure with the reduction only applying to crashes affected by the countermeasure. For example, changing left-turn phasing would only apply to left-turn crashes on the approach where the countermeasure is being implemented. For locations where more than one countermeasure is being considered, the interaction between countermeasures should be considered. For more information on the application of multiple CMFs, refer to the

"Using CMFs" section of the Crash Modification Clearinghouse (https://www.cmfclearinghouse.org/using_cmfs.php)

Some countermeasures may result in a decrease in some types of crashes and an increase in others. For example, installing a traffic signal may reduce fatal and serious injuries for motorists turning to/from the major roadway, but increase rear end crashes, which tend to result in fewer injuries.

Detailed crash analysis based on the most current crash modification factor is recommended as the intent of the factors provided in this document is to allow for a quick comparison of the expected effectiveness of specific countermeasures relative to their cost as well as highlight the need for additional data to document the effectiveness of specific improvements that may be implemented regionally. The estimated effectiveness of each tool is only applicable to the crash type being mitigated i.e., the Focus Crash Type.

Included in FHWA Proven Safety Countermeasures

This field refers to whether the countermeasure is included in FHWA's Proven Safety Countermeasures Initiative (PSCi). The PSCi is a collection of 28 countermeasures and strategies effective in reducing roadway fatalities and serious injuries. Each countermeasure addresses at least one safety focus area – speed management, intersections, roadway departures, or pedestrians/bicyclists – while others are crosscutting strategies that address multiple safety focus areas.

Cost

The cost information is meant to convey an overall order of magnitude to help compare potential strategies; the cost data does not necessarily reflect the cost of each improvement as a standalone construction project. Most countermeasures would not likely be implemented as a standalone project but incorporated into a larger intersection or corridor enhancement project. For example, many elements could be incorporated into routine resurfacing, restoration, and rehabilitation (RRR) projects. Additionally, costs do not include elements that might be unique to specific projects, such as right-of-way acquisition, need to upgrade drainage systems, retaining walls to facilitate sidewalk construction, need to upgrade other roadway elements to meet Americans with Disabilities Act (ADA) or Public Rights of Way

Organization of the Toolkit

Access requirements (PROWAG) requirements, and other factors. Therefore, actual costs could vary significantly.

The assigned cost ratings for countermeasures are as follows:

- **Low (\$):** Typically, \$10,000 or less
- **Medium (\$\$):** Typically, \$10,000 to \$100,000
- **High (\$\$\$):** Typically, \$100,000 +

The appendix provides more detailed cost estimates for some countermeasures where recent cost data is available from FDOT other local partners; not all countermeasures are included. These costs can be used to develop high-level cost estimates of projects for regional prioritization such that projects across the region can be compared.

Implementation Timeline

This field represents the typical time to implement the countermeasure. It should be noted that there may be some variability in implementation timeline based on whether the countermeasure can be implemented using "Quick Build" materials or permanent materials. The assigned timeline thresholds for implementation are as follows:

-  Quick Build; Typically, within 1 year
-  Short: Typically, within 1 to 3 years
-  Medium: Typically, 3 to 5 years
-  Long: Typically, 5 years and more

Considerations

This section provides some additional information about the countermeasure that need to be part of the evaluation about whether the countermeasure is appropriate for selection. For example, some countermeasures may affect drainage or require additional maintenance.

Where the countermeasure is included or mentioned in the FDOT Design Manual (FDM) or FDOT's Traffic Engineering Manual, the appropriate section is noted.

Additional sources of the countermeasures include:

- CMF Clearinghouse (Federal Highway Administration, 2023) (<http://www.cmfclearinghouse.org/>)
- Application of Pedestrian Crossing Treatments for Streets and Highways (NCHRP, 2016) (https://www.researchgate.net/publication/316091509_Application_of_Pedestrian_Crossing_Treatments_for_Streets_and_Highways)
- Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments (NCHRP, 2017) (<https://www.nap.edu/catalog/24627/development-of-crash-modification-factors-for-uncontrolled-pedestrian-crossing-treatments>)
- Evaluation of Pedestrian-Related Roadway Measures (Pedestrian and Bicycle Information Center, 2014) (http://www.pedbikeinfo.org/cms/downloads/PedestrianLitReview_April2014.pdf)
- Evolution of the Protected Intersection (Alta Planning and Design, December 2015) (<https://altago.com/wp-content/>)

Target Speed

The selection of countermeasures should also consider the target speed of the roadway. To establish a target speed based on the roadway context and the goal of improving transportation safety outcomes, the FDOT Context Based Design Speeds for Arterials and Collectors should be used as a starting point, as presented in Table 1.

Table 1: Allowable Design Speed Range by Context Classification

Context Classification	Allowable Design Speed Range (MPH)	SIS Minimum (MPH)
C1 Natural	55-70	65
C2 Rural	55-70	65
C2T Rural Town	25-45	40
C3 Suburban	35-55	50
C4 Urban General	25-45	45
C5 Urban Center	25-35	35
C6 Urban Core	25-30	30

Source: FDOT Context Classification Guide, February 2022

Guidance from FDOT Central Office related to target speed setting recommends setting an initial target speed on the low end of the allowable range, and then providing justification for increases. From there, the following factors should be used to establish a recommended target speed:

- Fatal and severe injury collision history
- Potential crash risk
- Existing and potential future context classification
- Number of lanes
- Type and density of surrounding land uses
- Number of access points and signal spacing
- Presence and characteristics of on-street parking
- Total pavement width available

Different Types of Speed

Target Speed is the highest speed at which vehicles should operate on a thoroughfare in a specific context, consistent with the level of multi-modal activity generated by adjacent land uses, to provide both mobility for motor vehicles and a supportive environment for pedestrians, bicyclists, and public transit users.

Design Speed is the speed that is used to determine the geometric features of a road or street, such as curves, slopes, lane width, intersection spacing, sight distance and other features.

Speed Limits specify the maximum speed people are permitted to drive on a road, typically shown on signs along the road, and usually determined based on an engineering study that considers the prevailing travel speeds.

Operating Speed refers to the speed at which people are observed driving under free-flow conditions.

Under ideal conditions, target, design, posted and operating speeds all align. When there are discrepancies, roadway design elements may need to be changed to achieve the desired speed outcomes.

- Presence of transit, pedestrian generators, and bicycle activity
- Bicycle facility type
- Posted speeds on surrounding roadways
- Types of travelers (regional or local)
- Level of truck traffic

Additional guidance can be found in the FDOT Context Classification Guide, February 2022 as well as the Speed Management section of the 2024 FDOT Design Manual.

References

[uploads/Evolution-of-the-Protected-Intersection_ALTA-2015.pdf](#))

- Manual for Selecting Safety Improvements on High Risk Rural Roads (FHWA, 2014) (<https://safety.fhwa.dot.gov/hsip/hrrr/manual/>)
- Pedestrian Safety Guide and Countermeasure Selection System (FHWA) (<http://www.pedbikesafe.org/pedsafe/>)
- Proven Safety Countermeasures (FHWA), (<https://highways.dot.gov/safety/proven-safety-countermeasures>)

Transportation safety countermeasure information is quickly evolving and users of this document are encouraged to use the most current information available.

Cost information based on FDOT cost per mile model reports:

<https://www.fdot.gov/programmanagement/estimates/documents/costpermilemodelsreports>)

Countermeasure List

SUMMARY OF COUNTERMEASURES



FHWA PROVEN SAFETY COUNTERMEASURE

A. SIGNALS

[Advanced Dilemma Zone Detection](#)
[Audible Push Button Upgrade](#)
[Bicycle Signal/Exclusive Bike Phase](#)
[Bike Detection](#)
[Extend Green Time For Bikes](#)
[Extend Pedestrian Crossing Time](#)
[Extend Yellow and All Red Time](#) ✓
[Extended Time Pushbutton](#)
[Flashing Yellow Turn Phase](#)
[Leading Pedestrian Interval and Pedestrian Recall](#) ✓
[Pedestrian Countdown Timer](#)
[Pedestrian Detection](#)
[Pedestrian Scramble](#)
[Prohibit Right-Turn-on-Red](#)
[Prohibit Turns During Pedestrian Phase](#)
[Protected Left Turns](#)
[Red Light Camera](#)
[Separate Right-Turn Phasing](#)
[Shorten Cycle Length](#)
[Signal Interconnectivity and Coordination / Green Wave](#)
[Signal Preemption](#)
[Supplemental Signal Heads](#)
[Traffic Signal](#)
[Upgrade Signal Head](#)

B. SIGNING AND STRIPING

[Advance Stop Bar](#)
[Advance Yield Markings](#)
[Chevron Signs on Horizontal Curves](#) ✓
[Curve Advance Warning Sign](#) ✓
[Flashing Beacon as Advance Warning](#)
[LED-Enhanced Sign](#)
[Painted Centerline and Raised Pavement Markers at Curves](#)
[Pavement Speed Legends](#)
[Prohibit Left Turn](#)
[Striping Through Intersection](#)
[Time-Based Turn Restriction](#)
[Upgrade Intersection Pavement Markings](#)
[Upgrade Signs with Fluorescent Sheeting](#)
[Upgrade Striping](#)
[Upgrade to Larger Warning Signs](#)
[Wayfinding](#)
[Yield To Pedestrians Sign](#)

C. BIKEWAYS

[Bicycles May Use Full Lane Sign](#)
[Bike Lane/Buffered/Separated Bike Lane](#) ✓
[Floating Transit Island](#)
[Mixing Zone](#)
[Parking Buffer](#)
[Separated Bikeway](#) ✓
[Two-Stage Turn Queue Bike Box](#)

D. PEDESTRIAN FACILITIES

[Add Sidewalk](#) ✓
[Co-locate Bus Stops and Pedestrian Crossings](#)
[Curb Extensions](#)
[High-Visibility Crosswalk](#)
[Install/Upgrade Pedestrian Crossing at Uncontrolled Locations](#)
[Pedestrian Hybrid Beacon](#) ✓
[Rectangular Rapid Flashing Beacon](#) ✓
[Restripe Crosswalk](#)
[Shared Use Path](#)
[Widen Sidewalk](#)

E. INTERSECTIONS AND ROADWAYS

[All-Way Stop Control](#)
[Bicycle Crossing \(Solid Green Paint\)](#)
[Bike Box](#)
[Centerline Hardening](#)
[Close Slip Lane](#)
[Crosswalk Density](#)
[Curb-Return Radius Reduction](#)
[Delineators, Reflectors, and/or Object Markers](#)
[Directional Median Openings to Restrict Left Turns](#)
[Doubled-up, Oversized Stop Signs](#) ✓
[Enhanced Daylighting/Slow Turn Wedge](#)
[Extend Bike Lane to Intersection](#)
[Gateway Treatments](#)
[Green Conflict Striping](#)
[Guardrail](#)
[Hardened Median Nose Extension](#)
[High Friction Surface Treatment](#) ✓
[Impact Attenuators](#)
[Intersection Reconstruction and Tightening](#)
[Lane Repurposing](#) ✓
[Median Barrier](#) ✓
[On-Street Parking](#)
[Paint and Plastic Median](#)
[Paint and Plastic Mini Circle/Mini Roundabout](#)
[Partial Closure/Diverter](#)
[Protected Intersection](#)
[Raised Crosswalk](#)
[Raised Intersection](#)
[Raised Median](#) ✓
[Reduced Left-Turn Conflict Intersection](#) ✓
[Refuge Island](#) ✓
[Retroreflective Signal Backplates](#) ✓
[Roundabout](#) ✓
[Rumble Strips](#) ✓
[Safety Edge](#) ✓
[Speed Hump, Speed Table or Speed Cushion](#)
[Straighten Crosswalk](#)
[Superelevation at Horizontal Curve Locations](#)
[Widen/Pave Shoulder](#)

F. SPEED MANAGEMENT

[Appropriate Speed Limits](#) ✓
[Chicane](#)
[Landscape Buffer](#)
[Lane Narrowing](#)
[Speed Cameras](#) ✓
[Speed Feedback Sign](#)
[Speed Sensitive Rest on Red](#)
[Variable Speed Limits](#) ✓

G. OTHER ENGINEERING STRATEGIES

[Access Management/Close Driveway](#) ✓
[Create or Increase Clear Zone](#)
[Far-Side Bus Stop](#)
[Intersection Lighting](#) ✓
[Relocate Select Hazardous Utility Poles](#)
[Remove Obstructions For Sightlines](#)
[Segment Lighting](#) ✓
[Upgrade Lighting to LED](#)

A. Signals

Under the signal timing and phasing category, strategies relate to changing signal timing based on local context, such as extending the pedestrian time if there are large volumes of pedestrians, or if pedestrians are not able to cross the intersection within the time allotted. Extending yellow and red time can help clear the intersection and reduce the potential for red light running. Additional signal heads can increase visibility. In locations where there are high pedestrian and bicycle volumes, right-turning vehicles may not be able to turn when they have a green light due to pedestrians in the crosswalk. Providing a separate right-turn phase could help clear right-turning vehicles and reduce conflicts with pedestrians.

Sometimes giving people walking a head start can make them more visible to people driving. Installing a new traffic signal or pedestrian signal can help allocate the right-of-way, reduce conflicting movements, and provide pedestrians a protected crossing. In heavy pedestrian areas, installing a pedestrian scramble where all vehicles must stop, and pedestrians can cross diagonally can be a more efficient way to operate the intersection and reduce vehicle conflicts with pedestrians. Pedestrian recall provides a WALK signal each cycle without pedestrians having to push buttons.

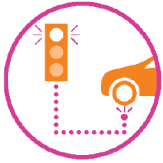
Other strategies such as converting permissive lefts to protected lefts (at least when the pedestrian crossing is activated) can be highly effective in reducing conflicts with pedestrians. Reducing cycle length can decrease pedestrian delay which can reduce the occurrence of pedestrians crossing against the signal and red-light running.

Strategies included in this section are:

1. Advanced Dilemma Zone Detection
2. Audible Push Button Upgrade
3. Bicycle Signal/Exclusive Bike Phase
4. Bike Detection
5. Extend Green Time For Bikes
6. Extend Pedestrian Crossing Time
7. Extend Yellow and All Red Time
8. Extended Time Pushbutton
9. Flashing Yellow Turn Phase
10. Leading Pedestrian Interval and Pedestrian Recall
11. Pedestrian Countdown Timer
12. Pedestrian Detection
13. Pedestrian Scramble
14. Prohibit Right-Turn-on-Red
15. Prohibit Turns During Pedestrian Phase
16. Protected Left Turns
17. Red Light Camera
18. Separate Right-Turn Phasing
19. Shorten Cycle Length
20. Signal Interconnectivity and Coordination / Green Wave
21. Signal Preemption
22. Supplemental Signal Heads
23. Traffic Signal
24. Upgrade Signal Head



Advanced Dilemma Zone Detection



System that adjusts the start time of the yellow-signal phase (i.e. earlier or later) based on observed vehicle locations and speed, improving safety by minimizing the number of drivers that are faced with the dilemma of determining if they should stop or drive through the intersection.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH	CMF Available
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	ALL ROADWAYS			
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Angle crashes and red-light running crashes.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Home

Audible Push Button (APB) Upgrade

TEM 3.7



Push buttons must comply with the Americans with Disability Act (ADA) standards and Public Right-of-Way Accessibility Guidelines (PROWAG) for accessibility. Accessible pedestrian signals, including audible push buttons, improve access for pedestrians who are blind or have low vision.

CRASH REDUCTION EFFECTIVENESS	UNKNOWN
MODAL SAFETY EMPHASIS	
APPLICABLE FACILITY	ALL ROADWAYS
IMPLEMENTATION TIMELINE	
COST	\$

FOCUS CRASH TYPE

Through vehicles at signalized intersection and pedestrian struck by turning vehicle.

SAFE SYSTEM STRATEGY

Manage conflicts in time, and increase attentiveness and awareness.

CONSIDERATIONS

Accessible Pedestrian Signals (APS) is now required on any new or modified traffic signal with a pedestrian crossing.

Home

Bicycle Signal/Exclusive Bike Phase

FDM 223.2.4.5



A separate bicycle signal or phase reduces conflicts between motor vehicle, transit vehicles, and pedestrian movements.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH
MODAL SAFETY EMPHASIS			
APPLICABLE FACILITY	URBAN	SUBURBAN	
IMPLEMENTATION TIMELINE			
COST	\$\$\$		

FOCUS CRASH TYPE

Motorist turns left in path of bicyclist, motorist turns right in path of bicyclist, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Signal phasing strategies should balance the trade-offs between comfort and convenience for bicyclists, pedestrians and motorists.

Home

Bike Detection

FDM 223.2.1.5 , TEM 5.2.7.5



Loops, cameras, or infrared cameras that call green lights for cyclists, discouraging red light running and reducing bicyclist delay.

CRASH REDUCTION EFFECTIVENESS	UNKNOWN	
MODAL SAFETY EMPHASIS		
APPLICABLE FACILITY	URBAN	SUBURBAN
IMPLEMENTATION TIMELINE		
COST	\$\$	

FOCUS CRASH TYPE

Motorist turns left in path of bicyclist, motorist turns right in path of bicyclist, motorist failed to yield at signalized intersection and bicyclist violating signal.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

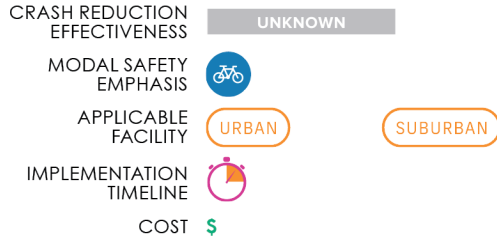
At large intersections, integrate with signal operations to extend all red time when bicyclists are detected.

Home

Extend Green Time For Bikes



Prolonged green light time for cyclists when detected, allowing for more time to cross.



FOCUS CRASH TYPE

Motorist turns left in path of bicyclist, motorist turns right in path of bicyclist, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

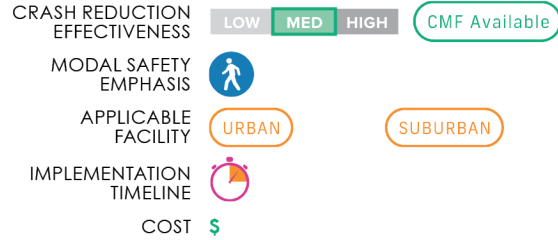
When used in a coordinated system, different timing plans may be needed. Topography should be considered in clearance time.

[Home](#)

Extend Pedestrian Crossing Time



Increases time for pedestrian walk phases, especially to accommodate vulnerable populations, such as children and the elderly.



FOCUS CRASH TYPE

Through vehicle at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

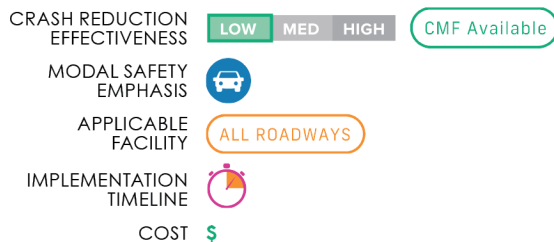
May need to be implemented as part of an overall retiming project.

[Home](#)

Extend Yellow and All Red Time



Extending yellow and all red time provides additional time for drivers, bicyclists and pedestrians to cross through a signalized intersection before conflicting traffic movements are permitted.



FOCUS CRASH TYPE

Angle crashes and red light running crashes.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

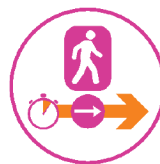
CONSIDERATIONS

May need to be implemented as part of an overall retiming project.

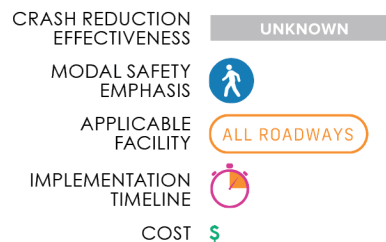
[Home](#)

Extended Time Pushbutton

FDM 232.6



A pushbutton that can be pressed to request extra time for using the crosswalk.



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, and through vehicle at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

May require education for full benefit. Candidate locations are in communities with high populations of people with mobility challenges.

[Home](#)

Flashing Yellow Turn Phase



Flashing yellow turn arrow alerts drivers to proceed with caution and decide if there is a sufficient gap in oncoming traffic to safely make a turn.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH	CMF Available
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	URBAN		SUBURBAN	
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Left turn crashes.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Should only be used when a pedestrian walk phase is not called.

[Home](#)

Leading Pedestrian Interval and Pedestrian Recall

TEM 3.11.5.2



Signal timing that allows pedestrians to enter intersections before vehicles are given a green indication allowing them to better establish their presence and increase their visibility.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH	CMF Available
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	URBAN		SUBURBAN	
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle and motorist turns right in path of bicyclist.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

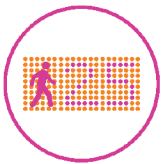
CONSIDERATIONS

If intersection is part of a coordinated system, consideration should be given to signal timing changes at upstream and downstream intersections.

[Home](#)

Pedestrian Countdown Timer

FDM 232.6



Displays "countdown" of seconds remaining on the pedestrian signal, discouraging pedestrians from starting a crossing with little time remaining.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH	CMF Available
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	ALL ROADWAYS			
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, and through vehicle at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Countdown timers are required for all newly installed traffic signals where pedestrian signals are installed.

[Home](#)

Pedestrian Detection

FDM 232.6, TEM 5.2.7.5



A device that detects when a pedestrian is waiting at a crosswalk and automatically triggers the pedestrian "WALK" phase.

CRASH REDUCTION EFFECTIVENESS	UNKNOWN			
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	URBAN		SUBURBAN	
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle and through vehicle at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Selection of appropriate detection system that reduces the potential for false detection is recommended.

[Home](#)

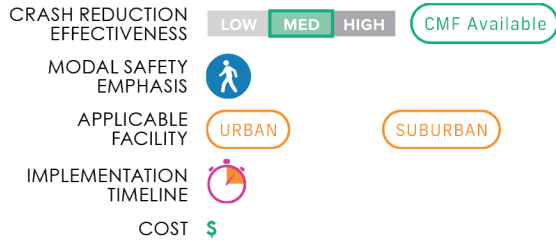


TEM 3.11.3

Pedestrian Scramble



A form of pedestrian "WALK" phase at a signalized intersection in which all vehicular traffic is required to stop, allowing pedestrians to cross in any direction.



FOCUS CRASH TYPE

Pedestrian crashes.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

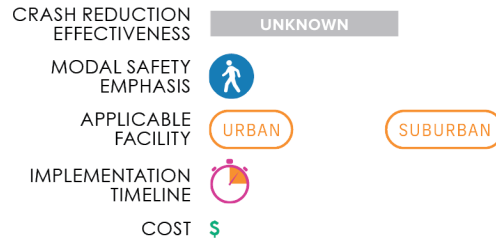
Significant levels of crossing activity may be required to justify phasing type.

[Home](#)

Prohibit Right-Turn-on-Red



Prohibiting right-run-on-red movements can be used in locations where obstructions prevent right-turning vehicles from seeing on-coming traffic or where high pedestrian volumes are present.



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

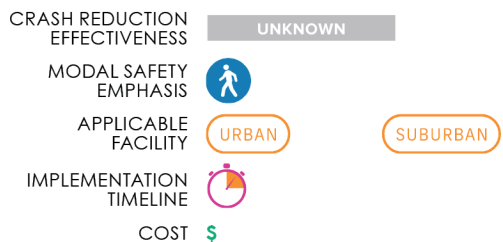
May require provision of right-turn-only lane if there are conflicts between right-turning vehicles and pedestrians.

[Home](#)

Prohibit Turns During Pedestrian Phase



Restricts left or right turns during the pedestrian crossing phase at locations where a turning vehicle may conflict with pedestrians in the crosswalk.



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, motorist turned left in path of bicyclist, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

This restriction may be displayed with a blank-out sign. May affect operations for right-turn vehicles. May require extending storage to avoid spillback into adjacent through lane

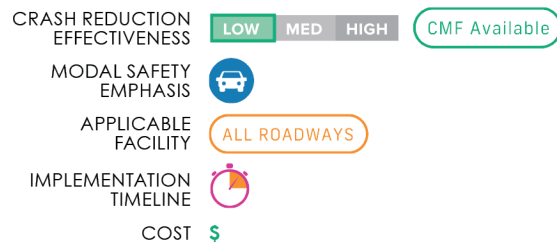
[Home](#)

FDM 232.2

Protected Left Turns



Converting a permissive left-turn to a protected left turn phase can reduce angle crashes involving left turning, opposing through vehicles, and non-motorized road users.



FOCUS CRASH TYPE

Left turn crashes, pedestrian struck by turning vehicle, and motorist turned left in path of bicyclist.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

May require an increase in left-turn queue storage or green time. If new or modified signal heads are required, or if traffic controller equipment needs to be upgraded, cost could be significantly higher.

[Home](#)

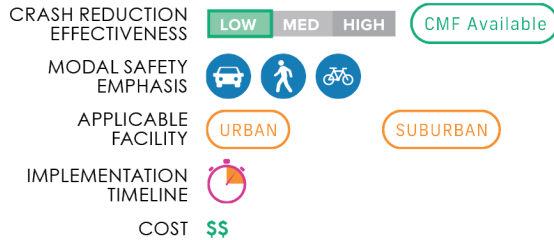


Red Light Camera

FDM 223.2.1.4



A red light camera enforces traffic signal compliance by capturing the image of a vehicle that has entered an intersection during the red phase with the photographic evidence used to issue a traffic violation to registered owner of vehicle.



FOCUS CRASH TYPE

Angle crashes and left turn crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness, and implement enforcing features to slow traffic.

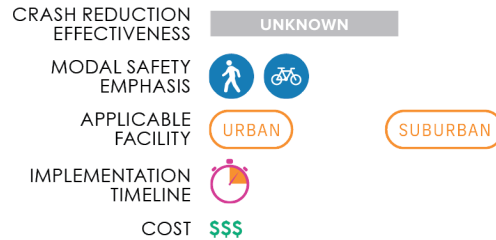
CONSIDERATIONS

Home

Separate Right-Turn Phasing



Provides a green arrow phase for right-turning vehicles, reducing conflicts between right-turning traffic and bicyclists or pedestrians crossing the intersection.



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

May need to be implemented as part of an overall retiming project. U-Turns may need to be prohibited for movements affected by right-turn phasing.

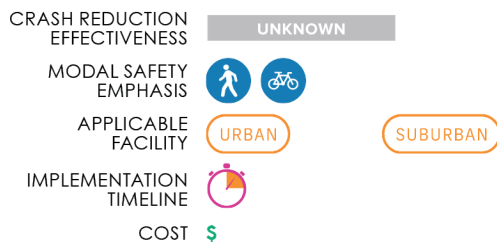
Home

Shorten Cycle Length

TEM 3.11.4



Shorter cycle lengths can reduce the frequency of violations of the traffic control device.



FOCUS CRASH TYPE

Dart/dash.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Should be implemented as part of a corridor or area wide traffic signal retiming program. Short cycle lengths of 60–90 seconds are ideal for urban areas.

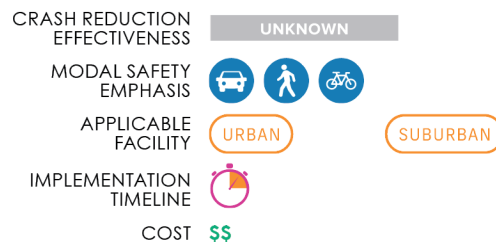
Home

Signal Interconnectivity and Coordination/Green Wave

FDM 201.1.1



The emphasis of improving signal coordination for this countermeasure is to provide an opportunity for signal coordination for a desired speed outcome.



FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and implement enforcing features to slow traffic.

CONSIDERATIONS

Coordinating signals to allow for bicyclist progression, also known as a 'green wave,' gives bicyclists and pedestrians more time to safely cross through the 'green wave' intersections. Emergency vehicle preemption and phasing extensions under other strategies may need to be considered.

Home



Signal Preemption



Allows an authorized operator to override the normal operation of traffic lights, mostly used in the path of an emergency vehicle to reduce conflicts and decrease emergency vehicle response time.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Varies depending on application context.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Other applications include at railroad crossings as well as school zones where there can be high volumes of pedestrians/bicyclists for short periods of time.

Home

FDM 232.1.6, FDM 232.2

Supplemental Signal Heads



Additional signal heads allow drivers to anticipate signal changes farther away from intersections or when there are visibility issues, such as a curve or bridge structure.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Angle crashes and left turn crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

When new signal heads are added, structural analysis may be required due to the added wind load. Supplemental traffic signals may be placed on the near side of an intersection, far-left, far-right, or very high.

Home

Traffic Signal

FDM 232



Traffic signals allocate the right-of-way to different traffic movements and provide controlled crossings for non-motorized users.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Angle crashes and left turn crashes.

SAFE SYSTEM STRATEGY

Remove severe conflicts and manage conflicts in time.

CONSIDERATIONS

While traffic signals have been shown to reduce the most severe types of crashes, they can result in an increase in rear-end collisions.

Home

Upgrade Signal Head



Replacing 8-inch signal heads with 12-inch signal heads improves visibility of signals and aiding drivers' advanced perception of upcoming intersections.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Angle crashes and left turn crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Structural analysis may be required due to the added wind load.

Home

B. Signing and Striping

Installing additional signs and pavement markings can be a low-cost way to improve safety outcomes. However, to be effective, they often need to be implemented with other roadway modifications for maximum effectiveness, and sign clutter should be avoided. These types of projects can often be implemented with planned Resurfacing, Restoration and Rehabilitation (RRR) projects.

Strategies included in this section are:

1. Advance Stop Bar
2. Advance Yield Markings
3. Chevron Signs on Horizontal Curves
4. Curve Advance Warning Sign
5. Flashing Beacon as Advance Warning
6. LED-Enhanced Sign
7. Painted Centerline and Raised Pavement Markers at Curves
8. Pavement Speed Legends
9. Prohibit Left Turn
10. Striping Through Intersection
11. Time-Based Turn Restriction
12. Upgrade Intersection Pavement Markings
13. Upgrade Signs with Fluorescent Sheeting
14. Upgrade Striping
15. Upgrade to Larger Warning Signs
16. Wayfinding
17. Yield To Pedestrians Sign



FDM 230.6

Advance Stop Bar



Stop lines placed in advance of pedestrian crossings increasing visibility of pedestrians and reducing crossing encroachment.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST

\$

FOCUS CRASH TYPE

Multiple threat/trapped.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Creating a wider stop bar or setting the stop bar further back may be appropriate for locations with known crosswalk encroachment issues.

Home

FDM 230.6

Advance Yield Markings



A yield line placed in advance of pedestrian crossings to indicate where a vehicle stop is intended, increasing visibility of pedestrians and reducing crossing encroachment.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST

\$

FOCUS CRASH TYPE

Multiple threat/trapped.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Can be paired with other treatments, like RRFs and/or high visibility crosswalks.

Home

TEM 4.5.4

Chevron Signs on Horizontal Curves



Signs that warn drivers of an approaching curve and provide tracking information.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

SUBURBAN

RURAL

IMPLEMENTATION TIMELINE



COST

\$

FOCUS CRASH TYPE

Collision with fixed objects, and run off the road crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Can be paired with other treatments, like rumble strips.

Home

TEM 2.41.3

Curve Advance Warning Sign



Signage that notifies drivers of an approaching curve providing additional reaction time to slow down.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

SUBURBAN

RURAL

IMPLEMENTATION TIMELINE



COST

\$

FOCUS CRASH TYPE

Collision with fixed objects and run off the road crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

This warning sign is ideally combined with other infrastructure that alerts drivers of the curve, such as chevron signs, delineators, and flashing beacons.

Home



FDM 202.3.13, TEM 3.1

Flashing Beacon as Advance Warning



Device paired with signage can notify motorists of an upcoming intersection or crosswalk, providing additional reaction time.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Angle crashes, through vehicle at signalized intersection, and right turn crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Solar powered units can reduce construction costs associated with providing electricity. Beacon can also be used as an advance warning for red light ahead (typically when visibility to the signal is compromised by horizontal or vertical curve).

Home

LED-Enhanced Sign



Signage with LED lights embedded in the outline increasing sign visibility and are most effective at locations with visibility limitations or with a documented history of drivers failing to see or obey the sign.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Angle crashes, motorist failed to yield at unsignalized intersection, and through vehicle at unsignalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

The LEDs may be set to flash or operate in a steady mode.

Home

Painted Centerline and Raised Pavement Markers at Curves



A raised pavement marker is a small device attached to the road and used as a positioning guide for drivers.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Head on, collision with fixed objects, and run off the road crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Home

FDM 202.3.10

Pavement Speed Legends



Speed legends are numerals painted on the roadway indicating the current speed limit in mph, usually placed near speed limit signposts.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

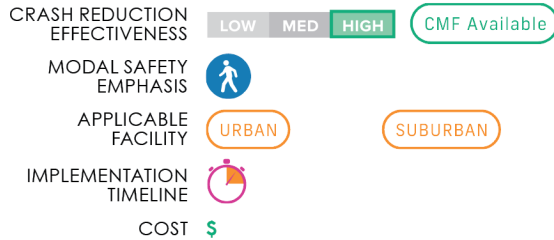
Home



Prohibit Left Turn



Prohibitions of left turns at locations where a turning vehicle may conflict with pedestrians in the crosswalk or where opposing traffic volume is high and there is not sufficient room for a separate turn lane.



FOCUS CRASH TYPE

Left turn crashes, pedestrian struck by turning vehicle, and motorist turned left in path of bicyclist.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

U-turns may need to be accommodated elsewhere on the corridor.

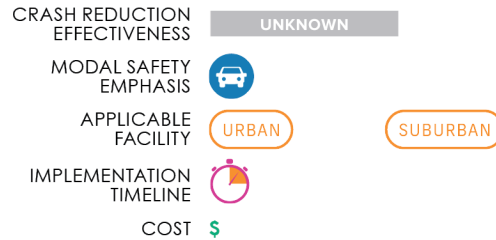
Home

Striping Through Intersection

FDM 230



Pavement markings that guide vehicles through intersections which helps drivers remain in their lanes throughout an intersection.



FOCUS CRASH TYPE

Sideswipes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

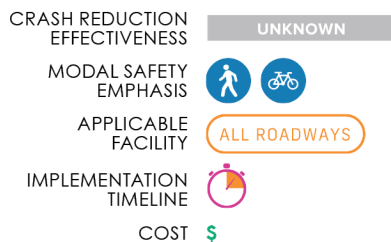
CONSIDERATIONS

Home

Time-Based Turn Restriction



Restricts left-turns or right-turns during certain time periods when there may be increased potential for conflict (e.g., peak periods, school hours).



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, motorist turned left in path of bicyclist, and motorist turned right in path of bicyclist.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

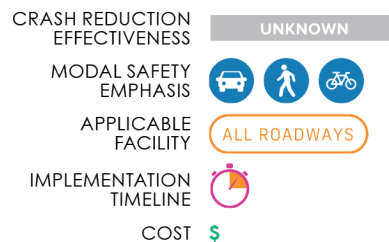
If not enforced, could limit effectiveness.

Home

Upgrade Intersection Pavement Markings



Upgrading intersection pavement markings can improve safety by increasing the visibility of intersections for drivers approaching and at the intersection.



FOCUS CRASH TYPE

Angle crashes, through vehicle at unsignalized intersection, and motorist failed to yield at unsignalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Upgrading intersection pavement marking can include "Stop Ahead" markings and the addition of centerlines and stop bars.

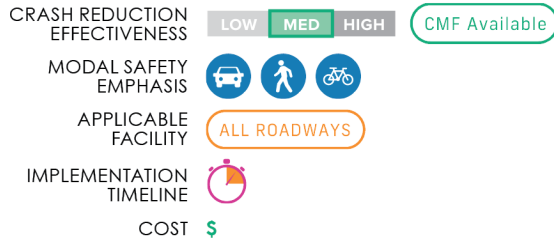
Home



Upgrade Signs with Fluorescent Sheeting



Upgrading to signs with retroreflective sheeting improves safety by increasing visibility of signs to drivers at night.



FOCUS CRASH TYPE
Nighttime crashes.

SAFE SYSTEM STRATEGY
Increase attentiveness and awareness.

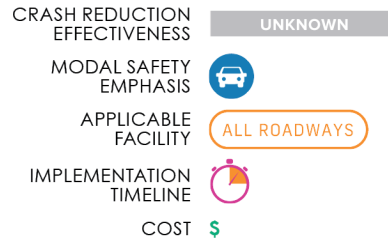
CONSIDERATIONS
Depending on sign locations, a structural/wind analysis may need to be conducted.

Home

Upgrade Striping



Restripe lanes with reflective striping to improve striping visibility and clarify lane assignment, especially where the number of lanes changes.



FOCUS CRASH TYPE
Sideswipes.

SAFE SYSTEM STRATEGY
Increase attentiveness and awareness.

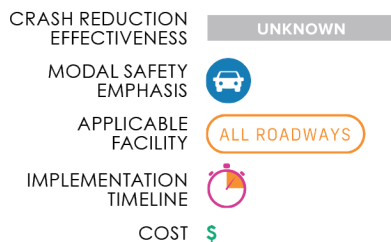
CONSIDERATIONS

Home

Upgrade to Larger Warning Signs



Upgrading to larger warning signs improves safety by increasing visibility of the information provided, particularly for older drivers.



FOCUS CRASH TYPE
Crashes involving older drivers.

SAFE SYSTEM STRATEGY
Increase attentiveness and awareness.

CONSIDERATIONS

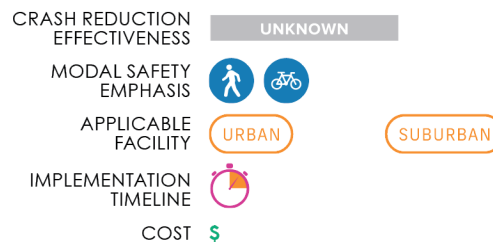
Home

Wayfinding

FDM 223.6, TEM 2.36



A network of signs that highlight nearby pedestrian and bicycle facilities and guide users to the most appropriate crossing locations.



FOCUS CRASH TYPE
Pedestrian and bicycle crashes.

SAFE SYSTEM STRATEGY
Increase attentiveness and awareness.

CONSIDERATIONS

Home

Yield To Pedestrians Sign

TEM 2.39



“Yield Here to Pedestrians” signs alert drivers about the presence of pedestrians. These signs are required with advance yield lines. Other sign types can be placed on the centerline in the roadway.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS





APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST

\$

FOCUS CRASH TYPE
Through vehicle at unsignalized intersection, motorist failed to yield at unsignalized intersection.

SAFE SYSTEM STRATEGY
Increase attentiveness and awareness.

CONSIDERATIONS
May need to be paired with education and enforcement.

Home

C. Bikeways

In the MetroPlan Orlando region, people bicycling are overrepresented in collisions where someone is seriously injured or killed. Providing dedicated space for cyclists separate from high-speed vehicle traffic can improve safety outcomes. Where dedicated space cannot be provided or there is a high density of conflict areas such as driveways or side streets, managing vehicle speeds, increasing visibility, and improving the predictability of roadway users can help to manage and reduce those conflicts and is critical to improving safety outcomes.

One of the most effective measures is a dedicated pathway separate from vehicle travel. While bike lanes may help to reduce the potential for a collision by making drivers aware of the likely presence of bicyclists, they are not as effective as a separate path with minimal conflicts with side-streets or driveways especially on higher speed roadways. People bicycling are particularly vulnerable in conflict zones.

Some countermeasures aim to increase cyclist visibility in conflict zones and provide clear direction to other roadway users. In areas where there is constrained right-of-way, signing and pavement markings can be effective. However, like most strategies these are context specific. For example, shared lane markings are appropriate on roadways with vehicle travel speeds of less than 25 mph and daily traffic volumes of less than 2,000. As speeds and traffic volumes increase, additional separation should be provided between vehicles and cyclists. The strategies below assume that other roadway design elements are incorporated to manage vehicle speeds to an appropriate level for the proposed bicycle facility.

Strategies included in this section are:

1. Bicycles May Use Full Lane Sign
2. Bike Lane/Buffered/Separated Bike Lane
3. Floating Transit Island
4. Mixing Zone
5. Parking Buffer
6. Separated Bikeway
7. Two-Stage Turn Queue Bike Box

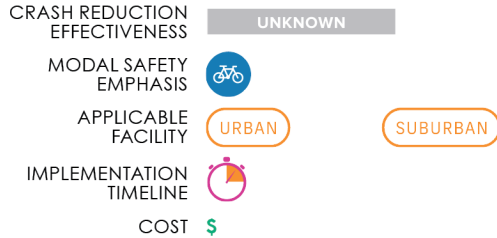


Bicycles May Use Full Lane Sign

TEM 2.11.3



Signage that indicates cyclists may use the full lane, discouraging unsafe motorist passage.



FOCUS CRASH TYPE

Vehicle overtakes bicycle, motorist turns right in path of bicyclist, and bicycle crashes at driveways.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

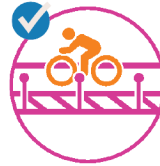
CONSIDERATIONS

Volumes and number of conflicts need to be considered in the selection of this treatment.

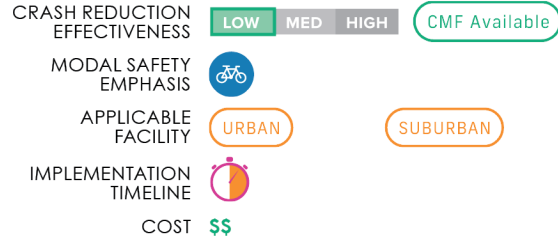
Home

Bike Lane/Buffered/Separated Bike Lane

FDM 223.2.1



Separate lanes marked with symbols and signs specifically for bicycles, reducing bike/vehicle conflicts and slowing vehicle speeds via the road-narrowing effect.



FOCUS CRASH TYPE

Vehicle overtakes bicycle.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Consult FHWA Bikeway Selection Guide.

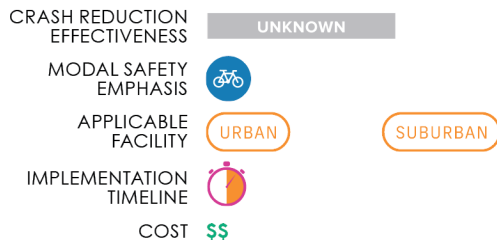
Home

Floating Transit Island

FDM 210.3.2.3



Separates the bike facility and transit boarding area, reducing conflict between the two modes, and lowering the risk of collision.



FOCUS CRASH TYPE

Bike/pedestrian crashes.

SAFE SYSTEM STRATEGY

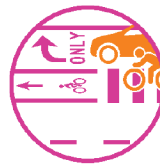
Manage conflicts in time.

CONSIDERATIONS

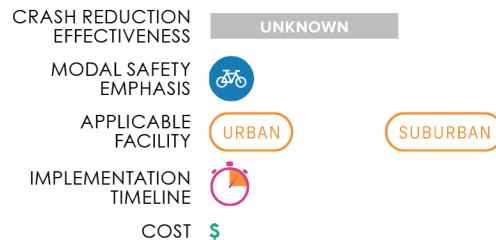
Drainage and ADA requirements should be considered.

Home

Mixing Zone



Lane markings to delineate space for bicyclists and motorists within the same lane and indicate the intended path for bicyclists to reduce conflict with turning motor vehicles.



FOCUS CRASH TYPE

Motorist turns right in path of bicyclist.

SAFE SYSTEM STRATEGY

Manage conflicts in time, and increase attentiveness and awareness.

CONSIDERATIONS

May not be appropriate at intersections with very high peak automobile right turn demand.

Home



FDM 223.4

Parking Buffer



Pavement markings denoting door zone of parked vehicles to help bicyclists maintain safe positioning on the roadway

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Dooring.

SAFE SYSTEM STRATEGY

Remove severe conflicts, manage conflicts in time, and increase attentiveness and awareness.

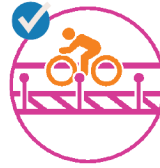
CONSIDERATIONS

Door zones should be a minimum of 3 feet.

[Home](#)

FDM 223.2.4

Separated Bikeway



A bikeway with physical separation (horizontal and vertical) from vehicle traffic, designated lane markings, pavement legends, and signage, which reduces conflicts between bicycles and vehicles on the road.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Vehicle overtakes bicycle.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

A raised barrier of plastic posts and painted pavement is a low-cost/quick build option. Special treatments may be needed at driveways/intersections.

[Home](#)

FDM 223.2.1.5

Two-Stage Turn Queue Bike Box



Roadway treatment for left turns at signalized intersections from the right-side bike lane protecting bicyclists from traffic.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Motorist failed to yield at signalized intersection, and bicyclist turned left into path of motorist.

SAFE SYSTEM STRATEGY

Manage conflicts in time and increase attentiveness and awareness.

CONSIDERATIONS

Prohibition of right turns on red may be required.

[Home](#)

D. Pedestrian Facilities

People walking are also overrepresented in collisions in the MetroPlan Orlando region where someone is killed or seriously injured. Providing more visible and frequent marked and controlled crossings, decreasing pedestrian crossing distance, and extending the amount of time to cross the street can help to reduce collisions. Many of these strategies also benefit other modes of travel although the primary benefit is to people walking.

Lighting is also a key element and can improve the visibility of all roadway users. Pedestrian detection can be used at trail crossings where users might not activate the crossing signal. Installing a median barrier can be a way to discourage pedestrian crossings, however a review of the pedestrian desire lines in the area should be conducted as there may be a reason, such as a bus stop on one side of the street and a shopping center or apartment complex on the other side. It is unlikely and unrealistic to expect pedestrians to walk a significant distance out of their way to use a protected crossing, especially in Florida weather. Typically, people are not willing to walk more than 300 to 400 feet to a crossing and while it may not be practical to install a pedestrian crossing every 600 to 800 feet (such that you are never farther than 300 to 400 feet from the nearest crossing), other strategies such as relocating a bus stop could also be part of the solution.

Strategies included in this section are:

1. Add Sidewalk
2. Co-Locate Bus Stops and Pedestrian Crossings
3. Curb Extensions
4. High-Visibility Crosswalk
5. Install/Upgrade Pedestrian Crossing at Uncontrolled Locations
6. Pedestrian Hybrid Beacon
7. Rectangular Rapid Flashing Beacon
8. Restripe Crosswalk
9. Shared Use Path
10. Widen Sidewalk



Add Sidewalk

FDM 222.2.1



Adding sidewalks provides a separated and continuous facility for people to walk along the roadway, and reduces the potential for people walking in the roadway, conflicting with vehicle travel.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Pedestrian walking along roadway.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

In combination with new sidewalks, appropriate marked and controlled crossing locations should be identified.

Home

Co-locate Bus Stops and Pedestrian Crossings

FDM 222.2.8



Place bus stops and pedestrian crossings in close proximity to allow transit riders to cross the street safely.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Dart/dash and multiple threat/trapped.

SAFE SYSTEM STRATEGY

Remove severe conflicts, and increase attentiveness and awareness.

CONSIDERATIONS

Could include relocation of existing bus stops, or installation of new crossing treatments.

Home

Curb Extensions

FDM 202.3.12, TEM 5.2.7.5



A traffic calming measure that extends the sidewalk for a short distance at a crossing location to reduces the crossing distance and increase visibility.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Dart/dash, multiple threat/trapped, pedestrian struck by turning vehicle, through vehicle at unsignalized intersection, and through vehicle at signalized intersection.

SAFE SYSTEM STRATEGY

Manage vehicular speeds, and increase attentiveness and awareness.

CONSIDERATIONS

Drainage and ADA requirements should be considered. Paint and plastic curb extensions are a low-cost/quick build option.

Home

High-Visibility Crosswalk

FDM 230.3.1



Crosswalks made from high-visibility material, such as thermoplastic tape, instead of paint, improving safety by increasing the visibility of marked crosswalks.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, and through vehicle at signalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Crosswalk treatments should consider wear patterns and maintenance requirements.

Home

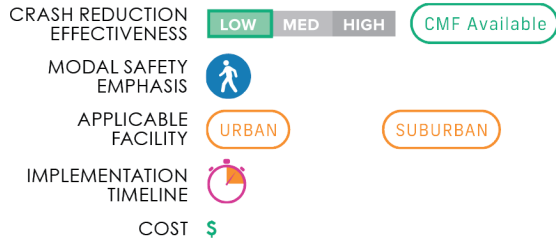


FDM 222.2.3

Install/Upgrade Pedestrian Crossing at Uncontrolled Locations (Signs and Markings Only)



Marked crossings can channelize pedestrian travel and alert drivers that people may be crossing the roadway.



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, and through vehicle at unsignalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time, and increase attentiveness and awareness.

CONSIDERATIONS

Crossing locations should consider pedestrian destinations on both sides of roadway, pedestrian desire lines, as well as vehicle travel patterns.

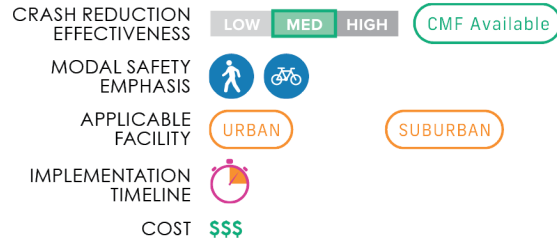
Home

FDM 215.2.9, TEM 5.2.5.2

Pedestrian Hybrid Beacon



A pedestrian-hybrid beacon (PHB) notifies oncoming motorists to stop with a series of red and yellow lights. Unlike a traffic signal, the PHB rests in dark until a pedestrian activates it via pushbutton or other form of detection.



FOCUS CRASH TYPE

Dart/dash, multiple threat/trapped, and through vehicle at unsignalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

May require driver and pedestrian education.

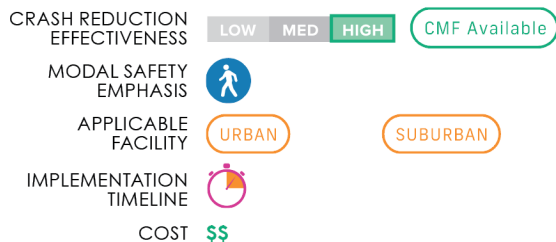
Home

FDM 230.2.9, TEM 5.2.5.2

Rectangular Rapid Flashing Beacon



A rectangular rapid flashing beacon (RRFB) is a pedestrian-activated flashing light with signage to alert motorists of a pedestrian crossing. It improves safety by increasing the visibility of marked crosswalks and provides motorists a cue to slow down and yield to pedestrians.



FOCUS CRASH TYPE

Through vehicle at unsignalized intersection, dart/dash, and multiple threat/trapped.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

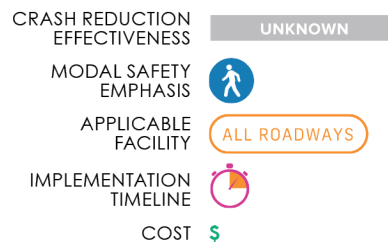
RRFBs should be reserved for use at locations with pedestrian safety issues as their overuse could diminish the effectiveness.

Home

Restripe Crosswalk



Periodic restriping of crosswalks is necessary to ensure the traffic markings are visible. Crosswalk may be restriped with high visibility markings.



FOCUS CRASH TYPE

Pedestrian struck by turning vehicle, through vehicle at signalized intersection, and through vehicle at unsignalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Crosswalk treatments should consider wear patterns and maintenance requirements.

Home



Shared Use Path

FDM 224



A 12' foot facility that is separated from the vehicular travel way for use by bicyclists, pedestrians, skaters, wheelchair users, joggers, and other users. When adjacent to a travel lane, these are referred to as side paths.

CRASH REDUCTION
EFFECTIVENESS

UNKNOWN

MODAL SAFETY
EMPHASIS



APPLICABLE
FACILITY

SUBURBAN

RURAL

IMPLEMENTATION
TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Vehicle/pedestrian crashes and vehicle/bicyclist crashes.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

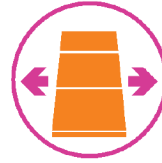
CONSIDERATIONS

May require right-of-way.

Home

Widen Sidewalk

FDM 222.2.1.1



Widening sidewalks provides a more comfortable space for pedestrians and provides space to accommodate people in wheelchairs.

CRASH REDUCTION
EFFECTIVENESS

UNKNOWN

MODAL SAFETY
EMPHASIS



APPLICABLE
FACILITY

URBAN

SUBURBAN

IMPLEMENTATION
TIMELINE



COST \$\$

FOCUS CRASH TYPE

Pedestrian walking along roadway.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

May require right-of-way.

Home

E. Intersections and Roadways

Changing intersection and roadway design features such as eliminating turn lanes where people driving do not have to stop (sometimes known as slip lanes) to slow vehicle turning movements, narrowing travel lanes to promote slower speeds, and constructing sidewalks are some effective methods. Many intersection and roadway design measures may require public outreach and detailed analysis. For example, partially closing a roadway could result in community concerns about increased traffic on other streets or the need to make improvements at other locations.

Some improvements such as a protected intersection where setbacks, dedicated lanes, and curbs protect people walking and bicycling, and force slow turns for people driving, can be expensive and might need to be programmed as a capital improvement project. There are often opportunities to take advantage of reallocating right-of-way, especially as part of planned resurfacing projects. For instance, lane repurposing to add/enhance bicycle and pedestrian facilities are good candidates for inclusion with other planned roadway projects. For many of the roadway design changes noted below, there are opportunities for cost savings when incorporated as part of routine maintenance projects, like resurfacing.

Strategies included in this section are:

1. All-Way Stop Control
2. Bicycle Crossing (Solid Green Paint)
3. Bike Box
4. Centerline Hardening
5. Close Slip Lane
6. Crosswalk Density
7. Curb-Return Radius Reduction
8. Delineators, Reflectors, and/or Object Markers
9. Directional Median Openings to Restrict Left Turns
10. Doubled-up, Oversized Stop Signs
11. Enhanced Daylighting/Slow Turn Wedge
12. Extend Bike Lane to Intersection
13. Gateway Treatments
14. Green Conflict Striping
15. Guardrail
16. Hardened Median Nose Extension
17. High Friction Surface Treatment
18. Impact Attenuators
19. Intersection Reconstruction and Tightening
20. Lane Repurposing
21. Median Barrier
22. On-Street Parking
23. Paint and Plastic Median
24. Paint and Plastic Mini Circle/Mini Roundabout
25. Partial Closure/Diverter
26. Protected Intersection
27. Raised Crosswalk
28. Raised Intersection
29. Raised Median
30. Reduced Left-Turn Conflict Intersection
31. Refuge Island
32. Retroreflective Signal Backplates
33. Roundabout
34. Rumble Strips
35. Safety Edge
36. Speed Hump, Speed Table or Speed Cushion
37. Straighten Crosswalk
38. Superelevation at Horizontal Curve Locations
39. Widen/Pave Shoulder



All-Way Stop Control

FDM 212.2.3



An all-way stop-controlled intersection requires all vehicles to stop before crossing the intersection and better allocates the right-of-way between roadway users.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH	CMF Available
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	ALL ROADWAYS			
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Angle crashes.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

Consider incorporating with high visibility crosswalks. Advanced signage may be necessary depending on speed and other roadway characteristics. Installation of unwarranted AWSC can lower stopping compliance.

Home

Bicycle Crossing (Solid Green Paint)

FDM 223.2.1.4, TEM 5.2.7.1



Green paint across an intersection that enhances bicycle safety and visibility.

CRASH REDUCTION EFFECTIVENESS	LOW	MED	HIGH	CMF Available
MODAL SAFETY EMPHASIS				
APPLICABLE FACILITY	URBAN		SUBURBAN	
IMPLEMENTATION TIMELINE				
COST	\$			

FOCUS CRASH TYPE

Motorist turns left in path of bicyclist, motorist turns right in path of bicyclist, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

In high travel areas, green paint can degrade and a maintenance plan should be developed.

Home

Bike Box

FDM 233.2.1.5



An area at an intersection with a signal where cyclists can move ahead of stopped traffic providing a designated and visible way to get ahead of queuing traffic.

CRASH REDUCTION EFFECTIVENESS	UNKNOWN	
MODAL SAFETY EMPHASIS		
APPLICABLE FACILITY	URBAN	SUBURBAN
IMPLEMENTATION TIMELINE		
COST	\$	

FOCUS CRASH TYPE

Motorist failed to yield at signalized intersection and bicyclist turned left into path of motorist.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

In high travel areas, green paint can degrade and a maintenance plan should be developed.

Home

Centerline Hardening



Physical elements on the centerline, like bollards and rubber curbs, that encourage slower vehicle turns.

CRASH REDUCTION EFFECTIVENESS	UNKNOWN	
MODAL SAFETY EMPHASIS		
APPLICABLE FACILITY	URBAN	SUBURBAN
IMPLEMENTATION TIMELINE		
COST	\$	

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle.

SAFE SYSTEM STRATEGY

Manage vehicular speeds.

CONSIDERATIONS

Design should consider truck volumes and resulting wheel track in placement of hardening features.

Home



Close Slip Lane



Modification of an intersection to remove the sweeping right turn lane resulting in shorter pedestrian crossings, reduced turning speeds, and better sight lines.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Right turn crashes, pedestrian struck by turning vehicle, motorist turns left in path of bicyclist, and motorist turns right in path of bicyclist.

SAFE SYSTEM STRATEGY

Remove severe conflicts, manage vehicular speeds, and increase attentiveness and awareness.

CONSIDERATIONS

Drainage and ADA requirements should be considered.

Home

Crosswalk Density

FDM 202.3.7



Short blocks (500 feet or less) can manage speed by limiting driver acceleration distance between intersections. If used in conjunction with marked crosswalks, short blocks also create engagement. Where short-blocks do not exist, mid-block crosswalks can be used to simulate the short block effect.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

RURAL

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Vehicle/pedestrian crashes and vehicle/bicyclist crashes.

SAFE SYSTEM STRATEGY

Manage conflicts and increase attentiveness and awareness.

CONSIDERATIONS

May be challenging to retrofit buildout areas. Policy framework that requires increased intersection/crossing density as areas redevelop could be considered.

Home

Curb-Return Radius Reduction

FDM TABLE 212.12.3



This refers to the curvature of the curb line when two streets intersect. Reducing the size of the curb return radius can decrease the speed of turning vehicles and reduce the length of crossings.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Speed related crashes, pedestrian struck by turning vehicle, and bicyclist struck by turning vehicle.

SAFE SYSTEM STRATEGY

Manage vehicular speeds.

CONSIDERATIONS

Can create drainage problems, emergency vehicles would need to be considered in design, and may be difficult for large trucks to navigate.

Home

Delineators, Reflectors, and/or Object Markers

FDM 230.2.7



Devices that warn drivers of an approaching curve or fixed object providing additional reaction time to slow down.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Run off the road and collision with fixed objects.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

The selection of adhesive should be carefully considered when installing delineators in hot climates.

Home



FDM 212.14.5

Directional Median Openings to Restrict Left Turns



A median with selective openings that limits the number of turning movement and reduces the number of conflict points.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Angle crashes, and left turn crashes.

SAFE SYSTEM STRATEGY

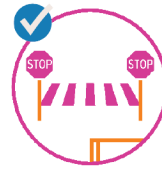
Remove severe conflicts, and increase attentiveness and awareness.

CONSIDERATIONS

Need for U-Turns should be evaluated and accommodated along the corridor.

Home

Doubled-up, Oversized Stop Signs



Treatment provides for left and right, oversized advance intersection warning signs. Retroreflective sheeting on sign posts and enhanced pavement markings that delineate through lane edge lines are typically provided.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Run off the road, collision with fixed objects, angle crashes, and motorist failed to yield at unsignalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Can also be paired with flashing beacons.

Home

FDM 223.2.4.5

Enhanced Daylighting/Slow Turn Wedge



Paint and bollards that extend the curb and slow turns at intersections which increases safety by expanding driver field of vision and slowing vehicle travel.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle and motorist turns left in path of bicyclist.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Quick curb and other treatments can be used with minor impacts to drainage under quick build conditions.

Home

Extend Bike Lane to Intersection



Where a bike lane is dropped due to a right turn lane, the intersection approach is restriped to allow for bicyclists to move to the left side of right turning vehicles ahead of reaching the intersection.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Motorist turns right in path of bicyclist.

SAFE SYSTEM STRATEGY

Manage conflicts in time.

CONSIDERATIONS

In locations with high right-turn volumes, consider bike ramp to sidewalk/ side path.

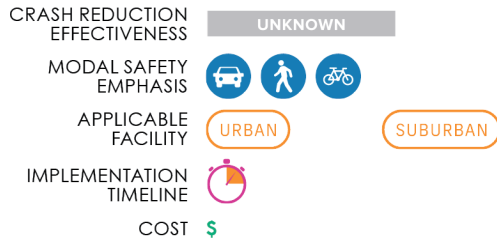
Home



Gateway Treatments



Gateway treatments are intended to alert roadway users that they are entering a different context and that they should expect pedestrians/bicyclists.



FOCUS CRASH TYPE

Vehicle/pedestrian crashes and vehicle/bicyclist crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness, and implement enforcing features to slow traffic.

CONSIDERATIONS

Examples of gateway treatments include signage, delineators, curb extensions, roundabouts, textured pavements, or other treatments intended to visually signal a changed condition to drivers.

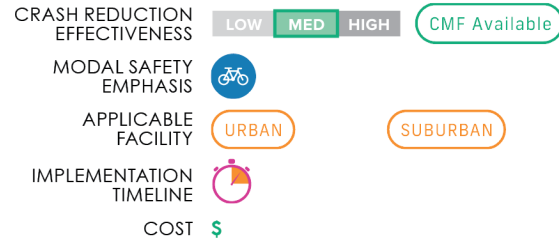
Home

Green Conflict Striping

FDM 223.2.1.4



Dashed green markings in bike lanes near or through intersections increasing bicyclist visibility and identifying potential conflict points so both bicyclists and motorists use caution when traversing the area.



FOCUS CRASH TYPE

Motorist turns left in path of bicyclist, motorist turns right in path of bicyclist, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

In high travel areas, green paint can degrade and a maintenance plan should be developed.

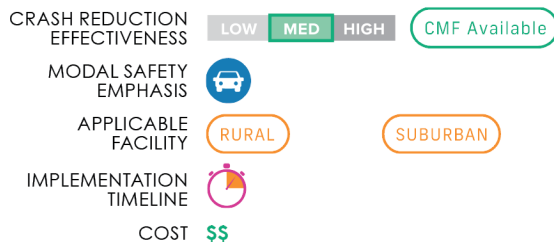
Home

Guardrail

FDM 215



A device that reduces the severity of lane departure crashes by redirecting a vehicle away from embankment slopes or fixed objects and dissipating the energy of an errant vehicle.



FOCUS CRASH TYPE

Run off the road crashes and collisions with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

There are several different types of guardrail designs that should be considered based on the area context.

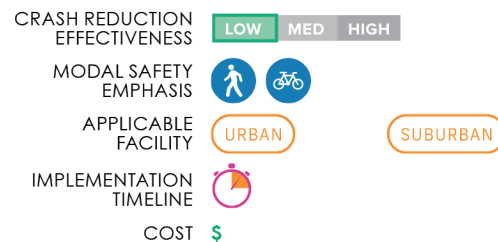
Home

Hardened Median Nose Extension

FDM 210.3.3



An extension of the median nose can reduce pedestrian exposure and can improve the crossing experience of multi-lane roadways. Median noses that extend past the crosswalk protect people waiting in the median and slow turning drivers.



FOCUS CRASH TYPE

Vehicle/pedestrian crashes, vehicle/bicyclist crashes, and left-turn crashes.

SAFE SYSTEM STRATEGY

Manage conflicts and increase attentiveness and awareness.

CONSIDERATIONS

Design should consider truck volumes and resulting wheel track in placement of median nose extension.

Home



High Friction Surface Treatment



High friction surface treatments can improve pavement friction under all conditions and help reduce the frequency of crashes by allowing motorists to stop faster than on non-treated pavement.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Run off the road crashes, and collisions with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Treatments can last for 8-12 years so a maintenance schedule outside the RRR process may need to be developed.

Home

Impact Attenuators

FDM 215.4.3



A device that brings an errant vehicle to a more-controlled stop or redirects the vehicle away from a rigid object, typically used to shield rigid roadside objects such as concrete barrier ends, steel guardrail ends and bridge pillars.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Run off the road, and collision with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Can be used in permanent or temporary (construction zone) applications. Attenuators should only be installed where it is impractical for the objects to be removed.

Home

Intersection Reconstruction and Tightening



Reconstructing irregular intersections should can provide better visibility for all road users, and may also reduce high speed turns and pedestrian crossing lengths.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Right turn crashes, pedestrian struck by turning vehicle, and motorist turns right in path of bicyclist.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

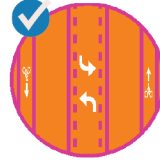
CONSIDERATIONS

Drainage and ADA requirements should be considered, in addition to the turn movements of trucks.

Home

Lane Repurposing

FDM 202.1.1



A right of way reallocation can modify the space dedicated to vehicle travel to create space for bicycle facilities, add a buffer to existing bicycle facilities, wider sidewalks, or center turn lanes.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Speed related crashes, pedestrian walking along roadway, and vehicle overtaking bicycle.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and manage conflicts in time.

CONSIDERATIONS

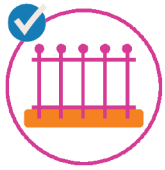
There may be concerns about traffic diversion to other streets.

Home



Median Barrier

FDM 215.4.6.4



Barrier in the center of the roadway that physically separates opposing vehicular traffic and controls access to and from side streets and driveways, reducing conflict points.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Run off the road, collision with fixed objects, head on, and median crossover crashes.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

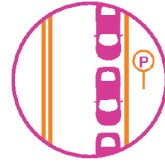
CONSIDERATIONS

Median breaks should be identified to allow maintenance and emergency vehicles to cross the median at appropriate locations. Consideration should also be given to potential diversion of pedestrians.

Home

On-Street Parking

FDM 202.3.2, FDM 210.2.3



On-street parking can provide a buffer between pedestrians/ bicyclists and the travel lane, increasing safety and comfort. It can also be used to manage speeds when adjacent to a travel lane as parking maneuvers and driving next to parked vehicles creates friction that slows drivers.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Vehicle/pedestrian crashes.

SAFE SYSTEM STRATEGY

Implement enforcing features to slow traffic.

CONSIDERATIONS

If there are bike lanes or high volumes of bicyclists, a minimum of 3 feet should be provided to prevent "dooring". Providing the appropriate separation between the bicycle facility, travel way, and parking lane is critical.

Home

Paint and Plastic Median



A painted median with plastic posts between the two directions of travel, reducing vehicular speeding and discourages risky turning movements.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Pedestrian struck by turning vehicle and motorist turns left in path of bicyclist.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness, and implement enforcing features to slow traffic.

CONSIDERATIONS

If posts are routinely being knocked down, a different treatment may be warranted.

Home

Paint and Plastic Mini Circle/ Mini Roundabout



Mini circles use paint and soft hit posts to replace stop-controlled intersections with a circular design that slows traffic and eliminates left turns and reduces conflicts. Mini roundabouts use curb treatments for a more permanent installation.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Angle crashes and left turn crashes.

SAFE SYSTEM STRATEGY

Remove severe conflicts and implement enforcing features to slow traffic.

CONSIDERATIONS

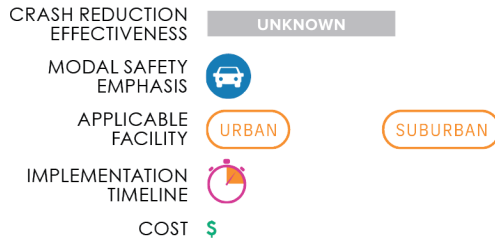
These should only be considered on low volume, low speed streets where trucks are not routinely expected to be.

Home

Partial Closure/Diverter



A roadway treatment that restricts select vehicle movements using physical diversion while allowing bicyclists and pedestrians to proceed.



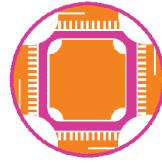
FOCUS CRASH TYPE
Pedestrian and bicycle crashes.

SAFE SYSTEM STRATEGY
Remove severe conflicts and implement enforcing features to slow traffic.

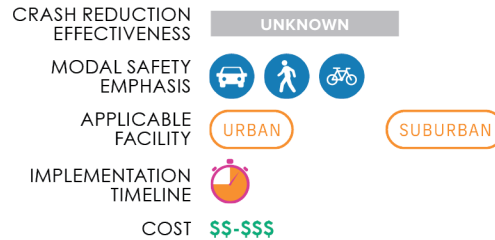
CONSIDERATIONS
Should be implemented as part of a larger traffic calming plan to minimize effects of diverted traffic to residential streets.

[Home](#)

Protected Intersection



Protected intersections use corner islands, curb extensions, and colored paint to delineate bicycle and pedestrian movements across an intersection, slowing driving speeds and providing shorter crossing distances.



FOCUS CRASH TYPE
Pedestrian struck by turning vehicle, motorist turns right in path of bicyclist, and motorist failed to yield at signalized intersection.

SAFE SYSTEM STRATEGY
Remove severe conflicts, manage vehicular speeds, manage conflicts in time, and increase attentiveness and awareness.

CONSIDERATIONS
Drainage and ADA requirements should be considered.

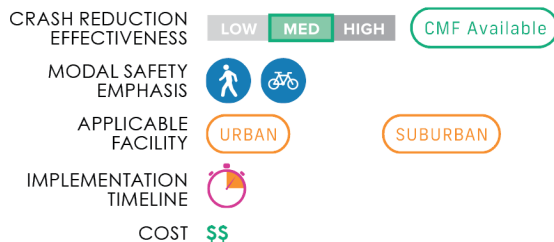
[Home](#)

Raised Crosswalk

FDM 202.3.8, TEM 5.2.7.5



Raised crosswalks are typically elevated 3-6 inches above the road or at sidewalk level and improves safety by increasing crosswalk and pedestrian visibility and slowing down motorists.



FOCUS CRASH TYPE
Through vehicle at signalized intersection, through vehicle at unsignalized intersection, and pedestrian struck by turning vehicle.

SAFE SYSTEM STRATEGY
Manage vehicular speeds, and increase attentiveness and awareness.

CONSIDERATIONS
Drainage and ADA requirements should be considered.

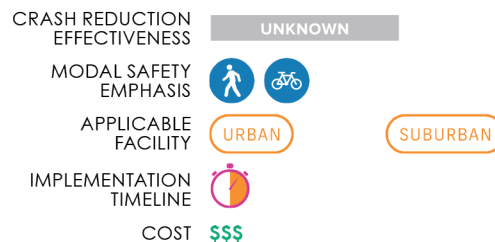
[Home](#)

Raised Intersection

FDM 202.3.8



Elevates the intersection to bring vehicles to the sidewalk level. Serves as a traffic calming measure by extending the sidewalk context across the road.



FOCUS CRASH TYPE
Through vehicle at signalized intersection, through vehicle at unsignalized intersection, and pedestrian struck by turning vehicle.

SAFE SYSTEM STRATEGY
Manage vehicular speeds, and increase attentiveness and awareness.

CONSIDERATIONS
Drainage and ADA requirements should be considered.

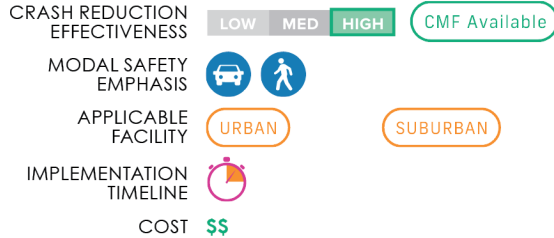
[Home](#)

Raised Median

TEM 5.2.7.5



Curbed sections in the center of the roadway that are physically separated from vehicular traffic. Raised medians can also help control access to and from side streets and driveways, reducing conflict points.



FOCUS CRASH TYPE

Angle crashes, head on, and dart/dash.

SAFE SYSTEM STRATEGY

Manage vehicular speeds.

CONSIDERATIONS

Need for U-Turns should be evaluated and accommodated along the corridor.

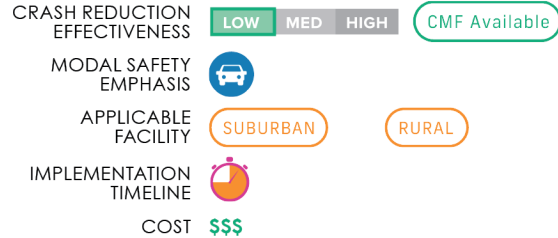
[Home](#)

Reduced Left-Turn Conflict Intersection

FDM 212.1.1



Geometric designs that alter how left-turn movements occur can simplify decisions and minimize the potential for related crashes.



FOCUS CRASH TYPE

Left turn crashes and angle crashes.

SAFE SYSTEM STRATEGY

Manage conflicts in time, and increase attentiveness and awareness.

CONSIDERATIONS

Two highly effective designs that rely on U-turns to complete certain left-turn movements are known as the restricted crossing U-turn (RCUT) and the median U-turn (MUT). These treatments may require additional ROW.

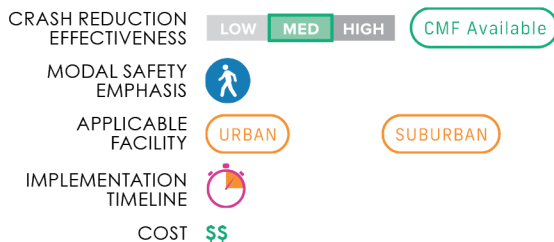
[Home](#)

Refuge Island

FDM 210.3.2.3, TEM 5.2.7.5



Provides a raised barrier in the center of the roadway restricting certain turning movements and providing a place for pedestrians to wait if they are unable to finish crossing the intersection. It reduces the number of potential conflict points and the exposure of pedestrians crossing the roadway.



FOCUS CRASH TYPE

Dart/dash, through vehicle at signalized intersection, and through vehicle at unsignalized intersection.

SAFE SYSTEM STRATEGY

Manage conflicts in time, and increase attentiveness and awareness.

CONSIDERATIONS

Pedestrian refuge areas can be constructed from paint and plastic as part of a low-cost/quick build project.

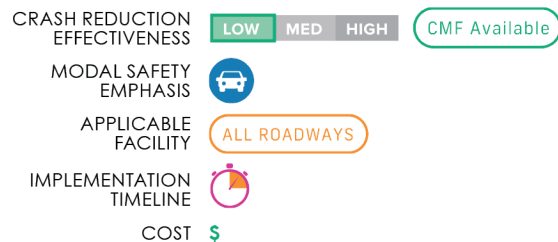
[Home](#)

Retroreflective Signal Backplates

FDM 232.1.5, TEM 3.9



Backplates added to a traffic signal head improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background, which can be retroreflective.



FOCUS CRASH TYPE

Angle crashes and left turn crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

When an entire backplate is added, structural analysis may be required due to the added wind load.

[Home](#)



Roundabout

FDM 231.3.3



A circular non-signalized intersection where traffic flows in one direction that reduces conflict points.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$\$

FOCUS CRASH TYPE

Severe crashes, angle crashes, and left turn crashes.

SAFE SYSTEM STRATEGY

Remove severe conflicts and manage vehicular speeds.

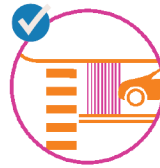
CONSIDERATIONS

Typically requires more right-of-way than traditional intersection and can be challenging for visually impaired people to navigate. Additional pedestrian treatments may be needed at some roundabouts.

Home

Rumble Strips

FDM 210.4.6 , TEM 5.2.7.5



Pavement treatments that create noise and vibration inside the vehicle that alert a driver as they cross the center or edge line to get the attention of a distracted or drowsy driver or under low visibility conditions.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Run off the road crashes and collisions with fixed objects.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Can create noise pollution and may not be appropriate near residential uses. May also pose problems for bicyclists and motorcyclists.

Home

Safety Edge

FDM 202.3.8



A safety edge is intended to minimize drop-off-related crashes as the shoulder pavement edge is sloped at an angle (30-35 degrees) to make it easier for a driver to safely reenter the roadway after inadvertently driving onto the shoulder.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Run off the road crashes and collisions with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Drainage and added impervious surface would need to be evaluated.

Home

Speed Hump, Speed Table or Speed Cushion



Vertical deflection device to raise the entire wheelbase of a vehicle and encourage motorists to travel at slower speeds.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and implement enforcing features to slow traffic.

CONSIDERATIONS

Drainage and emergency vehicle access will need to be considered. Speed cushions may be more appropriate on roadways with frequent emergency response vehicles.

Home



FDM 222.2.3

Straighten Crosswalk



Alignment of crosswalks to be perpendicular to the sidewalk, reducing pedestrian cross time and increasing sight lines.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST

\$

FOCUS CRASH TYPE

Pedestrian crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Location of drainage inlets may affect curb ramp placement.

Home

FDM 240.2.1.4

Superelevation at Horizontal Curve Locations



A rotation and rising of pavement as the road curves that offsets sideways vehicular momentum preventing motorists from losing control.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST

\$\$

FOCUS CRASH TYPE

Run off the road crashes and collisions with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

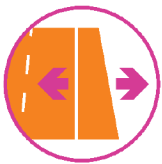
CONSIDERATIONS

Design speed should be evaluated as part of any geometric design change.

Home

FDM 210.4

Widen/Pave Shoulder



Widened and paved shoulders create a separated space for bicyclists and provide a breakdown lane. Paved shoulders can help to reduce run-off-road crashes and are most beneficial on rural roads without paved shoulders.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST

\$\$

FOCUS CRASH TYPE

Run off the road, collision with fixed objects, vehicle overtakes bicycle.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Adding paved shoulders within horizontal curve sections may help agencies maximize benefits of the treatment while minimizing costs as opposed to adding paved shoulders to an entire corridor.

Home

F. Speed Management

Speed is an overarching contributing factor to many fatal and serious-injury crashes across all collision types in the region, with most fatal and severe injury crashes occurring on high-speed roadways. Therefore, a focus of engineering countermeasures is context appropriate speeds. A variety of proven techniques can be applied to reduce travel speed that are also considered as cross cutting strategies:

- **Lane Repurposing** – Reallocating the right-of-way to serve all roadway users can result in a reduction in the number of travel lanes on a street, which can enable the slowest driver to set the operating speed on a street, rather than the fastest driver. (See discussion in intersection and roadways)
- **Traffic calming** – Vertical devices such as speed humps and speed tables, horizontal devices such as bulbouts, chicanes, or mini traffic circles/roundabouts all have documented speed-reduction effects. These treatments are typically limited to local and collector roads, but sometimes are installed on arterial roadways depending on the context. (Traffic calming measures, such as speed humps and raised intersections are provided in the intersection and roadways section)
- **Signal Coordination** – Traffic signal coordination to maintain desired operating speeds along corridors. This strategy can reduce the incentive for people to drive more than the posted speed limit between intersections as it removes the potential for travel time savings. (See discussion in signals)
- **Realigning skewed intersections** – Broad, wide-radius turns can be made at high speeds. Tighter turns, closer to 90 degrees with a small radius are made at lower speeds. This strategy can also have the added benefit of reducing intersection crossing distances and increasing overall visibility. (See discussion in intersection and roadways)
- **Reducing travel lane widths** – Narrower travel lanes encourage lower vehicle speeds. Recent updates to the American Association of State Highway Transportation Officials' (AASHTO) A Policy on Geometric Design of Highways and Streets included allowances for narrow travel lanes in recognition of safety research that showed little or no difference in crash history in a variety of contexts.
- **Roundabouts** – By introducing horizontal deflection onto otherwise straight roadways, roundabouts can reduce operating speeds. Additionally, roundabouts have proven safety benefits compared to standard intersections. (See information related to roundabouts in Intersection and roadway design)

Strategies included in this section are:

1. Appropriate Speed Limits
2. Chicane
3. Landscape Buffer
4. Lane Narrowing
5. Speed Cameras
6. Speed Feedback Sign
7. Speed Sensitive Rest on Red
8. Variable Speed Limits



Appropriate Speed Limits

FDM 201



Setting speed limits to reflect the surrounding context of the roadway and that meet with driver expectations can help improve driver respect for speed limits.

CRASH REDUCTION EFFECTIVENESS

LOW MED HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds.

CONSIDERATIONS

Speed limit changes absent construction of engineering countermeasures should consider crash history and actual travel speeds. Speed limits that appear inconsistent may be ignored by the majority of drivers and this may contribute to lack of respect for speed limit and other traffic laws. Cost does not include implementation of engineering countermeasures to achieve desired speeds.

Home

Chicane

FDM 202.3.3



Uses centerline deflection within existing curb by placing vertical barriers (e.g., curbs, on-street parking) to require vehicle operators to make frequent horizontal movements, which typically reduces vehicular speeds.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds, and implement enforcing features to slow traffic.

CONSIDERATIONS

Can create drainage problems, Potential for head-on collisions increases depending on context, May be difficult for large trucks to navigate

Home

Landscape Buffer

FDM 270.2



Landscape separating drivers from bicyclists and pedestrians increases space between the modes and can produce a traffic calming effect by encouraging drivers to drive at slower speeds.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and implement enforcing features to slow traffic.

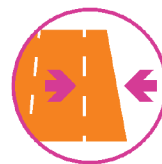
CONSIDERATIONS

Maintenance plan for landscaping may need to be developed.

Home

Lane Narrowing

FDM 202.3.4



Lane narrowing can encourage motorists to travel at slower speeds, which can reduce the severity of crashes.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and implement enforcing features to slow traffic.

CONSIDERATIONS

Lane narrowing through restriping can provide opportunities to widen bike lanes.

Home

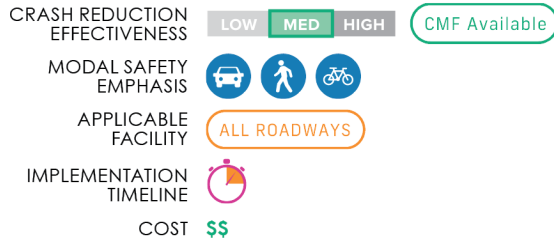


Speed Cameras

FDM 202.3.9



These devices can capture the speed of a vehicle and a license plate to supplement traditional methods of enforcement. Signage should be installed to warn drivers in advance of the first speed camera on a corridor.



FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and implement enforcing features to slow traffic.

CONSIDERATIONS

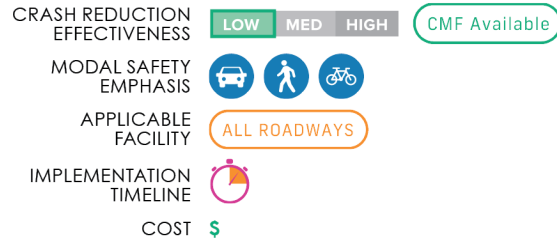
These are allowed in Florida in school zones.

Home

Speed Feedback Sign



Notifies drivers of their current speed, usually followed by a reminder of the posted speed limit, providing a cue for drivers to check their speed and slow down.



FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Implement enforcing features to slow traffic.

CONSIDERATIONS

Some units can collect data to identify the most prevalent times of day/week for speeding to aim in law enforcement activities.

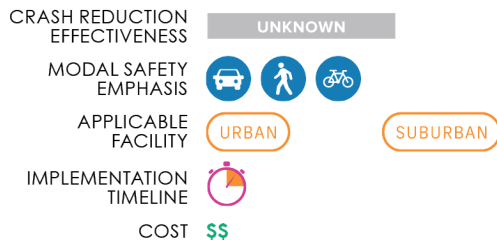
Home

Speed Sensitive Rest on Red

SPEED ZONING 10.1



At certain hours (e.g. late night) a signal remains red for all approaches or certain approaches until a vehicle approaches the intersection. If the vehicle is going faster than the desired speed, the signal will not turn green until after the vehicle stops. If the vehicle is going the desired speed the signal will change to green before the vehicle arrives.



FOCUS CRASH TYPE

Speed related crashes.

SAFE SYSTEM STRATEGY

Manage vehicular speeds and implement enforcing features to slow traffic.

CONSIDERATIONS

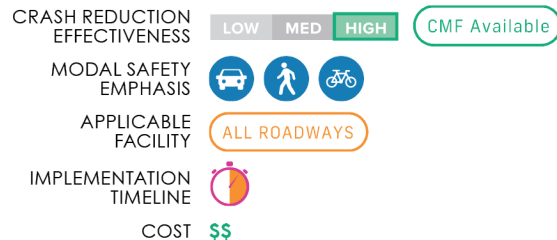
Can be paired with variable speed warning signs.

Home

Variable Speed Limits



Variable speed limits (VSLs) can improve safety performance and traffic flow by reducing speed variance (i.e., improving speed harmonization). The speed limit changes according to the current environmental and road conditions and is displayed on an electronic traffic sign.



FOCUS CRASH TYPE

Speed related crashes, secondary crashes, and work zone.

SAFE SYSTEM STRATEGY

Manage vehicular speeds.

CONSIDERATIONS

VSLs may also improve driver expectation by providing information in advance of slowdowns and potential lane closures, which could reduce the probability for secondary crashes. VSLs can mitigate adverse weather conditions or slow faster-moving traffic as it approaches a queue or bottleneck. Particularly effective on urban and rural freeways and high-speed arterials with posted speed limits greater than 40 mph.

Home

G. Other Engineering Strategies

Several other strategies are not focused on a singular mode and can benefit all roadway users. For example, consolidating driveways and improving lighting can benefit all roadway users. Curbside management is most commonly needed in urban areas where there is high competition for curb space, where effective management strategies can reduce passenger loading from travel lanes, reduce double parked delivery vehicles, and increase transit reliability.

Strategies included in this section are:

1. Access Management/Close Driveway
2. Create or Increase Clear Zone
3. Far-Side Bus Stop
4. Intersection Lighting
5. Relocate Select Hazardous Utility Poles
6. Remove Obstructions For Sightlines
7. Segment Lighting
8. Upgrade Lighting to LED



Access Management/Close Driveway

FDM 223.2.4.5



Driveway movements may create conflicts between pedestrians, bicyclists and vehicles, especially within 250 feet of intersections. Closing or modifying driveways, may reduce potential conflicts.

CRASH REDUCTION EFFECTIVENESS

LOW MED **HIGH**

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Driveway related pedestrian crashes, angle crashes, left turn crashes, and right turn crashes.

SAFE SYSTEM STRATEGY

Remove severe conflicts, and increase attentiveness and awareness.

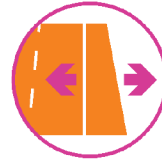
CONSIDERATIONS

Need for U-Turns should be evaluated and accommodated along the corridor, and reciprocal access may be required.

Home

Create or Increase Clear Zone

FDM 215.2.3



A clear zone is an unobstructed roadside area that allows a driver to regain control of a vehicle that has left the road.

CRASH REDUCTION EFFECTIVENESS

LOW MED **HIGH**

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Run off the road and collision with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Creating or increasing clear zones within horizontal curve sections may help agencies maximize benefits of the treatment while minimizing costs, as opposed to providing a clear zone throughout an entire corridor.

Home

Far-Side Bus Stop

FDM 225.3



Located immediately after an intersection, allowing the bus to pass through the intersection before stopping, encourages pedestrians to cross behind the bus for greater visibility and can improve transit service reliability.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

URBAN

SUBURBAN

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Dart/dash and multiple threat/trapped.

SAFE SYSTEM STRATEGY

Remove severe conflicts, and increase attentiveness and awareness.

CONSIDERATIONS

Bus stops should be located in proximity to marked and controlled crossings, especially in circumstances when destinations are on opposite side of the street. Coordination with transit agency is required.

Home

Intersection Lighting

FDM 231



Lighting improves safety by increasing visibility of all road users, and is most effective at reducing or preventing collisions at night.

CRASH REDUCTION EFFECTIVENESS

LOW MED **HIGH**

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Nighttime crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

Location of landscaping that could affect lighting levels on the street should be evaluated.

Home



FDM 215.4.7

Relocate Select Hazardous Utility Poles



Relocating or removing utility poles from within the clear zone alleviates the potential for fixed-object crashes.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

RURAL

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Run off the road and collisions with fixed objects.

SAFE SYSTEM STRATEGY

Remove severe conflicts.

CONSIDERATIONS

Public Right-of-Way Accessibility Guidelines (PROWAG) require 48-inch pedestrian clear zone which may accelerate the need to relocate utility poles within pedestrian paths of travel.

Home

Remove Obstructions For Sightlines



Remove objects that may prevent drivers and pedestrians from having a clear sightline, such as installing red curb at intersection approaches to remove parked vehicles (also called "daylighting"), trimming or removing landscaping, or removing or relocating large signs.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$

FOCUS CRASH TYPE

Angle crashes, pedestrian struck by turning vehicle, motorist failed to yield at unsignalized intersection, motorist failed to yield at signalized intersection, and bicycle sidewalk crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

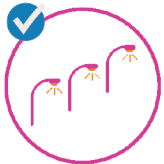
CONSIDERATIONS

Landscaping obstructions may require more routine maintained.

Home

FDM 231

Segment Lighting



Lighting along roadways that improves visibility at night.

CRASH REDUCTION EFFECTIVENESS

LOW

MED

HIGH

CMF Available

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Nighttime crashes.

SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

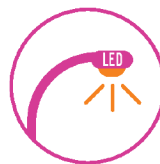
CONSIDERATIONS

Location of landscaping that could affect lighting levels on the street should be evaluated.

Home

FDM 231.3.2.1.1

Upgrade Lighting to LED



Replacing high-pressure sodium light bulbs with LED lights improves safety by increasing the visibility of pedestrians in crosswalks through greater color contrast and larger areas of light distribution.

CRASH REDUCTION EFFECTIVENESS

UNKNOWN

MODAL SAFETY EMPHASIS



APPLICABLE FACILITY

ALL ROADWAYS

IMPLEMENTATION TIMELINE



COST \$\$

FOCUS CRASH TYPE

Nighttime crashes.

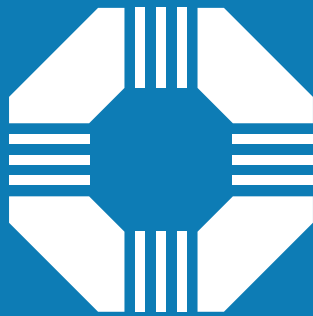
SAFE SYSTEM STRATEGY

Increase attentiveness and awareness.

CONSIDERATIONS

May require installation of additional lighting fixtures to meet lighting goals.

Home



VISION ZERO
CENTRAL FLORIDA
Counting down to zero traffic deaths

Appendix A - Cost Estimate Details

Primary Safe System Strategy	Secondary Safe System Strategy (if applicable)	Countermeasure	Cost Considerations	Cost Estimate Range
Remove severe conflicts	Enforcing feature to slow traffic	Roundabout/Mini Roundabout	Extent of overall roadway reconstruction, drainage, landscaping and pedestrian amenities can affect overall cost. Does not include Right of Way.	"Neighborhood: \$25-100K Collector: \$150-\$250k Arterial: \$250k+ Multilane: \$500k+"
Remove severe conflicts	Enforcing feature to slow traffic	Mini Traffic Circle	Drainage, landscaping and pedestrian amenities can affect overall cost.	\$8,000-\$15,000
Remove severe conflicts	-	Sidewalk Network Enhancements (close gaps)	Does not include utility relocation/drainage.	\$226,150/mile (5' one side, 4" depth)
Remove severe conflicts	Increase attentiveness and awareness	Corridor Access Management	Cost varies depending on strategies, such as median construction, closing/reconfiguring driveways, etc.	Varies
Remove severe conflicts	Increase attentiveness and awareness	Median U-turn	Costs of the lower end of range if a minor modification; costs on the upper end of the range roadway if reconstruction is required.	\$50,000-\$1,000,000
Remove severe conflicts	-	Shared Use Path	Depending on number of driveways, additional treatments may be necessary to increase visibility of people on path at conflict locations. May require right-of-way, drainage improvements, and a landscaping plan.	\$410,483/mile, 12' path, bidirectional
Remove severe conflicts	-	Buffered/Separated Bike Lanes	Cost of Paint Only; other treatments may be needed.	\$11.50/sf
Remove severe conflicts	-	Median Barriers	Depends on materials selected - cable barrier can be about a third of the cost as a concrete barrier	\$10,000-20,000 per 100 ft
	-	High Friction Surface Treatment	Depends on the overall composition of the overlay.	\$42,000-\$190,000/lane/mile
Manage speed	-	Appropriate Speed Limits	Cost considerations include engineering study to target speed, identifying appropriate countermeasures to achieve desired speed, and implementing engineering countermeasures as applicable.	Varies
Manage speed	Enforcing feature to slow traffic	Speed Cameras	Depends on existing infrastructure along corridor. Currently these are only allowed in school zones and upgrades to school zone extents, signage and other equipment may be necessary. Does not include educational outreach campaign costs.	\$60,000-\$80,000

APPENDIX A - COST ESTIMATE DETAILS

Primary Safe System Strategy	Secondary Safe System Strategy (if applicable)	Countermeasure	Cost Considerations	Cost Estimate Range
Manage speed	-	Variable Speed Limits	Often implemented as part of a TSMO program; cost for signage only. Should roadway reconstruction be required, cost could be significantly higher.	\$25,000-\$30,000/mile
Manage speed	Enforcing feature to slow traffic	Speed Hump	Drainage could affect overall cost.	\$1,500-5,500
Manage speed	Enforcing feature to slow traffic	Speed Table	Drainage could affect overall cost.	\$2,000-20,000
Manage speed	Enforcing feature to slow traffic	Chicanes	Drainage could affect overall cost.	\$2,500-16,000
Manage speed	-	Curb-Return Radius Reduction	Drainage and ADA requirements could affect overall cost.	\$15,000-40,000
Manage speed	Increase attentiveness and awareness	Raised Crossing	Drainage and ADA requirements could affect overall cost.	\$39,000 - \$45,500
Manage speed	Increase attentiveness and awareness	Raised Intersection	Drainage and ADA requirements could affect overall cost.	\$106,500 - \$124,000
Manage speed	Enforcing feature to slow traffic	Lane Narrowing	Based on cost to mill and restripe roadway to provide marked parking. Actual cost could be lower if milling and resurfacing are not required.	\$334,500/lane/mile
Manage speed	Enforcing feature to slow traffic	Landscape Buffer	Maintenance plan for landscaping may need to be developed. Cost considerations include right-of-way, drainage, irrigation, and maintenance.	Varies
Manage speed	Manage conflicts	Signal Retiming	Depends on existing signal hardware/ software and if it is implemented as part of a larger retiming program.	\$0-\$5,440
Manage speed	Manage conflicts	Lane Repurposing	Cost could be significantly higher if curbs are being moved and drainage is affected.	\$334,500/lane/mile
Manage speed	-	Corner Radius Reduction	Drainage and ADA requirements can affect overall cost.	\$15,000-40,000
Manage speed	Increase attentiveness and awareness	Curb Extension	Materials (concrete vs asphalt), landscaping, drainage, ADA requirements, and extent of other required roadway changes can affect overall cost; cost is for one corner; may be economies of scale if constructed at all corners of the intersection.	\$2,000-20,000
Manage conflicts in time	Increase attentiveness and awareness	Crosswalk Density	If new RRFBs or other treatments are being considered, please consult those items for cost.	\$100 for a regular striped cross-walk, \$300 for a ladder crosswalk and \$3,000 for patterned concrete crosswalk.
Manage conflicts in time	Increase attentiveness and awareness	Medians and Pedestrian Refuge Islands	Materials (concrete vs asphalt), landscaping, drainage, ADA requirements, and extent of other required roadway changes can affect overall cost; cost is for one refuge; may be economies of scale if constructed at multiple locations along the same corridor.	\$10,000-\$40,000

APPENDIX A - COST ESTIMATE DETAILS

Primary Safe System Strategy	Secondary Safe System Strategy (if applicable)	Countermeasure	Cost Considerations	Cost Estimate Range
Manage conflicts in time	Increase attentiveness and awareness	Median Nose Extension	Cost can vary significantly depending on linear feet, materials (paint vs asphalt), drainage requirements, ADA requirements and other site specific factors. Cost is per leg.	\$500-20,000
Manage conflicts in time	-	Leading Pedestrian Intervals (LPI)	Depends on existing signal hardware/ software and if it is implemented as part of a larger retiming program.	\$0-\$5,440
Manage conflicts in time	-	No Right Turn on Red blank-out signs	Cost depends on existing signal hardware/ software. Cost per sign.	\$4,500-\$15,000
Manage conflicts in time	-	Pedestrian Hybrid Beacons (PHBs)	Depends on the size of crossing, type of mast arm required, and other site specific features.	\$75,000-\$265,000/unit
Manage conflicts in time	-	Rectangular Rapid Flashing Beacons (RRFBs)	Solar powered units can reduce cost of running electricity. Costs only include RRFB system. If implemented in conjunction with high visibility crosswalks, median refuge and other elements, costs would be higher.	\$4,500-\$52,00
Manage conflicts in time	Increase attentiveness and awareness	Restricted Crossing U-turn	Costs of the lower end of range if a minor modification; costs on the upper end of the range roadway if reconstruction is required.	\$50,000-\$1,000,000
Manage conflicts in time	Increase attentiveness and awareness	Hardened Centerlines and Turn Wedges	Cost depends on selected treatments/ materials, size of intersection and number of approaches where countermeasure is installed. Cost is per approach.	\$1,000 - \$2,000
Manage conflicts in time	-	Retime Signals: Yellow Change Intervals	Depends on existing signal hardware/ software and if it is implemented as part of a larger retiming program.	\$0-\$5,440
Increase attentiveness and awareness	Enforcing feature to slow traffic	Gateway Treatments	Cost depends on extent of treatments	\$10,000-65,000
Increase attentiveness and awareness	-	High Visibility Crosswalk	Depends on the size the size the crosswalk, and the paint used.	\$600-5,700
Increase attentiveness and awareness	-	Bike Box	Cost of Paint Only; other treatments may be needed.	\$11.50/sf
Increase attentiveness and awareness	-	Lighting	Cost depends on a number of variables, including type of fixtures, frequency of lighting,, and presence of electricity in corridor.	Varies
Increase attentiveness and awareness	-	Improving Sight Lines	Cost depends on type of strategy, such as landscaping maintenance, closing of slip lanes, removal of on-street parking or straightening of crosswalk.	Varies
Increase attentiveness and awareness	-	Backplates with Retroreflective Borders	A structural/wind analysis should be conducted.	"\$35/head to add reflective tape to existing backplates \$110/head to install new backplates with integrated retroreflective material"

APPENDIX A - COST ESTIMATE DETAILS

Primary Safe System Strategy	Secondary Safe System Strategy (if applicable)	Countermeasure	Cost Considerations	Cost Estimate Range
Increase attentiveness and awareness	-	Enhanced Signing and Pavement Markings	Cost depends on the types of signage and pavement marking treatments.	\$800 - \$1,300 per location
Increase attentiveness and awareness	Remove conflicts	Bicycle Lanes Enhancements	Cost depends on the range of treatments applied and if right-of-way is needed.	Varies
Increase attentiveness and awareness	-	Refresh pavement markings	Overall cost per location can be reduced when implemented along a corridor or areawide.	\$22-600 each (\$180 avg)
Increase attentiveness and awareness	-	Doubled-up (left and right), oversized advance intersection warning signs, with supplemental street name plaques (can also include flashing beacon).	Flashing beacon cost is not included.	\$50-150/sign
Increase attentiveness and awareness	-	Retroreflective sheeting on sign posts.	Depends on size of sign.	\$50-250/sign
Increase attentiveness and awareness	-	Enhanced pavement markings that delineate through lane edge lines.	Overall cost per location can be reduced when implemented along a corridor or areawide.	\$1-10/linear foot
Increase attentiveness and awareness	-	Doubled-up (left and right), oversized Stop signs.	Can also be paired with flashing beacons that are not included in cost estimate.	\$50-150/sign
Increase attentiveness and awareness	-	Properly placed stop bar / Advance stop bar	Not limited to stop control intersections.	\$500
Increase attentiveness and awareness	-	Removal of vegetation, parking, or obstructions that limit sight distance.	Similar to improving sight-lines. Cost can vary depending on elements included.	Varies
Increase attentiveness and awareness	-	Double arrow warning sign at stem of T-intersections.	Depends on size of sign.	\$50-150/sign
Increase attentiveness and awareness	-	Chevron Signs for Horizontal Curves or other advanced delineation.	Can be paired with other treatments, like rumble strips.	\$1-10/linear foot
Increase attentiveness and awareness	-	Longitudinal Rumble Strips and Stripes on Two-Lane Roads	Best when implemented as part of an overall resurfacing project for cost effectiveness.	\$5000-\$6,000/mile
Enforcing feature to slow traffic	-	Mobile Speed Feedback Signs	Solar powered units can reduce cost of running electricity.	\$7,000-18,000
Enforcing feature to slow traffic	-	On-Street Parking	Based on cost to mill and restripe roadway to provide marked parking. Actual cost could be lower if milling and resurfacing are not required.	\$334,500/lane/mile

Technical Appendix

K- Project Details

A horizontal bar with a rainbow color gradient, transitioning from red on the left to blue on the right.A photograph of a brick-paved crosswalk at a street intersection. The crosswalk is marked with white painted lines. The background shows a street and some trees.

Crosswalk at the Bluford Avenue and McKey Street intersection



City of Ocoee - Opinion of Probable Cost for Safety Projects

Project Name	Project Type	Project Location (s)	Countermeasure Type	Countermeasure	Unit Cost	Count	Mileage (mi.)	Countermeasure Cost
Silver Star Road/Clarke Road Left Turn Treatments	Intersection Improvements; Pedestrian/Bicycle Facility Improvements	Silver Star Road at Clarke Road	Short-Term	Protected Left Turns	\$5,000	2	-	\$10,000
				Retroreflective Signal Backplates	\$110/signal head	14	-	\$1,540
				Review Yellow Time Length	\$2,720	1	-	\$2,720
				Extend All Red Phase	\$2,720	1	-	\$2,720
				Leading Pedestrian Interval	\$2,720	1	-	\$2,720
				High Visibility Crosswalk	\$3,150	4	-	\$12,600
			Mid-Term	Centerline Hardening	\$60/linear foot	-	0.00	\$1,200
				Hardened Median Nose Extension	\$10,250/leg	4	-	\$41,000
				Curb Extensions	\$11,000/corner	4	-	\$44,000
				Protected Intersection	\$1,000,000	1	-	\$1,000,000
Initial Project Cost								\$1,118,500
CEI								20%
Contingency Costs								30%
Project Cost								\$1,745,000
SR 50/Maguire Road Sideswipe Treatments	Intersection Improvements	SR 50 at Maguire Rd.	Short-Term	Striping through Intersection	\$0.92/linear foot	-	0.06	\$294
				Hardened Median Nose Extension	\$10,250/leg	4	-	\$41,000
Initial Project Cost								\$41,294
CEI								20%
Contingency Costs								30%
Project Cost								\$64,000
SR 50 at Blackwood Ave Serious Injury Mitigation	Intersection Improvements	SR 50 at Blackwood Ave	Short-Term	Leading Pedestrian Interval	\$2,720	1	-	\$2,720
				Rest on Walk/Pedestrian Recall	\$2,720	1	-	\$2,720
				Shorter Cycle Length	\$2,720	1	-	\$2,720
Initial Project Cost								\$8,160
CEI								20%
Contingency Costs								30%
Project Cost								\$13,000

City of Ocoee - Opinion of Probable Cost for Safety Projects

Project Name	Project Type	Project Location (s)	Countermeasure Type	Countermeasure	Unit Cost	Count	Mileage (mi.)	Countermeasure Cost
SR 50 at Clarke Rd Serious Injury Mitigation	Intersection Improvements	SR 50 at Clarke Rd	Short-Term	Leading Pedestrian Interval	\$2,720	1	-	\$2,720
				Rest on Walk/Pedestrian Recall	\$2,720	1	-	\$2,720
				Shorter Cycle Length	\$2,720	1	-	\$2,720
Initial Project Cost								\$8,160
CEI								20%
Contingency Costs								30%
Project Cost								\$13,000
Maguire Road/Old Winter Garden Road Serious Injury Mitigation	Intersection Improvements	Maguire Road at Old Winter Garden Road	Short-Term	Upgrade to Larger Warning Sign	\$150/sign	1	-	\$150
				Retroreflective Signal Backplates	\$110/signal head	7	-	\$770
				High Visibility Crosswalk	\$3,150	3	-	\$9,450
Initial Project Cost								\$10,370
CEI								20%
Contingency Costs								30%
Project Cost								\$16,000
SR 50 Serious Injury Mitigation	Corridor Improvements	West City Boundary (SR 429) to East City Boundary (Good Homes Rd.)	Short-Term	Rest on Walk/Pedestrian Recall	\$2,720	5	-	\$13,600
				Shorter Cycle Length	\$2,720	5	-	\$13,600
				Leading Pedestrian Interval	\$2,720	5	-	\$13,600
				High Visibility Crosswalk	\$3,150	42	-	\$132,300
			Mid-Term	Two-Stage Turn Queue Bike Boxes	\$11.50/sf	1,300	-	\$14,950
				Lighting	\$720,000/mile	-	0.91	\$656,727
				Widen Sidewalk	\$226,150/mile	-	3.26	\$737,249
				Mid-Block Crossing Study	\$40,000	-	-	\$40,000
			Long-Term	Protected Intersection	\$1,000,000	3	-	\$3,000,000
Separated Bicycle Lanes	\$365,000/mile	2		3.26	\$2,379,800			
Initial Project Cost								\$7,001,826
CEI								20%
Contingency Costs								30%
Project Cost								\$10,923,000

City of Ocoee - Opinion of Probable Cost for Safety Projects

Project Name	Project Type	Project Location (s)	Countermeasure Type	Countermeasure	Unit Cost	Count	Mileage (mi.)	Countermeasure Cost
Silver Star Road Serious Injury Mitigation	Corridor Improvements	Ocoee Apopka Rd. to East City Boundary (Coventry Ln.)	Short-Term	Speed Feedback Sign	12500	2	-	\$25,000
				Chevron Signs on Horizontal Curves	\$5.50/linear foot	-	0.70	\$20,328
				Leading Pedestrian Interval	\$2,720	3	-	\$8,160
				High Visibility Crosswalk	\$3,150	34	-	\$107,100
			Mid-Term	High Friction Surface Treatment	\$116,000/lane/ mile	3	3.05	\$1,061,400
				Two-Stage Turn Queue Bike Boxes	\$11.50/sf	600	-	\$6,900
				Add Sidewalk	\$226,150/mile	-	3.05	\$689,758
			Long-Term	Raised Intersection	\$115,250	2	-	\$230,500
				Shared Use Path	\$410,483/mile, 12' path, bidirectional	-	3.05	\$1,251,668
Initial Project Cost								\$3,400,814
CEI								20%
Contingency Costs								30%
Project Cost								\$5,305,000
Lady Ave./Maureen Ave. Local Intersection	Intersection Improvements	Wurst Rd./Perce St. to Nicole Blvd./Mona Ave.	Short-Term	Upgrade to Larger Warning Sign	\$150/sign	7	-	\$1,050
				Add LED-Enhanced Sign	\$11,000	7	-	\$77,000
Initial Project Cost								\$78,050
CEI								20%
Contingency Costs								30%
Project Cost								\$122,000
Bluford Avenue Serious Injury Mitigation	Corridor Improvements	Old Winter Garden Rd. to SR 50	Short-Term	Protected Left Turns	\$5,000	2	-	\$10,000
				Chevron Signs on Horizontal Curves	\$5.5/linear foot	-	0.07	\$2,033
				Retroreflective Signal Backplates	\$110/signal head	9	-	\$990
Initial Project Cost								\$13,023
CEI								20%
Contingency Costs								30%
Project Cost								\$20,000

City of Ocoee - Opinion of Probable Cost for Safety Projects

Project Name	Project Type	Project Location (s)	Countermeasure Type	Countermeasure	Unit Cost	Count	Mileage (mi.)	Countermeasure Cost
Ocoee Apopka Road Serious Injury Mitigation	Corridor Improvements	Silver Star Road to West Road	Short-Term	Leading Pedestrian Interval	\$2,720	1	-	\$2,720
				Chevron Signs on Horizontal Curves	\$5.5/linear foot	-	0.30	\$8,712
				Speed Feedback Sign	\$12,500	2	-	\$25,000
				High Visibility Crosswalk	\$3,150	14	-	\$44,100
			Mid-Term	Lighting	\$720,000/mile	-	3.15	\$2,268,000
				Add Sidewalk	\$226,150/mile	-	3.15	\$712,373
Initial Project Cost								\$3,060,905
CEI								20%
Contingency Costs								30%
Project Cost								\$4,775,000

Technical Appendix

L- Prioritization Criteria



Crosswalk at the Bluford Avenue and McKey Street intersection



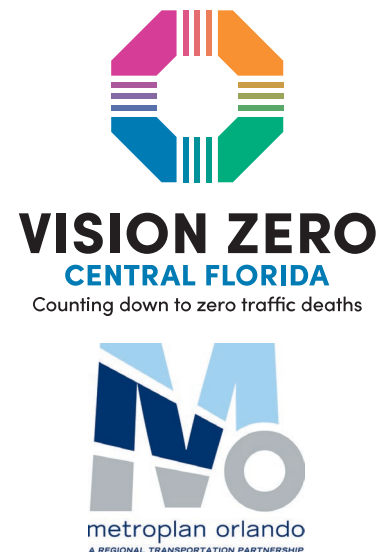
Memorandum

Date: April 26, 2024

To: Vision Zero Central Florida Partners

From: Mighk Wilson, MetroPlan Orlando
Kathrin Tellez, Fehr & Peers

Subject: **Vision Zero Central Florida – Project Prioritization**



Introduction

A core element of Vision Zero Action Plans is **Project Delivery** where decision-makers and system designers advance projects and policies for safe, equitable multimodal travel by securing funding and implementing projects, prioritizing roadways with the most pressing safety issues. As part of the Regional Vision Zero Action Plan, transportation safety countermeasures will be identified for the top 30 high injury network (HIN) segments, identified using the Safety Score, which is calculated based on the total number of crashes, the highest level of injury sustained in each crash, and the travel mode of victims. As a part of the County and jurisdictional action plans being prepared concurrently, transportation safety countermeasures will also be identified for their top corridors.

This document outlines the process to develop criteria that can be used to prioritize roadway improvements that have transportation safety benefits. The criteria will be used to identify projects to incorporate into the typical MetroPlan Orlando project funding process through the Metropolitan Transportation Plan (MTP), as well as select projects that could be a part of a regional implementation grant application through the U.S. Department of Transportation's Safe Streets and Roads for All (SS4A) grant program. This document summarizes prioritization criteria used by MetroPlan Orlando on other planning projects and presents Vision Zero Action Plan prioritization criteria.

Existing Criteria

As the regional planning agency, MetroPlan Orlando has developed evaluation criteria based on goals articulated in the 2045 MTP to prioritize transportation system improvements. Most recently, a prioritization process was completed for the Prioritized Project List (PPL) and the Active Transportation Plan (ATP) project. The criteria from the PPL is summarized in **Table 1** and the criteria from the ATP project is summarized in **Table 2**, along with its potential applicability to the regional Vision Zero Action Plan as the criteria used for Vision Zero project prioritization should have some alignment with the criteria used for other regional planning purposes. Based on the review, all criteria used in the PPL and ATP prioritization processes have some applicability to Vision Zero.

Table 1: Prioritized Project List Evaluation Criteria and Applicability to Vision Zero Action Plan

Goal Area / Weight	PPL Evaluation Criteria	Applicable to Vision Zero	Notes
Safety and Security / 33%	Crash Rate	Yes	Improving safety is the primary goal of the Vision Zero Action Plan.
	Fatal & Serious Injury Crash Rates	Yes	
	Number of Pedestrian & Bicycle Crashes	Yes	
	Evacuation Route Designation	Yes	Potential changes on designated evacuation routes would need to be reviewed to assess if changes could negatively affect the evacuation process.
Reliability and Performance / 13%	Travel Time Reliability (Auto)	Yes	While safety projects can reduce crashes, thereby reducing non-recurring congestion and increasing auto travel time reliability, these metrics are traditionally focused on congestion relief projects. As these metrics are not included as a part of the Vision Zero Action Plan, these effects may be best measured as part of the Congestion Management Process (CMP) or other auto-focused study.
	Unreliability on Constrained Corridor	Yes	
	Fiber Optic Presence	Yes	
	Segment Actively Monitored/Managed	Yes	
	Relative Change: Future Congested Speeds	Yes	
Access & Connectivity / 27%	Transit System Headways	Yes	Safety projects in areas with a high density of destinations have the potential to benefit multiple trip types.
	Population: ½ Mile of Non-Transit Corridor	Yes	
	Jobs: ½ Mile of Non-Transit Corridor	Yes	
	Food & Healthcare Locations: ½ Mile of Corridor	Yes	
	Cultural & Recreational Locations: ½ Mile of Corridor	Yes	
	MTP Centrality Analysis Score (Critical Sidewalk Need)	Yes	Closing sidewalk gaps could improve safety outcomes.

Goal Area / Weight	PPL Evaluation Criteria	Applicable to Vision Zero	Notes
Health & Environment / 7%	Bicycle Level of Traffic Stress (LTS)	Yes	Projects that improve the bicycle level of traffic stress would either have a separation component (such as a shared use path) or a speed reduction element. Would need to bring LTS into the analysis.
	Residential Density: ¼ Mile of Multimodal Facility	Yes	Projects in areas with a high density of destinations have the potential to benefit multiple trip types.
	Non-Residential Density: ¼ Mile of Multimodal Facility	Yes	Projects in areas with a high density of destinations have the potential to benefit multiple trip types.
	Public Health Indicator Rates	Yes	While safety projects are likely to improve public health outcomes, this can be difficult to measure.
	Intensity & Proximity: Environmental Justice Populations	Yes	Safety projects can improve mobility choices for Environmental Justice populations.
	Relative Change: Vehicle Miles Traveled (VMT) (2020 vs. 2045)	Yes	A reduction in VMT on a per capita basis could reduce per capita crash exposure. While safety projects and providing other transportation options are likely to reduce vehicle miles of travel on a per capita basis, this can be difficult to measure.
Investment & Economy / 20%	Percentage of Commercial Vehicle Traffic	Yes	Transportation safety projects on truck routes may need additional considerations.
	Statewide Truck Bottlenecks	Yes	Reducing or eliminating truck bottlenecks could have a safety benefit.
	Intensity & Proximity: Freight Intensive Land Uses	Yes	Transportation safety projects in the vicinity of freight intensive land uses may need additional considerations.
	Relative Change: Vehicle Hours Traveled	Yes	A reduction in total vehicle hours of travel could reduce crash exposure and improve crash outcomes.
	Cost Burdened Households: ¼ Mile of Corridor	Yes	Safety projects can improve mobility choices for cost burdened households.
	Percentage of Visitor Traffic	Yes	Transportation safety projects in high visitor areas may need additional considerations, like wayfinding.
	Cost of Congestion	Yes	Safety projects can reduce non-recurring congestion caused by traffic crashes.

Source: MetroPlan Orlando; Fehr & Peers, 2024

Table 2: Active Transportation Plan Evaluation Criteria and Applicability to Vision Zero Action Plan

Goal Area / Weight	ATP Evaluation Criteria	Applicable to Vision Zero	Notes
Transportation Disadvantaged / Historically Underserved Areas ¹ / 15%	Meets 4 or 5 of the ETC ¹ Criteria or in an area with > 18% of households identified as Zero Car Households Meets 2 or 3 of the ETC Criteria or in an area with ≥ 12% of households identified as Zero Car Households Meets 1 of the ETC Criteria or in an area with ≥ 6.3% of households identified as Zero Car Households	Yes	The effects of traffic crashes disproportionately affect people who live in transportation disadvantaged communities.
Bicycle and Pedestrian Safety / 30%	More than 5 crashes involving a person walking or biking or any pedestrian / bicycle fatalities 4 - 5 bike/ped crashes 2 - 3 bike/ped crashes 1 bike/ped crash	Yes	Improving safety outcomes is a key goal of the Vision Zero Action Plan, but not limited to bicyclists and pedestrians.
Accessibility and Connectivity, Comfort ⁴	Percent improvement in walking access to destinations Percent improvement in biking access to destinations. Number of people for whom access is improved for walking trips. Number of people for whom access is improved for biking trips. New or improved PLOC ² for a walking facility New or improved LTS ³ for a biking facility	Yes Yes Yes Yes Yes Yes	Safety projects in areas with a high density of destinations have the potential to benefit multiple trip types. However, these criteria may be difficult to consistently measure across the region. Would need to bring LTS into the analysis.
Jurisdictional Significance	Qualitative low/medium/high ranking by local jurisdiction on the proposed project's local significance	Yes	This factors local preferences and priorities.
Regional Impact	Facility eligible for inclusion in the SunTrail or Coast to Coast Network	No	

1. Additional information can be found on the US DOT Equitable Transportation Community (ETC) Explorer website:

<https://www.transportation.gov/priorities/equity/justice40/etc-explorer>

2. PLOC = Pedestrian Level of Comfort

3. LTS = Level of Traffic Stress

4. See Active Transportation Plan for additional details on how accessibility was evaluated.

Source: MetroPlan Orlando; Fehr & Peers, 2024

Draft Vision Zero Prioritization Criteria

Based on the priorities identified by the MetroPlan Orlando Board in various MetroPlan Orlando policy documents, the goals of the Vision Zero Action Plan and the criteria used in other recent projects, such as the Active Transportation Plan, an **initial** set of prioritization criteria was developed and shared with the Regional Task Force for feedback. Initial feedback from the Task Force was incorporated into an updated set of draft prioritization criteria that was then discussed with a subset of key stakeholders, including the consultant teams working on county and local plans, as well as representatives from Orange, Osceola and Seminole counties.

Potential evaluation criteria presented in **Table 3** primarily focus on safety and transportation disadvantage, with some additional prioritization criteria to consider, such as incorporation of the Federal Highway Administration's (FHWA) proven safety countermeasures, potential effectiveness, and regional impact. Some criteria presented in **Table 3** may be more applicable for a local agency to include as a part of their plan to differentiate between projects. Key considerations for each of the potential criteria include ease of analysis and replicability of the prioritization are provided to help inform the selection of the final prioritization criteria.

Table 3: Potential Evaluation Criteria Regional Vision Zero Action Plan

Performance Indicator	Description	Scoring Considerations
Transportation Underserv Communities	Meets 4 or 5 of the ETC Criteria	The effects of traffic crashes disproportionately affect people who live in transportation underserved communities. These criteria will also be a factor in future SS4A applications. However, this factor may not be relevant for state funding sources. As more than 50% of the HIN is through a transportation underserved community, disadvantage is accounted for in some of the other potential prioritization criteria. This data is readily available for all roadways in the region and can be consistently measured. The ETC criteria measure different aspects of transportation disadvantage and there are opportunities for jurisdictions to weigh different criteria as part of a local prioritization process, if desired.
	Meets 2 or 3 of the ETC Criteria	
	Meets 1 of the ETC Criteria	
Safety Score	Divide scores into quartiles, with the highest quartile receiving all points, second quartile receiving 75% of points, etc.	e Safety Score was the basis of the HIN/Top Intersection identification and weights crashes including people outside a vehicle higher than car and truck occupants. This data is readily available for all roadways in the region and can be consistently measured.

Performance Indicator	Description	Scoring Considerations
Do proposed improvements include FHWA's proven safety countermeasures?	Points allocated based on a proportion of project that includes proven safety countermeasures.	A focus on only FHWA proven safety countermeasures could limit application of innovative approaches as well as other countermeasures that have a proven crash reduction benefit. However, use of these proven strategies could result in projects that are eligible for additional funding sources. Use of this performance indicator would need to identify a method to consistently evaluate potential safety benefit of projects for comparison purposes.
Reduction in Target Speed/ Design Speed (for segment improvements)	Points allocated based on reduction in Target Speed.	Points would be allocated based on overall reduction in Target Speed within the allowable range for the context classification/ designation; projects with target speed already at the lowest end of the range would receive full points. At a planning stage, there may be insufficient information to set target speed that can be kept throughout the entirety of the planning, design and construction process. For new roadways, points could potentially be allocated on a sliding scale depending on target speed and context (100% for target speed at lowest end of allowable range).
Number of KSI crashes per mile linked to the safety concern that the countermeasure addresses.	Scaled point application based on the highest to lowest.	This criterion was in the 2023 SS4A Grant application. The criteria would ensure that identified improvements have a connection to the crashes on a corridor.
Project is on multiple high injury networks.	Scaled point application based on the overlap of networks, with a 100% overlap receiving all points.	A project on both the regional HIN and a county HIN, or county HIN and a local HIN would potentially have regional and local significance that could make it a good candidate for SS4A funding. This data is readily available and could measure the potential regional impact of an improvement.
Road already has planned improvements	Scaled point application based on level of planning/ construction readiness.	Could be an opportunity to leverage already committed funds to accelerate project delivery. May be difficult to measure consistently.
Would the proposed project provide secondary benefits to the community?	This performance standard would prioritize projects that could have co-benefits, such as providing reciprocal access that reduces trips on the regional network or creates a new connection between land uses.	The metric could include a discussion of land uses, surrounding community characteristics with clear connection to proposed improvement, and includes community input and support received. May be difficult to measure consistently at the regional scale.

Performance Indicator	Description	Scoring Considerations
Project includes vehicular capacity increasing elements.	Scaled point application based on the amount of vehicle capacity provided, with no additional capacity receiving 100% of points.	This performance indicator could penalize projects in rapidly growing areas where roadway expansions are needed to accommodate growth and have been planned for. To support development of safer streets in growing communities, criteria could include considerations for roadways developed with low Target Speeds that incorporate appropriate bicycling and pedestrian facilities for the context, frequent crossing locations, street lighting and other features that are shown to promote transportation safety. Could include considerations for providing new parallel facilities rather than widening existing corridors. Converting a conventional intersection to a roundabout would not count as adding capacity.
Improvements include low cost/quick build improvements of proven effectiveness	Points could be allocated based on how quickly improvements could be implemented (0-2 years, 2-5 and beyond 5 years)	One of the goals of SS4A is the implementation of low cost / quick build strategies. These should be implemented at a number of locations as there could be significant administrative costs if only implemented at a few locations.

Source: MetroPlan Orlando; Fehr & Peers, 2024

Based on the considerations presented in [Table 3](#), initial prioritization criteria, feedback from the Task Force, and focused conversations with stakeholders, prioritization criteria were developed and goal area weights established, as presented in [Table 4](#). The primary purpose of this criteria is to identify projects that could be included in a regional SS4A grant application or other safety-focused grant program. Once projects throughout the region are identified, they will be ranked for prioritization.

High priority safety improvements identified through this process may also be added to the 2050 MTP or incorporated into an already planned project in the PPL or TIP. Local jurisdictions can also use these criteria or a modified version for their own project prioritization process. For projects selected for inclusion in a regional SS4A grant application, additional information will be needed for the grant application, requiring a greater level of planning than is occurring for this initial screening. Information related to potential SS4A grant application criteria is provided at the end of this memorandum.

Table 4: Safety Project Evaluation Criteria Scoring and Weight

Performance Indicator	Description	Criteria Scoring	Goal Area Weight
Safety Score – Corridor Projects	> 10,424 to 17,478	1.0	50%
Source: Signal 4 Analytics, MetroPlan Orlando HIN Calculations.	> 8,953 to 10,424	0.75	
Analysis Notes: Reflects score weighted on a per mile basis for corridors. See notes below for scoring of intersections.	> 6,903 to 8,953	0.50	
	1,410 to 6,903	0.25	
Safety Score – Intersection Projects	> 1,050 to 10,140	1.0	50%
	> 299 to 1,050	0.75	
Source: Signal 4 Analytics, MetroPlan Orlando HIN Calculations.	> 36 to 299	0.50	
	1 to 36	0.25	
Transportation Underserved	Meets 4 or 5 of the ETC Criteria	1.0	15%
Source: Regional Equity Profiles, MetroPlan Orlando.	Meets 2 or 3 of the ETC Criteria	0.75	
Analysis Notes: A buffer of 100 feet should be applied to each corridor to identify if it is with a census tract that meets the criteria. For corridors that cross multiple census tracts, use data from census tract that at least 50% of corridor travels through.	Meets 1 of the ETC Criteria	0.50	
	Is within the top 50th percentile of the region but does not meet any of the ETC Criteria	0.25	
Safety Benefit	Target Speed set for the lowest allowable for context classification or functional classification (corridor project).	1.0	15%
Notes: Based on the FDOT context classification guidelines, where applicable. Where a context classification has not been set, use proposed reduction in speed or resulting target speed to determine scoring. Potential countermeasures to achieve the desired target speed would need to be conceptually identified.	Project is on a C3C, Principal Arterial, Minor Arterial, or Major Collector and includes major speed reduction elements (corridor project).	0.75	
	Project is on a C3C, Principal Arterial, Minor Arterial, or Major Collector and includes minor speed reduction elements (corridor project).	0.50	

Performance Indicator	Description	Criteria Scoring	Goal Area Weight
	Project includes features that slow vehicles through an intersection (roundabout, reduced curb radii, protected intersection elements, etc.) (intersection project).	1.0	
	Project primarily includes elements that are tied to safety history (such as lighting, high friction surface treatment, signal phasing modifications, outreach/engagement) (intersection or corridor project).	1.0	
Project is on multiple high injury networks [Regional, County (all roads), County (County roads), Local (all roads), Local (local roads) or high-risk network]	Project is on 2 networks	1.0	10%
Notes: Overlapping HINs can be found on visionzeroocfl.gov .	Project is on 1 network	0.5	
Implementation Timeline Notes: assessment of implementation time should also consider agency coordination.	Project primarily includes low-cost / quick build elements, or	1.0	10%
	A publicly available concept plan that included public engagement has been prepared; or	1.0	
	At least 50% of project extents are in an adopted plan that included public engagement specific to the project corridor; or	0.75	
	Project can be completed within 5-years; or	1.0	
	Project is identified as an unfunded need in the MTP.	0.5	

Source: MetroPlan Orlando; Fehr & Peers, 2024

Scoring Guidance

The following provides some scoring guidance to assist in the development of consistent prioritization scores across the region. The sample calculations are intended to capture a wide range of situations, but there may be circumstances that were not considered and consultation with MetroPlan Orlando staff is advised.

For the purposes of scoring guidance, sample projects were developed to serve as examples:

Example Corridor Project 1: Holden Avenue from Rio Grand Avenue S to Lake Holden Hill Drive (Regional HIN Corridor 31).

Example Project Description: Mark a crosswalk at Almark Drive at Holden Avenue and provide a raised crosswalk, median refuge and RRFB. Install Speed Feedback signs.

Example Corridor Project 2: Oak Ridge Road from S. Orange Blossom Trail to S Orange Avenue (Regional HIN Corridor 16).

Example Project Description: Install a raised median and add additional marked and controlled crossing locations, co-located with transit stops, improve lighting, and incorporate additional speed management strategies, such as travel lane narrowing. Widen sidewalks where feasible. Design for a target speed of 35 miles per hour (current posted speed is 45).

Safety Score

The Safety Score was calculated for each corridor and intersection based on the process outlined in the Regional High Injury Network memorandum dated February 29, 2024, with crash weights assigned based on the crash severity and if someone outside a car or truck was involved. Safety Scores for each HIN segment and top intersection are provided on the HIN factsheets developed for each jurisdiction.

Example Corridor Project 1 (Holden Avenue): This segment has a safety score of 10,402 and falls into the second quartile of the scoring criteria and is assigned **37.5 points** for the Safety Score criteria ($0.75 * 50$).

Example Corridor Project 2 (Oak Ridge Avenue): This segment has a safety score of 12,054 and falls into the first quartile of the scoring criteria and is assigned **50 points** for the Safety Score criteria ($1.0 * 50$).

Transportation Underserved

Transportation underserved data was developed as a part of the Regional Equity Profiles prepared by MetroPlan Orlando. A GIS layer with data by census tract is provided on the Vision Zero hub site

and at this link: [Equity Index_V2 | Tableau Public](https://public.tableau.com/app/profile/sigal.carmenate/viz/EquityIndex_V2/DisadvantagedIndicator)¹. A buffer of 100 feet should be applied to each corridor to identify if it is with a census tract that meets the criteria as this will capture roads that might be on the boundary of a transportation underserved community. For corridors that cross multiple census tracts, use data from census tract that at least 50 percent of corridor travels through. If the corridor is within 2 census tracts when considering the 100-foot buffer, use the data for the most underserved tract.

Example Corridor Project 1 (Holden Avenue): There are four census tracts that touch this road segment, as shown on **Figure 1**. Based on a review of the ETC data, data from the checked census tract should be used as it bounds the longest length of the corridor. The tract meets 2 of the 5 criteria and would receive **11.25 points** for the transportation underserved category ($0.75 * 15$).

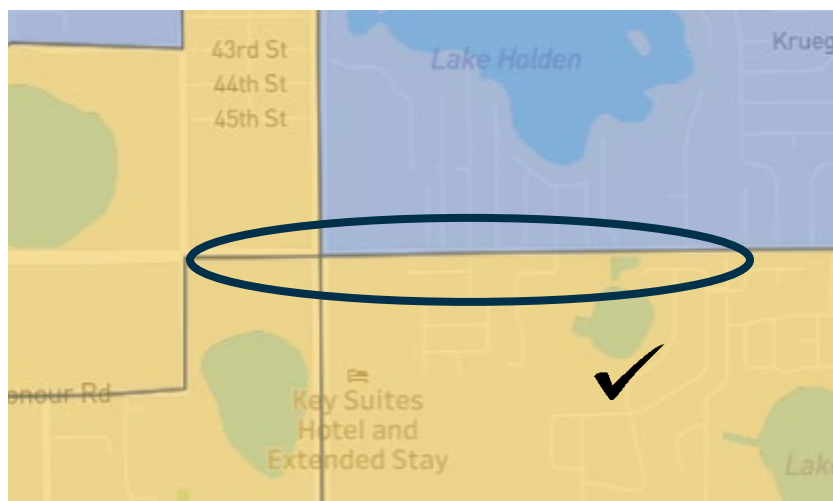


Figure 1: Example Corridor 1 ETC Calculations

Example Corridor Project 2 (Oak Ridge Avenue): This segment is adjacent to two transportation underserved tracts, as shown in **Figure 2**. One tract meets 4 of the 5 ETC criteria and the other meets 2 of the 5 criteria. This corridor would be assigned **15 points** for the Transportation Underserved criteria ($1.0 * 15$), based on using the data from the most underserved tract.

¹ https://public.tableau.com/app/profile/sigal.carmenate/viz/EquityIndex_V2/DisadvantagedIndicator

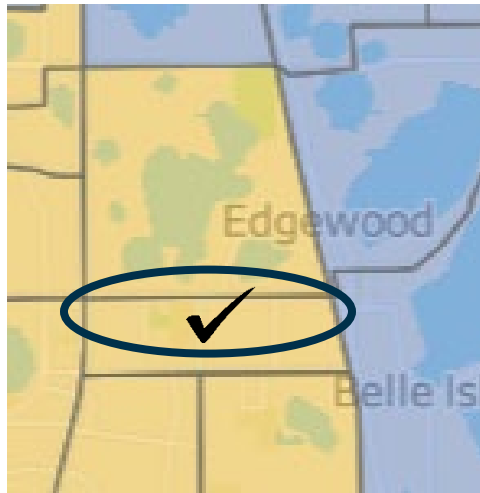


Figure 2: Example Corridor 2 ETC Calculations

Safety Benefit

The scoring for the Safety Benefit category is the most subjective of all the scoring criteria and should be based on a general description of safety elements that would be included in a corridor project. While it is understood that specific details might change in the final design, the overall goals of the project should be noted, such as speed reduction through physical roadway features or low/cost quick build speed management elements.

Example Corridor Project 1 (Holden Avenue): The project includes minor speed reduction elements (1 raised crosswalk) and some awareness countermeasures (speed feedback sign). The speed limit for the roadway is posted at 35 mph and the prevailing speed is 45 miles per hour based on connected vehicle data. More effective measures are likely needed to achieve a prevailing travel speed of 35 miles per hour. As the project includes minor speed reduction elements, it is assigned half the available points for this criterion and is assigned **7.5 points** for Safety Benefit ($0.5 * 15$).

Example Corridor Project 2 (Oak Ridge Avenue): The project includes significant speed reduction elements and would be designed to achieve a target speed at the lowest allowable speed for the context classification, which would allow for full points in this category to be assigned or **15 points** for Safety Benefit ($1.0 * 15$).

Regional Benefit

Projects on multiple HINs are expected to benefit a larger number of people, and these roads are likely to have more severe safety issues if they are on multiple HINs. The Regional HIN memorandum identifies the HIN overlap for the 118 regional HIN segments. The Vision Zero hub site has a web map that identifies all HINs to determine the overlap.

Example Corridor Project 1 (Holden Avenue): This segment is on three High Injury Networks, the regional HIN, the All-Roads Orange County HIN and the Orange County roads HIN. This segment would be assigned **10 points** for the Regional Benefit criteria ($1.0 * 10$).

Example Corridor Project 2 (Oak Ridge Avenue): This segment is on three High Injury Networks, the regional HIN, the All-Roads Orange County HIN and the Orange County roads HIN. This segment would be assigned **10 points** for the Regional Benefit criteria ($1.0 * 10$).

Implementation Timeline

Safety projects do not start to save lives until they are implemented, so prioritizing projects that have the greatest chance of being implemented within 5-years will provide a greater safety benefit while more complex projects are planned and designed. For the assessment of *if a project can be completed within 5-years*, considerations should be made for projects included in the MTP in the Plan Period II or III where additional funding could help accelerate the implementation timeframe. For projects within Plan Period I, is there sufficient time to incorporate additional safety elements into the design? If a project is about to be constructed or has recently had corridor improvements, the effectiveness of those improvements should be monitored for a few years after project completion to assess their effectiveness and relative need for additional countermeasures.

Example Corridor Project 1 (Holden Avenue): A portion of this corridor is identified in the 2045 MTP for an operational / safety project between US 17/92 and S. Orange Avenue with an estimated cost of \$6.5 million in 2020 dollars. This is an unfunded need. While the project is in an adopted plan that included some level of public engagement, it is likely that the engagement did not focus on the specific corridor or identify specific needs. However, proposed project elements include primarily low-cost and quick build elements that could be implemented on a pilot basis. Therefore, this corridor is assigned **10 points** for Implementation Timeline ($1.0 * 10$). Should the MTP project be considered for prioritization through this process, the points for this category would decrease, with the points for the safety benefit potentially increasing.

Example Corridor Project 2 (Oak Ridge Avenue): There is an unfunded project identified for the entire length of the corridor (MTP Project 7132) that would provide operational and safety improvements, with an estimated cost of \$8 million in 2020 dollars. While the project is in an adopted plan that included some level of public engagement, it is likely that the engagement did not focus on the specific corridor or identify specific needs. The project does not primarily include low cost/quick build elements as significant speed management is needed along the corridor, including access management. Therefore, this corridor is assigned **5 points** for Implementation Timeline as it is an unfunded need in the 2045 MTP ($0.5 * 10$).

Table 5 provides a summary of the scoring comparison, which shows that the example Holden Avenue project would score 76.25 points while the Oak Ridge Avenue project would score 95 points.

Table 5: Scoring Example Summary

Performance Indicator	Example Project 1 (Holden Avenue)	Example Project 2 (Oak Ridge Avenue)
Safety Score – Corridor Projects	37.5	50.0
Safety Score – Intersection Projects ¹	N/A	N/A
Transportation Underserved	11.25	15
Safety Benefit	7.5	15
Regional Benefit	10	10
Implementation Timeline	10	5
Total	76.25	95

1. For an intersection project, the intersection score would replace the corridor score.

Source: MetroPlan Orlando; Fehr & Peers, 2024

SS4A Implementation Grant Criteria

The following summarizes key aspects for the SS4A Implementation Grant criteria based on the 2024 Notice of Funding Opportunity (NOFO):

- **Safety Impact** – is the project likely to significantly reduce or eliminate roadway KSI, employ low-cost high-impact strategies over a wide geographic area, and include evidence-based projects and strategies?
- **Equity, Engagement and Collaboration** – Includes investments in transportation underserved communities and outreach with a variety of public and private stakeholders.
- **Effective Practices and Strategies** – Projects are reflective of practices that promote systemic safety improvements.
- **Other USDOT Strategic Goals** – Projects also address other goals, such as sustainability and resilience, and support economic competitiveness.
- **Project Readiness** – Project can be completed within 5-years; includes outreach, environmental review, design, all agency approvals, ROW acquisition, all other needed activities, and construction.

While the funding criteria is likely to change with the 2025 NOFO, implementing agencies will need to be able to develop narratives and analysis to support the above criteria.

Next Steps

A rubric for tracking of projects on the regional, county and local roads HIN was developed and it is anticipated that as projects are developed, the relevant information will be included in a GIS layer of the various HIN/project segments for further prioritization and tracking at the regional level. The rubric includes the following data needs:

Project ID: to be developed based on municipality name.

Road Information: Road name and extents.

Project Description: Brief project description that provides overall goals of the project and some specific strategies that would be included, like lane narrowing, intersection treatments, midblock crossings, lighting, and other details that can help with a general understanding of the project. Avoid generic terms such as safety improvement.

Other Project IDs: MTP, FDOT or other project identification number for tracking purposes.

Prioritization Scores: Scores for each of the prioritization criteria.

Existing Posted Speed: Current posted speed - use weighted average if multiple posted speeds.

Target Speed: Proposed Target Speed; if the proposed target speed is not identified, it is assumed that the existing posted speed would remain.

Low Cost / Quick Build: Yes or no based on primary composition of project; if it includes utility relocation, curb reconstruction, drainage, ROW acquisition, etc., it is likely not quick build.

Planning Level Cost Estimate: High level planning costs based on information provided in the engineering toolkit and published FDOT information.

Notes: Any additional information that might be helpful to track, such as recently completed improvements where effectiveness should be monitored.

Technical Appendix

M- Data Management Plan

A horizontal bar with a rainbow color gradient, transitioning from red on the left to blue on the right.

Crosswalk at the Bluford Avenue and McKey Street intersection



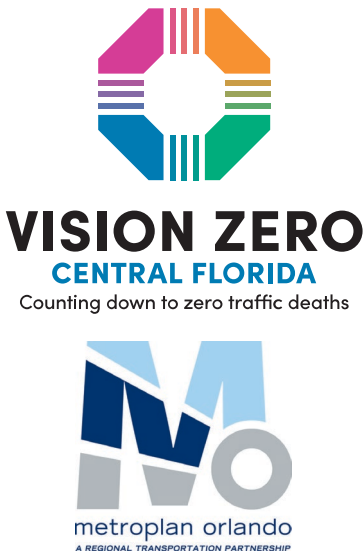
Memorandum

Date: November 10, 2023

To: Vision Zero Central Florida Partners

From: Mighk Wilson, MetroPlan Orlando
Stephen Spana, Fehr & Peers
PJ Smith, xGeographic

Subject: Vision Zero Central Florida – Data Management Plan



Introduction

This data management plan provides information that will assist MetroPlan Orlando in maintaining the Vision Zero Central Florida hub site on an annual and ongoing basis. Information is provided on critical GIS layers, associated instructional documents, and information on document storage, sources and methods of data management. Updates to crash data on the hub site are expected to occur in the third quarter of each calendar year as data within the Signal Four Analytics (S4) database becomes finalized for the prior calendar year.

Critical GIS Layers

The ArcGIS Hub Site will be refreshed annually with new crash data downloaded from the Signal Four Analytics online tools. As part of the annual process to refresh the crash data, numerous input files are used to transform the raw crash data into a formatted database that can be appended to the existing online layer. The GIS layers that are used to update the S4 database are described in this section of the report along with important metadata and data storage information. The listing below does not include municipality-specific files that were generated in 2023 and 2024.

Layer Listing

Layer	Source	Update Frequency	Next Refresh
Signal 4 Analytics Crashes File Name: S4.gdb	Signal 4 Analytics	Annual	June 2024
MetroPlan Coverage Area File Name: MetroPlan_Area.shp	F.G.D.L.	None	None
MetroPlan Jurisdictions File Name: MetroPlan_Juris.shp	MetroPlan Orlando	Annual	June 2024

Wave Roadways File Name: xWave.shp	xGeographic	Annual	June 2024
Federal Aid Highway System File Name: Federal_Aid_Highway_System_TDA.shp	F.H.W.A.	Annual	June 2024
ETC Indicator File Name: ETC_Indicator.shp	U.S.D.O.T.	Annual	June 2024

Additional Data

Crashes between rail vehicles and non-motorized vehicles are not included within the S4 database. The Florida Department of Transportation (FDOT) District 5 Rail Administration Manager (part of the Modal Development office) maintains a record of incidents that occur along rail lines and at railroad crossings in the region. The incidents from the prior calendar year will need to be requested and geocoded into the database for consideration in crash analysis. This information can also be supplemented by information from the Federal Railroad Administration (<https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx>).

Data from the Florida Injury Surveillance System (FISS) dataset can be used to document deaths, emergency room visits and hospitalizations for people who were injured while walking and biking, including information for people who were injured or killed while walking or bicycling when a vehicle was not involved. While this information cannot be geocoded to a specific location, the overall trends should be documented.

Metadata

All of the GIS files that are used to generate the final Signal Four Analytics crash file are populated with important metadata. This includes information on how the data was created, what the layer data fields include (including field value descriptions), and update frequency information. The five GIS files described in the Layer Listing are already embedded with this necessary information, so Metadata does not need to be updated on an annual basis.

Data Storage Locations

The Signal Four Analytics crash file is stored on ArcGIS Online with a static geodatabase name of S4.gdb. This file can be downloaded for use from the ArcGIS Online account at any time by project team members and partnering organizations.

Source files, including the MetroPlan Coverage Area, MetroPlan Jurisdictions, Wave Roadways, Federal Aid Highway System and ETC Indicators are maintained by third parties and are stored in various locations. The four source (input) files that are updated annually can be found in the following locations or by contacting the following stakeholders:

- MetroPlan Coverage Area: This file is stored on the MetroPlan Orlando server. This file will not update unless the underlying MetroPlan Orlando coverage area changes in the future.

- **MetroPlan Jurisdictions:** This file is stored on the MetroPlan Orlando server. This file is updated semi-regularly by MetroPlan Orlando as municipal boundaries change.
- **Wave Roadways:** This file is stored by xGeographic and is updated four times annually, ensuring that road features, demographic data, and proximity data is as accurate as possible at the time that the crash data cross-reference is made. Contact pjsmith@xgeographic.com to obtain this file.
- **Federal Aid Highway System:** This file is stored online and is maintained by the Federal Highway Administration. The file can be downloaded by clicking on "Federal Aid Highway System Shapefile" at the following link: <https://www.fdot.gov/statistics/fedaid/default.shtm>
- **ETC Indicator:** This file is stored online and is maintained by the U.S. Department of Transportation. The file can be downloaded by following the instructions at the following link: <https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Homepage/>

Critical Documents

Along with this data management plan, numerous documents are stored on the MetroPlan Orlando server that serve as critical analytical tools and data management files for the project team. These files are explained below.

- **Regional Projects Data Directory**
 - The regional projects data directory is an excel spreadsheet that provides instructions for municipalities to develop GIS files that can be easily merged to form a regional file. This includes field names and specific field values.
- **S4.atbx (GIS Toolbox)**
 - This toolbox file is used to generate formatted crash data to be appended to the existing crash data on ArcGIS Online.
- **MetroPlan VZ Systemic Matrix**
 - The systemic matrix includes detailed crash analytics that are used in official Vision Zero Central Florida plan documents. The project team will review the need to update these statistics in future years.
- **Source Layer Information**
 - The source layer information document provides more in-depth information in excel format pertaining to the input files used as part of this project.

Signal Four Data Update Procedures

On an annual basis, a GIS analyst will run the S4.atbx ArcGIS toolbox to generate a new set of crash data to be appended to the existing online layer. Steps to set up and run this toolbox are included

below. Note: It is critical that the steps outlined below are followed while running the tool, as certain manual data edits are made while the tool is executed.

Annual Data Integration Steps

1. Log into <https://signal4analytics.com/analysis>
2. Download the latest full year of crash data
 - a. Insert a custom date range (01/01/XXXX through 12/31/XXXX)
 - b. Set the geographic boundary to MetroPlan Orlando
 - c. Download the Crash Event csv and the GIS Geolocation
3. Conduct QA/QC of crash data:
 - a. Map all crash data within the geographic boundary of MetroPlan Orlando to identify crashes that are being mapped outside the region.
 - b. A list of crashes that resulted in a fatality or serious injury that are unmapped shall be prepared, and based on data within the crash report, the analyst shall attempt to identify the location for mapping. A list of all crashes in the region that are unmapped shall be prepared for forwarding to the agency for further review.
4. In ArcGIS, run models 1.01-1.03 in the S4 Toolbox (S4.atbx)
 - a. Model 1.01 removes crashes located outside of the MetroPlan geographic boundary
 - i. The MetroPlan_Area file, which is used to run Model 01.01, can be requested from PJ Smith at pjsmith@xgeographic.com
 - b. Model 1.02 removes fields which are unnecessary to the analysis.
 - c. Model 1.03 transforms the bicycle and pedestrian typing data from the download into a useable format (i.e., replaces numerical data categories with text descriptions)
5. In ArcGIS, run model 2.01 in the S4 Toolbox (S4.atbx) to join crash event, and bike/ped typing data to the crash locations.
6. In ArcGIS, run model 03.01 in the S4 Toolbox (S4.atbx) to append jurisdictions to the database.
 - a. The MetroPlan_Juris file, which is used to run Model 02.01, can be requested from MetroPlan Orlando.
 - b. If the Spatial Join is taking a long time to run, temporarily add MetroPlan_Juris to the working GDB file.
7. In ArcGIS, run model 03.02 in the S4 Toolbox (S4.atbx) to remove redundant fields.
8. In ArcGIS, run models 04.01 and 04.02 in the S4 Toolbox (S4.atbx) to tag crashes near the federal aid network.
 - a. Crashes selected within 100 feet of the Federal Aid network layer and populated with "Y" if within the radius, and a "N" if not within the radius. Roadways on "Private Road" or "Parking Lot" are provided a value of "N".
9. In ArcGIS, run model 05.01 in the S4 toolbox (S4.atbx). The output file is named S4_Crashes.
10. Run model 06.01 to add the KSI and MODE classifications to the crash data.

11. Run model 07.01. This flags all collisions occurring on Limited Access facilities (i.e., Interstates, Toll Roads) using the ROAD_SYSTEM_IDENTIFIER field in the Signal4 data (where ROAD_SYSTEM_IDENTIFIER = Interstate or Turnpike/Toll). After running this model, manually inspect the collisions where LIMITED_ACCESS_1 = 1, as some will be incorrectly classified as occurring on Interstates or Toll Roads. To do this, query the xGeographic Wave database to show roads where ROAD_TYPE = "FDOT – Limited Access". Change LIMITED_ACCESS_1 = 1 to LIMITED_ACCESS_1 = 0 for any of these cases (estimated time 1-2 hours).
12. Create field called LIMITED_ACCESS_2 (Type: Short Integer). The previous step will NOT capture all collisions occurring on Limited Access facilities, because some occurring on Interstates/Toll Roads are classified using ROAD_SYSTEM_IDENTIFIER = State or US. Since we cannot query Limited Access facility collisions using the State or US ROAD_SYSTEM_IDENTIFIER field (since many state or US roads are not limited access facilities) we need to flag them manually using the LIMITED_ACCESS_2 field. Set a Definition Query of LIMITED_ACCESS_1 = 0 (to view all collisions not deemed to be Limited Access collisions in the previous step) and visually inspect collisions occurring along Interstates/Toll roads. Any collisions occurring along these facilities with the ON_STREET_ROAD_HIGHWAY field representing the facility name (e.g. I-4, Interstate 4, I4, etc.) should be given a value of LIMITED_ACCESS_2 = 1.
13. Run model 07.02, which creates a final limited access field, LIMITED_ACCESS_FINAL, showing whether a collision occurs on a limited access facility (if LIMITED_ACCESS_1 = 1 OR LIMITED_ACCESS_2 = 1).
14. Run model 08.01, which flags all collisions occurring on private roadways and/or parking lots.
15. Run models 09.01 through 09.17. To obtain the xWave_Major and xWave_Minor files, contact PJ Smith at pjsmith@xgeographic.com. The ETC_Index file should be provided pre-formatted.
16. Create a new GDB titled "S4.gdb" in a folder marked with a year; for example, the folder name for the 2018-2022 data addition is titled "2022", and the folder for the appended 2023 data will be titled "2023". Export S4_Crashes into S4.gdb.
17. Append the S4.gdb file to the existing crash database on ArcGIS Online.

Ocoee 2023 100 Million VMT Estimation Method

1. Orange County 2023 Daily VMT: 43,315,328
 - a. Source: <https://www.fdot.gov/statistics/mileage-rpts/default.shtm>
2. Ocoee/Orange County BEBR Population Proportion: $49,711/1,492,951 = 0.03329$
 - a. <https://bebr.ufl.edu/population/population-data/>
3. Ocoee Daily VMT Estimation: 1,442,277
4. Ocoee Annual VMT Estimation: $1,442,277 * 365 = 526,430,954$
5. Ocoee 100M VMT = 5.26

CENTERLINE MILES

DAILY VEHICLE MILES TRAVELED

	Inter- state	Turnpike & Freeways	Other Princ. Arterials	Minor Arterials	Major Collectors	Minor Collectors	Locals	Total		Inter- state	Turnpike & Freeways	Other Princ. Arterials	Minor Arterials	Major Collectors	Minor Collectors	Locals	Total
Miami-Dade																	
Rural	0.000	0.000	68.417	11.385	14.631	55.282	93.843	243.558		0	0	1,287,407	54,250	132,642	205,108	33,092	1,712,498
Large Urbanized	28.370	111.448	236.137	405.438	543.583	39.699	5,786.680	7,151.355		5,519,326	12,870,328	9,332,961	9,440,130	5,126,577	269,566	10,079,814	52,638,702
County Total	28.370	111.448	304.554	416.823	558.214	94.981	5,880.523	7,394.913		5,519,326	12,870,328	10,620,368	9,494,379	5,259,219	474,673	10,112,906	54,351,201
Monroe																	
Rural	0.000	0.000	32.934	15.636	4.005	15.274	58.079	125.928		0	0	498,590	47,786	2,645	10,606	29,353	588,980
Small Urban	0.000	0.000	84.708	6.161	37.348	17.012	457.304	602.533		0	0	1,817,784	84,043	130,658	29,399	344,565	2,406,448
County Total	0.000	0.000	117.642	21.797	41.353	32.286	515.383	728.461		0	0	2,316,374	131,828	133,302	40,005	373,918	2,995,427
Nassau																	
Rural	12.902	0.000	51.751	3.813	120.285	26.384	50.051	265.186		759,273	0	498,173	30,789	270,391	35,060	32,783	1,626,469
Small Urban	0.000	0.000	11.612	38.134	37.866	5.662	524.686	617.960		0	0	164,188	650,531	264,120	10,634	407,635	1,497,108
County Total	12.902	0.000	63.363	41.947	158.151	32.046	574.737	883.146		759,273	0	662,360	681,320	534,512	45,694	440,419	3,123,577
Okaloosa																	
Rural	17.546	0.000	27.784	76.234	19.786	32.533	152.200	326.083		489,442	0	506,347	582,479	60,746	18,214	100,216	1,757,444
Small Urban	7.008	0.000	10.680	5.509	12.672	0.000	225.035	260.904		197,366	0	314,147	83,812	100,894	0	174,852	871,071
Small Urbanized	0.000	0.000	48.090	30.925	42.381	0.000	877.826	999.222		0	0	1,868,487	730,619	331,730	0	896,260	3,827,096
County Total	24.554	0.000	86.554	112.668	74.839	32.533	1,255.061	1,586.209		686,808	0	2,688,981	1,396,910	493,370	18,214	1,171,328	6,455,611
Okeechobee																	
Rural	0.000	7.472	61.331	3.795	64.370	15.338	120.725	273.031		0	225,654	379,388	27,530	80,944	8,432	79,075	801,023
Small Urban	0.000	0.000	29.987	0.986	21.045	1.100	209.587	262.705		0	0	390,571	7,167	67,904	917	162,849	629,407
County Total	0.000	7.472	91.318	4.781	85.415	16.438	330.312	535.736		0	225,654	769,959	34,697	148,847	9,349	241,924	1,430,431
Orange																	
Rural	0.000	20.205	29.112	3.574	17.973	20.360	78.764	169.988		0	753,739	373,907	11,997	35,625	91,818	51,590	1,318,676
Small Urban	0.000	0.000	1.726	0.000	2.345	0.000	10.617	14.688		0	0	83,711	0	24,857	0	8,249	116,817
Large Urbanized	24.673	141.197	166.879	288.324	467.416	93.301	3,420.986	4,602.776		3,747,665	9,947,020	6,657,189	6,635,256	4,906,639	703,401	5,937,614	38,534,783
County Total	24.673	161.402	197.717	291.898	487.734	113.661	3,510.367	4,787.452		3,747,665	10,700,758	7,114,807	6,647,253	4,967,121	795,219	5,997,453	39,970,276
Osceola																	
Rural	0.000	45.396	82.583	21.079	52.611	9.749	96.074	307.492		0	1,405,182	522,284	60,036	213,263	12,615	62,928	2,276,309
Small Urban	6.032	4.501	8.472	17.518	24.516	0.000	110.496	171.535		676,859	107,873	419,851	227,730	192,068	0	85,855	1,710,235
Large Urbanized	1.853	20.407	73.832	45.093	108.489	28.591	851.886	1,130.151		219,704	835,479	2,439,871	976,894	907,781	125,742	1,485,689	6,991,160
County Total	7.885	70.304	164.887	83.690	185.616	38.340	1,058.456	1,609.178		896,563	2,348,533	3,382,006	1,264,659	1,313,112	138,357	1,634,473	10,977,704
Palm Beach																	
Rural	0.145	0.170	68.946	28.621	34.330	29.633	68.335	230.180		13,920	7,412	801,343	208,507	73,978	71,822	40,538	1,217,520
Small Urban	0.000	0.000	15.945	26.304	11.301	23.172	96.471	173.193		0	0	205,354	240,718	53,127	81,926	77,461	658,586
Large Urbanized	45.873	44.391	225.753	229.213	278.002	199.786	2,502.370	3,525.388		9,051,870	3,228,302	8,638,753	5,523,020	3,288,128	1,837,818	4,362,001	35,929,892
County Total	46.018	44.561	310.644	284.138	323.633	252.591	2,667.176	3,928.761		9,065,790	3,235,714	9,645,450	5,972,245	3,415,233	1,991,566	4,480,001	37,805,998
Pasco																	
Rural	7.119	14.886	25.447	22.485	59.022	0.757	167.117	296.833		426,378	418,897	310,976	237,043	222,052	568	109,462	1,725,377
Small Urbanized	0.000	2.326	44.376	41.920	55.725	21.292	299.714	465.353		0	50,707	755,454	557,343	299,427	81,032	331,633	2,075,596
Large Urbanized	13.498	2.653	88.442	40.785	131.145	57.275	1,296.088	1,629.886		1,191,002	103,805	3,841,233	1,174,644	1,418,134	407,839	2,307,452	10,444,109
County Total	20.617	19.865	158.265	105.190	245.892	79.324	1,762.919	2,392.072		1,617,380	573,409	4,907,663	1,969,030	1,939,613	489,439	2,748,547	14,245,082
Pinellas																	
Rural	0.000	0.000	0.000	0.000	0.000	0.000	8.203	8.203		0	0	0	0	0	0	5,373	5,373
Large Urbanized	31.287	1.102	135.873	280.180	272.881	54.314	2,880.152	3,655.789		3,127,684	9,477	6,496,341	5,018,399	1,850,395	280,165	5,022,985	21,805,446
County Total	31.287	1.102	135.873	280.180	272.881	54.314	2,888.355	3,663.992		3,127,684	9,477	6,496,341	5,018,399	1,850,395	280,165	5,028,358	21,810,819

CENTERLINE MILES

DAILY VEHICLE MILES TRAVELED

	CENTERLINE MILES								DAILY VEHICLE MILES TRAVELED							
	Inter-state	Turnpike & Freeways	Other Princ. Arterials	Minor Arterials	Major Collectors	Minor Collectors	Locals	Total	Inter-state	Turnpike & Freeways	Other Princ. Arterials	Minor Arterials	Major Collectors	Minor Collectors	Locals	Total
Miami-Dade																
Rural	0.000	0.000	68.417	11.385	14.631	55.282	95.218	244.933	0	0	1,230,963	56,527	144,855	219,347	36,105	1,687,797
Large Urbanized	28.381	111.424	236.137	405.413	543.633	39.699	5,803.380	7,168.067	5,974,904	13,656,947	9,547,568	9,668,246	5,519,744	290,860	10,572,160	55,230,428
County Total	28.381	111.424	304.554	416.798	558.264	94.981	5,898.598	7,413.000	5,974,904	13,656,947	10,778,531	9,724,773	5,664,599	510,207	10,608,266	56,918,225
Monroe																
Rural	0.000	0.000	32.934	15.636	4.005	15.274	58.312	126.161	0	0	478,274	54,141	2,645	10,887	30,621	576,567
Small Urban	0.000	0.000	84.708	6.161	37.348	17.012	459.830	605.059	0	0	1,895,709	76,226	132,594	26,756	361,043	2,492,327
County Total	0.000	0.000	117.642	21.797	41.353	32.286	518.142	731.220	0	0	2,373,982	130,367	135,239	37,643	391,664	3,068,894
Nassau																
Rural	12.902	0.000	51.751	3.813	120.285	26.384	50.576	265.711	770,330	0	633,696	34,459	275,615	35,849	34,645	1,784,593
Small Urban	0.000	0.000	11.612	38.134	37.866	5.662	530.191	623.465	0	0	181,817	706,546	267,142	10,596	430,987	1,597,088
County Total	12.902	0.000	63.363	41.947	158.151	32.046	580.767	889.176	770,330	0	815,513	741,005	542,756	46,445	465,631	3,381,681
Okaloosa																
Rural	17.546	0.000	27.784	76.234	19.786	32.533	152.889	326.772	517,715	0	518,262	600,706	65,932	18,585	105,349	1,826,550
Small Urban	7.008	0.000	10.680	5.509	12.672	0.000	226.057	261.926	207,355	0	324,999	84,232	109,130	0	183,784	909,499
Small Urbanized	0.000	0.000	48.090	30.925	42.381	0.000	881.810	1,003.206	0	0	1,843,406	736,006	341,140	0	941,773	3,862,325
County Total	24.554	0.000	86.554	112.668	74.839	32.533	1,260.756	1,591.904	725,070	0	2,686,666	1,420,944	516,202	18,585	1,230,907	6,598,374
Okeechobee																
Rural	0.000	7.472	61.331	3.795	64.370	15.338	120.725	273.031	0	274,222	395,589	28,463	81,492	8,432	82,697	870,895
Small Urban	0.000	0.000	29.987	0.935	21.045	1.100	209.587	262.654	0	0	402,793	7,013	70,289	934	170,394	651,423
County Total	0.000	7.472	91.318	4.730	85.415	16.438	330.312	535.685	0	274,222	798,382	35,475	151,781	9,366	253,091	1,522,317
Orange																
Rural	0.000	20.205	29.112	3.574	17.973	20.360	79.366	170.590	0	1,156,465	446,185	11,804	35,480	95,062	54,366	1,799,361
Small Urban	0.000	0.000	1.726	0.000	2.345	0.000	10.699	14.770	0	0	89,007	0	24,388	0	8,698	122,093
Large Urbanized	24.673	142.053	166.879	288.324	467.088	93.207	3,446.073	4,628.297	4,216,047	11,403,751	6,529,252	7,042,893	5,248,607	705,662	6,247,662	41,393,874
County Total	24.673	162.258	197.717	291.898	487.406	113.567	3,536.138	4,813.657	4,216,047	12,560,216	7,064,444	7,054,697	5,308,475	800,724	6,310,726	43,315,328
Osceola																
Rural	0.000	45.396	82.583	21.079	52.611	9.749	97.386	308.804	0	1,636,089	568,507	52,336	305,704	14,871	66,709	2,644,215
Small Urban	6.032	4.501	8.472	17.518	24.516	0.000	112.006	173.045	772,557	135,179	444,353	260,140	206,533	0	91,061	1,909,823
Large Urbanized	1.853	20.407	73.832	45.093	108.489	28.591	863.524	1,141.789	231,348	977,736	2,554,721	998,892	936,166	124,898	1,575,068	7,398,828
County Total	7.885	70.304	164.887	83.690	185.616	38.340	1,072.916	1,623.638	1,003,905	2,749,004	3,567,580	1,311,368	1,448,403	139,769	1,732,838	11,952,867
Palm Beach																
Rural	0.145	0.170	68.946	28.621	34.330	29.633	68.368	230.213	13,268	8,959	940,358	222,460	38,471	69,174	42,303	1,334,992
Small Urban	0.000	0.000	15.945	26.304	11.301	23.172	96.471	173.193	0	0	229,429	254,438	38,877	76,059	81,087	679,889
Large Urbanized	45.873	44.391	225.753	229.213	278.236	199.786	2,503.893	3,527.145	9,281,613	3,583,092	8,929,438	5,685,375	3,239,649	1,782,698	4,564,772	37,066,636
County Total	46.018	44.561	310.644	284.138	323.867	252.591	2,668.732	3,930.551	9,294,880	3,592,051	10,099,225	6,162,273	3,316,996	1,927,931	4,688,162	39,081,518
Pasco																
Rural	7.119	14.886	25.447	22.485	59.022	0.757	173.207	302.923	440,616	495,997	316,804	239,184	227,240	568	118,647	1,839,055
Small Urbanized	0.000	2.326	44.376	41.920	55.725	21.292	310.575	476.214	0	61,174	746,449	572,200	298,164	81,317	357,469	2,116,773
Large Urbanized	13.498	2.653	88.442	40.785	131.145	57.275	1,343.447	1,677.245	1,237,178	123,279	3,886,423	1,106,770	1,393,444	407,293	2,495,410	10,649,796
County Total	20.617	19.865	158.265	105.190	245.892	79.324	1,827.229	2,456.382	1,677,794	680,450	4,949,677	1,918,154	1,918,847	489,177	2,971,526	14,605,624
Pinellas																
Rural	0.000	0.000	0.000	0.000	0.000	0.000	8.225	8.225	0	0	0	0	0	0	5,634	5,634
Large Urbanized	31.287	1.102	135.873	280.180	272.881	54.314	2,887.924	3,663.561	3,266,705	9,477	6,580,571	5,064,999	1,844,295	280,979	5,267,573	22,314,600
County Total	31.287	1.102	135.873	280.180	272.881	54.314	2,896.149	3,671.786	3,266,705	9,477	6,580,571	5,064,999	1,844,295	280,979	5,273,208	22,320,234

Estimates of Population by County and City in Florida: April 1, 2023

County, City, and State	Population Estimate April 1, 2023	Population Change 2020–2023	Census Count April 1, 2020	Revenue Sharing Use Only	
				Inmate Population April 1, 2023	Estimate less Inmates April 1, 2023
Okeechobee County	39,591	-53	39,644	1,846	37,745
Okeechobee	5,361	107	5,254	0	5,361
UNINCORPORATED	34,230	-160	34,390	1,846	32,384
Orange County	1,492,951	63,043	1,429,908	4,153	1,488,798
Apopka	58,293	3,420	54,873	0	58,293
Bay Lake	29	0	29	0	29
Belle Isle	7,239	207	7,032	0	7,239
Eatonville	2,370	21	2,349	0	2,370
Edgewood	2,631	-54	2,685	0	2,631
Lake Buena Vista	21	-3	24	0	21
Maitland	19,964	421	19,543	0	19,964
Oakland	5,402	1,886	3,516	0	5,402
Ocoee	49,711	2,416	47,295	0	49,711
Orlando	326,988	19,415	307,573	592	326,396
Windermere	3,041	11	3,030	0	3,041
Winter Garden	50,800	3,836	46,964	0	50,800
Winter Park	30,706	911	29,795	59	30,647
UNINCORPORATED	935,756	30,556	905,200	3,502	932,254
Osceola County	439,225	50,569	388,656	302	438,923
Kissimmee	82,714	3,488	79,226	191	82,523
St. Cloud	61,997	3,033	58,964	0	61,997
UNINCORPORATED	294,514	44,048	250,466	111	294,403
Palm Beach County	1,532,718	40,527	1,492,191	2,603	1,530,115
Atlantis	2,147	5	2,142	0	2,147
Belle Glade	17,286	588	16,698	0	17,286
Boca Raton	100,491	3,069	97,422	0	100,491
Boynton Beach	82,208	1,828	80,380	0	82,208
Briny Breezes	500	-2	502	0	500
Cloud Lake	140	6	134	0	140
Delray Beach	67,213	367	66,846	0	67,213
Glen Ridge	215	-2	217	0	215
Golf	281	26	255	0	281
Greenacres	45,476	1,486	43,990	0	45,476
Gulf Stream	959	5	954	0	959
Haverhill	2,193	6	2,187	0	2,193
Highland Beach	4,303	8	4,295	0	4,303
Hypoluxo	2,687	0	2,687	0	2,687
Juno Beach	3,883	25	3,858	0	3,883
Jupiter	61,333	286	61,047	0	61,333



Meeting Date: August 20, 2024
Item #: 16

Contact Name: Michael Rumer
Contact Number: Ext. 1018

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: First Reading of Ordinance for a Temporary Six (6) Month Moratorium on the Processing and Consideration of Development Approvals. (Acting Assistant City Manager Rumer)

Background Summary:

City staff is in the process of evaluating and rewriting the city's Land Development Code (LDC) and rewriting the Comprehensive Plan to a 2045 planning horizon, to reflect the vision that has been articulated by the City Commission and citizens of Ocoee. Each of these, individually, presents a monumental challenge for staff with far-reaching impacts for the next 20 years. Both documents, as adopted, last underwent major revisions in the late 1990s. Since these revisions in the late 1990s, the city has undertaken numerous studies and other public events whereby Commission and citizen input has been solicited. These events included: the CRA Target Area hearings in 2008, Downtown Master Plan workshops in 2016, SR 429 Overlay Character Areas in 2019, Downtown Workshop in 2023, Ocoee Music Festivals, Best Fests, and more recently, comments and direction from Commissioners and citizens on recent denials of development applications.

During this period of evaluation and rewrite, city staff recommends a six (6) month moratorium be established on the acceptance, processing, and consideration of applications for map amendments, rezoning & special exceptions, and site and subdivision plan reviews, concerning properties located within the city limits. This proposed development moratorium is a temporary halt or suspension of new construction or development projects. The objective of a development moratorium is to provide time for staff to focus on writing standards that will improve the city's place-making standards and to develop context-based development regulations so that architecture of buildings, placement and context of streets, frontages, and other infrastructure reflect the vision as stated by the Commission and citizens on numerous occasions before allowing new developments to proceed. During this moratorium, existing projects may continue, but no new applications for development permits are processed. If the moratorium is not approved, new development proposals would be subject to the current LDC and Comprehensive Plan rules and regulations, irrespective of the imminent approval of new regulations.

If the ordinance is approved, the moratorium will expire on March 17, 2025, unless terminated earlier or extended by action of the City Commission.

Issue:

Should the Honorable Mayor and City Commissioners approve an ordinance establishing a temporary moratorium on the acceptance, processing, and consideration of applications for map amendments, rezoning & special exceptions, and site and subdivision plan reviews concerning properties located within the city limits?

Recommendations:

Staff respectfully recommends that the Honorable Mayor and City Commissioners approve an ordinance establishing a temporary moratorium on the acceptance, processing, and consideration of applications for map amendments, rezoning & special exceptions, and site and subdivision plan reviews concerning properties located within the city limits.

Attachments:

1. Development Moratorium Ordinance

Financial Impacts:

None

Type of Item: First Reading

ORDINANCE NO. 24-_____

AN ORDINANCE OF THE CITY OF OCOEE, FLORIDA IMPLEMENTING A MORATORIUM PROHIBITING THE PROCESSING AND CONSIDERATION OF CERTAIN COMPREHENSIVE PLAN TEXT AND MAP AMENDMENTS, REZONINGS, SPECIAL EXCEPTIONS, AND SITE PLAN AND SUBDIVISION PLAN REVIEWS AND APPROVALS, TO ALLOW THE PLANNING AND ZONING DEVISION TIME TO THOROUGHLY REVIEW, STUDY, AND PREPARE AMENDMENTS TO THE CITY OF OCOEE COMPREHENSIVE PLAN AND THE CITY OF OCOEE LAND DEVELOPMENT CODE; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, as provided in Article VIII, Section 2 of the Constitution of the State of Florida and chapters 163 and 166, Florida Statutes, the City of Ocoee (the “City”) enjoys all Home Rule governmental, corporate, and proprietary powers to conduct municipal government, perform municipal services, and exercise any power for municipal purposes except as otherwise provided by law, including police power and authority over land development and zoning; and

WHEREAS, the City Commission has determined that land development and zoning regulations are in the best interest of the health, safety, and welfare of City’s residents, businesses, and visitors; and

WHEREAS, the City adopted its original Land Development Code in July 21, 1992 and original Comprehensive Plan in April 15, 1980; and

WHEREAS, the City’s Comprehensive Plan and Land Development Code guide decision-making by setting policies for future land use, development standards, transportation mobility, and public services; and

WHEREAS, the City has found a need to create a global vision for the development and redevelopment of properties located within the City to reflect the City's growth and changing dynamics; and

WHEREAS, the Planning and Zoning Division is in the process of evaluating the City's Land Development Code and rewriting the Comprehensive Plan with a focus on elevating the City's place-making standards and to develop context-based development regulations so that buildings, streets, frontages, and other infrastructure better reflect, and are more compatible with their intended settings;

WHEREAS, the Planning and Zoning Division intends to present to the City Commission a proposed ordinance or ordinances that would amend the City's Comprehensive Plan and Land Development Code, and may affect permitted uses, conditional uses, prohibited uses, land development standards, building design standards, and other development regulations governing properties within the City limits; and

WHEREAS, the City wishes to place the public and all parties on notice of pending legislation to amend the City's Comprehensive Plan and Land Development Code; and

WHEREAS, the processing of applications to: (a) amend the Comprehensive Plan text or Future Land Use map; (b) to rezone land in the City; (c) to obtain a special exception allowing certain use(s) on land in the City; and (d) for preliminary or final site plan or subdivision approval consume enormous time and personnel resources of the Planning and Zoning Division such as to interfere with the Division's ability to thoroughly review, study, and prepare recommended amendments to the Comprehensive Plan and Land Development Code;

WHEREAS, the Planning and Zoning Division reasonably requires at least six (6) months to thoroughly review, study, and prepare amendments to the City's Comprehensive Plan and Land Development Code;

WHEREAS, a moratorium temporarily suspending new applications to: (a) amend the Comprehensive Plan text or Future Land Use map; or (b) to rezone land in the City; or (c) to obtain a special exception allowing certain use(s) on land in the City; or (d) for preliminary or final site plan or subdivision approval, would be in the best interests of the health, safety and welfare of the citizens of the City, and would allow reasonable time for the Planning and Zoning Division's review, study and preparation of amendments to the City's Comprehensive Plan and Land Development Code, and for the City Commission's consideration of such amendments;

WHEREAS, the City Commission should reserve discretion to extend the moratorium up to several months, if the City Commission deems it reasonably necessary, upon approval of one or more Resolutions.

NOW, THEREFORE BE IT ENACTED by the City Commission of the City of Ocoee that:

SECTION 1: Incorporation of Recitals. The foregoing recitals are incorporated herein as if set forth at length.

SECTION 2: Temporary Moratorium Suspending Application Processing. In order to give the Planning and Building Department reasonably sufficient time to thoroughly review, study and prepare amendments to the City's Comprehensive Plan and Land Development Code, the City hereby imposes a six (6) month moratorium temporarily suspending new applications to: (a) amend the City's Comprehensive Plan text or Future Land Use map; or (b) to rezone land in

the City; or (c) to obtain a special exception allowing certain use(s) on land in the City; (d) for preliminary or final site plan or subdivision approval in the City. During this moratorium, the City will not accept or process any new applications for any of the aforementioned land development approvals.

SECTION 3. Extension of Moratorium. The City Commission may extend the moratorium on accepting and processing the aforementioned applications by up to an additional four (4) months upon passage of one or more Resolutions approving of such extension(s), if such extension(s) appear reasonably necessary.

SECTION 4. Existing Applications. The moratorium shall not apply to the processing of any existing and pending application to: (a) amend the Comprehensive Plan text or Future Land Use map; or (b) to rezone land in the City; or (c) to obtain a special exception allowing certain use(s) on land in the City; or (d) for preliminary or final site plan or subdivision approval provided that the City's Planning and Zoning Division has received such application prior to the effective date of this Ordinance. This moratorium shall not affect any business lawfully operating in the City pursuant to valid licenses, permits, and approvals if the existing business is compliant with all applicable Federal, State, County, and municipal code, ordinances, rules, regulations, and policies. Nor shall this moratorium affect any emergency approval of any part of a preliminary site plan or to otherwise permit drainage improvements, if required to protect persons or property from flooding or to otherwise protect the health and safety of persons or property.

SECTION 5: Non-Codification. The provisions of this Ordinance shall not be included or incorporated into the City Code or Land Development Code.

SECTION 6: Severability. The provisions of this Ordinance are declared to be severable and if any section, paragraph, sentence or word of this Ordinance, or if the application as to any

person or circumstance is held invalid, that invalidity shall not affect other sections or words or applications of this Ordinance. If a court of competent jurisdiction finds that any part of this Ordinance is preempted or otherwise superseded, the remainder of this Ordinance shall nevertheless be given full force and effect to the extent permitted by the severance of such preempted or superseded part.

SECTION 7: Effective Date. This Ordinance shall take effect immediately upon its passage and in accordance with Florida law.

PASSED AND ADOPTED this _____ day of _____, 2024.

APPROVED:

ATTEST:

CITY OF OCOEE, FLORIDA

Melanie Sibbitt, City Clerk

Rusty Johnson, Mayor

(SEAL)

ADVERTISED _____, 2024
READ FIRST TIME _____,
2024.
READ SECOND TIME AND ADOPTED
_____, 2024.
UNDER AGENDA ITEM NO. _____

**FOR USE AND RELIANCE ONLY BY THE
CITY OF OCOEE, FLORIDA; APPROVED
AS TO FORM AND LEGALITY**
this ____ day of _____, 2024.

By: _____
Richard S. Geller
City Attorney



Meeting Date: August 20, 2024
Item #: 17

Contact Name: Brett McFarlane
Contact Number: Ext. 7145

Department Director: Michael Rumer
City Manager: Craig Shadrix

Subject: Approval of a Resolution to Opt Out of the Live Local Act Property Tax Exemption. (Concurrency & Commitment Coordinator McFarlane)

Background Summary:

Senate Bill 102 (SB 102), otherwise known as the "Live Local Act", was signed into law on March 29, 2023 with the aim of increasing the supply of affordable housing in the State of Florida. Senate Bill 328 (SB 328), the associated "Glitch Bill", was signed into law on May 16, 2024.

The Live Local Act contained a provision that created a new ad valorem tax exemption for newly constructed multifamily developments that provide affordable housing within certain income thresholds. This ad valorem tax exemption would allow for qualified property to receive up to 75% ad valorem tax exemption of the assessed value if fewer than 100% of the multifamily units are used to provide affordable housing or 100% ad valorem tax exemption if 100% of the multifamily units are used to provide affordable housing.

The Glitch Bill provided an opportunity for taxing authorities to opt out of the ad valorem tax exemption created through the Live Local Act. Section 196.1978, Florida Statutes, details that by adoption of a resolution or ordinance by two-thirds majority vote, a taxing authority may elect to opt out of the exemption. Taxing authorities may only opt out if the taxing authority's metropolitan statistical area (MSA) has a greater number of affordable and available units than the number of rental households in the 0-120 percent area median income (AMI) according to the most recent Shimberg Center survey. The most recently published Shimberg Center for Housing Studies Annual Report shows that the Orlando-Kissimmee MSA - of which the City of Ocoee is a part of - meets the criteria in order to opt-out of the tax exemption. In accordance with section 196.1978(3)(o)4, Florida Statutes, this resolution will take effect on January 1, 2025 and will expire on January 1, 2027.

Issue:

Should the Honorable Mayor and City Commissioners approve the proposed resolution to opt out of the new ad valorem tax exemption for newly constructed multifamily developments that provide affordable housing within certain income thresholds as provided for in the Live Local Act?

Recommendations:

Staff recommends that the Honorable Mayor and City Commissioners approve the proposed resolution to opt out of the new ad valorem tax exemption for newly constructed multifamily developments that provide affordable housing within certain income thresholds as provided for in the Live Local Act.

Attachments:

1. Resolution for Opting Out of the Live Local Act Property Tax Exemption
2. Shimberg Center for Housing Studies 2023 Annual Report
3. Advertisement

Financial Impacts:

None

Type of Item: Public Hearing

RESOLUTION NO. 2024-_____

A RESOLUTION OF THE CITY OF OCOEE, FLORIDA, ELECTING TO NOT EXEMPT CERTAIN PROPERTY UNDER SECTION 196.1978(3)(o) AS ENACTED BY CHAPTER 2024-158, LAWS OF FLORIDA, AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, Section 196.1978(3), Florida Statutes, contains the "Live Local Act Property Tax Exemption," which requires the county property appraiser to exempt rental properties from ad valorem taxation if the properties meet certain requirements under the Live Local Act; and

WHEREAS, the Florida Legislature passed HB 7073 during the 2024 legislative session; and

WHEREAS, on May 7, 2024, Governor Ron DeSantis signed HB 7073, which became Chapter 2024-158, Laws of Florida; and

WHEREAS, Chapter 2024-158, Laws of Florida, which will be codified as Section 196.1978(3)(o), Florida Statutes, provides an exemption from ad valorem taxation for certain properties deemed affordable housing for persons or families whose annual household income is between 0 and 120 percent of the area median income (AMI) for households within the Orlando-Kissimmee, Florida Metropolitan Statistical Area (MSA); and

WHEREAS, Chapter 2024-158, Laws of Florida, provides that a taxing authority (including the City of Ocoee ("City")) is authorized to opt out of providing the Live Local Tax Exemption if certain conditions are met, starting with the 2025 tax roll, if the City Commission, by a two-thirds majority vote, finds that the latest Shimberg Center for Housing Studies Annual report identifies that the number of affordable and available units in the MSA

is greater than the number of renter households in the MSA in the 0 to 120 percent AMI group;
and

WHEREAS, the latest Shimberg Annual Report is provided as an attachment to this Resolution and is hereby incorporated by reference and

WHEREAS, the City Commission of the City of Ocoee hereby finds that the latest Shimberg Annual Report identifies a surplus of affordable and available units in the Orlando-Kissimmee, Florida MSA, which includes the City, for those households that meet the income criteria for the Live Local Property Tax Exemption; and

WHEREAS, the City Commission of the City of Ocoee hereby finds that the City is a taxing authority that is eligible to adopt a resolution to not exempt properties that would otherwise be eligible for the Live Local Property Tax Exemption.

NOW, THEREFORE, be it resolved by the City Commission of the City of Ocoee, Florida that:

SECTION 1. The foregoing recitals are true and correct and are incorporated in this Resolution by reference.

SECTION 2. The City Commission finds that the City is within the Orlando- Kissimmee, Florida MSA, and that, based on the Shimberg Annual Report, the number of affordable and available units in the MSA is greater than the number of renter households in the MSA for the category entitled "0-120 percent AMI."

SECTION 3. Pursuant to Section 196.1978(3)(o), Florida Statutes, the City hereby elects not to exempt properties eligible for the Live Local Property Tax Exemption otherwise allowed

for under Section 196.1978(3)(d)1.a., Florida Statutes, and directs the Orange County Property Appraiser not to grant any such exemptions.

SECTION 4. This Resolution applies to the ad valorem property tax levies imposed by the City only.

SECTION 5. EFFECTIVE DATE. This Resolution shall take effect on January 1, 2025, and shall expire on January 1, 2027. This Resolution may be renewed prior to its expiration date in accordance with Florida law.

SECTION 6. This Resolution has been duly advertised in accordance with Section 50.011(1), Florida Statutes. A copy of this Resolution shall be provided to the Orange County Property Appraiser prior to January 1, 2025.

SECTION 7. This Resolution does not impact a property owner of a multifamily project which was granted an exemption pursuant to Section 196.1978(3)(d)1.a., Florida Statutes, prior to the adoption of this Resolution. Such property owner may continue to receive the exemption for each consecutive year that the property owner applies for and is granted the exemption.

SECTION 8. SEVERABILITY. If any provision of this Resolution or application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of this Resolution that can be given effect without the invalid provision or application, and to this end the provisions of this Resolution are declared severable.

PASSED AND ADOPTED at a regular meeting of the City Commission of the City of Ocoee held in City Hall, Ocoee on this _____ day of _____, 2024.

ATTEST:

APPROVED:
CITY OF OCOEE, FLORIDA

Melanie Sibbitt, City Clerk

Rusty Johnson, Mayor

(SEAL)

ADVERTISED _____, 2024.
READ FIRST TIME _____, 2024.
READ SECOND TIME AND ADOPTED
_____, 2024.
UNDER AGENDA ITEM NO. _____

FOR USE AND RELIANCE ONLY BY THE
CITY OF OCOEE, FLORIDA; APPROVED AS
TO FORM AND LEGALITY
this _____ day of _____, 2024.

FISHBACK DOMINICK

By: _____
Richard Geller, City Attorney



Shimberg Center for Housing Studies

2023 Annual Report

Shimberg Center for Housing Studies, M.E. Rinker School of Construction Management,
University of Florida, P.O. Box 115703, Gainesville, Florida 32611-5703

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INTRODUCTION

Florida's population grew by over 450,000 people through migration alone in 2021 and 2022. The state's increasing population has led to continuing strong demand for housing. Production has continued apace in recent years, with especially active single family construction in fast-growing mid-sized counties and multifamily construction in the state's urban centers. Home prices have returned to their boom era peaks, while rents reached a more stable growth rate in 2023 after sharp increases in the preceding two years.

This report describes recent trends in housing production, home prices and rents, and the affordable housing inventory. Florida's growth has placed additional pressure on the state's affordable housing supply, and the report includes data on the affordable housing needs of the general population, elders, persons with disabilities, and special needs households.

The report also summarizes the Shimberg Center's 2023 activities in research, teaching, and technical assistance. The Center was established by the Florida Legislature in 1988 as a research hub to facilitate the provision of safe, decent, and affordable housing and related community development. Based in the M.E. Rinker School of Construction Management in University of Florida's College of Design, Construction, and Planning, the Shimberg Center provides applied research and technical assistance to state agencies, local planners, the housing industry, non-profits, and others involved in shaping our state's housing policy.

HOUSING SUPPLY

Florida's 5.7 million single family homes make up the largest share of the housing supply. Seventy-one percent of these homes are homesteaded, indicating that they serve as the owner's primary residence rather than second homes, vacation homes, or rental properties.

Most of the rest of Florida's housing inventory is made up of different types of multi-unit housing. Condominiums make up 1.6 million units. These are much more likely to serve as second homes or vacation units; 37 percent are homesteaded. Units in multifamily rental developments make up a similar share of the housing stock, with 1.68 million units. These are divided between approximately 1.27 million units in developments with 10 or more units and 407,000 units in 2-9 unit properties, mostly duplexes. A small share of the 2-9 unit properties are homesteaded (21 percent), indicating that the owner occupies one unit in the building.

Mobile homes on their own parcels make up approximately 437,000 units, of which half are homesteaded. These are individually owned parcels that are distinct from the state's 2,292 licensed mobile home parks with 291,021 lots for rent.

Table 1. Florida Housing Supply, 2023

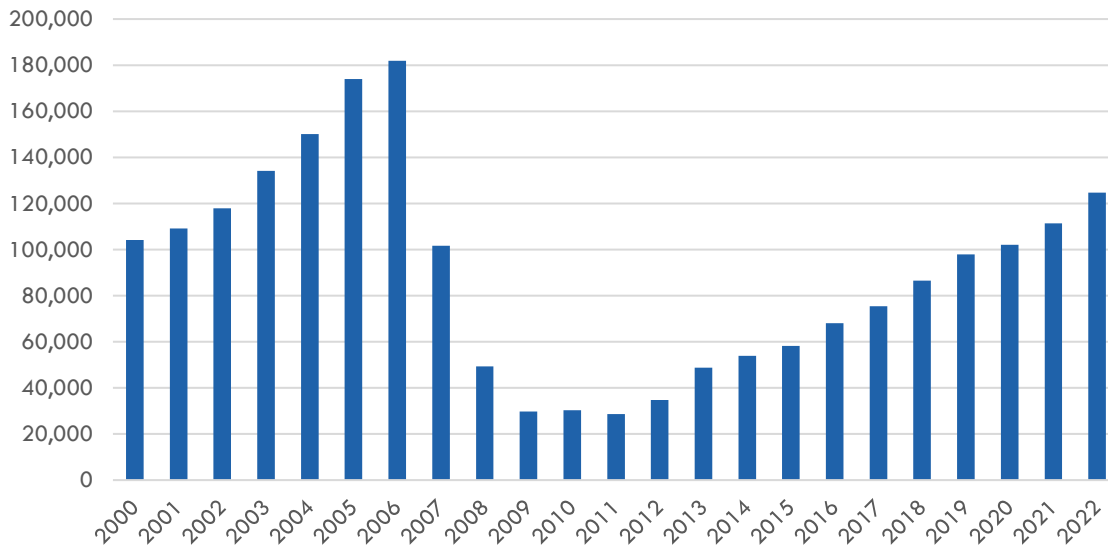
Single Family Homes	Condominiums	Mobile Homes	Multifamily 2-9 Units	Multifamily 10+ Units
• 5,745,641 parcels • 4,063,726 homesteaded (71%)	• 1,605,160 parcels • 591,076 homesteaded (37%)	• 437,337 parcels • 225,935 homesteaded (52%)	• 155,994 parcels with 406,864 units • 32,919 homesteaded (21%)	• 15,251 parcels with 1,274,074 units

Source: Florida Department of Revenue, Name-Address-Legal File. See Appendix 1 for housing supply by county.

HOUSING PRODUCTION

Florida produced approximately 125,000 single family homes in 2022, the last full year for which data is available. This production level is similar to the early 2000s—lower than the number of homes built during the 2004-2006 peak years, but well above the production level following the 2008 housing crash.

Figure 1. Single Family Homes by Year Built, Florida, 2000-2022



Source: Florida Department of Revenue, Name-Address-Legal File

Mid-sized counties led Florida's single family home growth in 2022. Polk County was the state's construction hotspot, with 9,235 single family homes built. Of the top ten counties for single family construction, only Hillsborough and Duval were large urban counties.

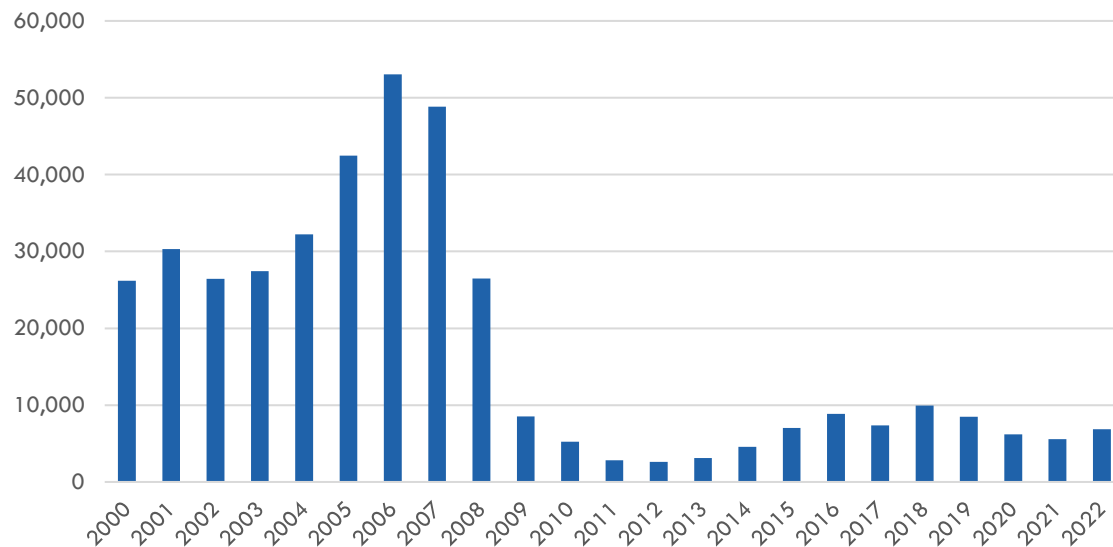
Table 2. New Single Family Homes Built, Top Ten Counties, 2022

County	Single Family Homes Built
Polk	9,235
Lee	7,432
Pasco	7,019
Hillsborough	6,638
Osceola	5,778
St. Johns	5,638
St. Lucie	5,461
Duval	5,338
Manatee	4,930
Marion	4,799

Source: Florida Department of Revenue, Name-Address-Legal File. See Appendix 2 for single family construction in all counties.

New condominium construction was much more modest and heavily geographically concentrated. The state built 6,855 condominium units in 2022, similar to annual production over the past 15 years but well below 2000-2008 production levels.

Figure 2. Condominiums by Year Built, Florida, 2000-2022



Source: Florida Department of Revenue, Name-Address-Legal File

Sixty percent of units built in 2022 (4,091) were located in Miami-Dade County. No other county added more than a few hundred new units.

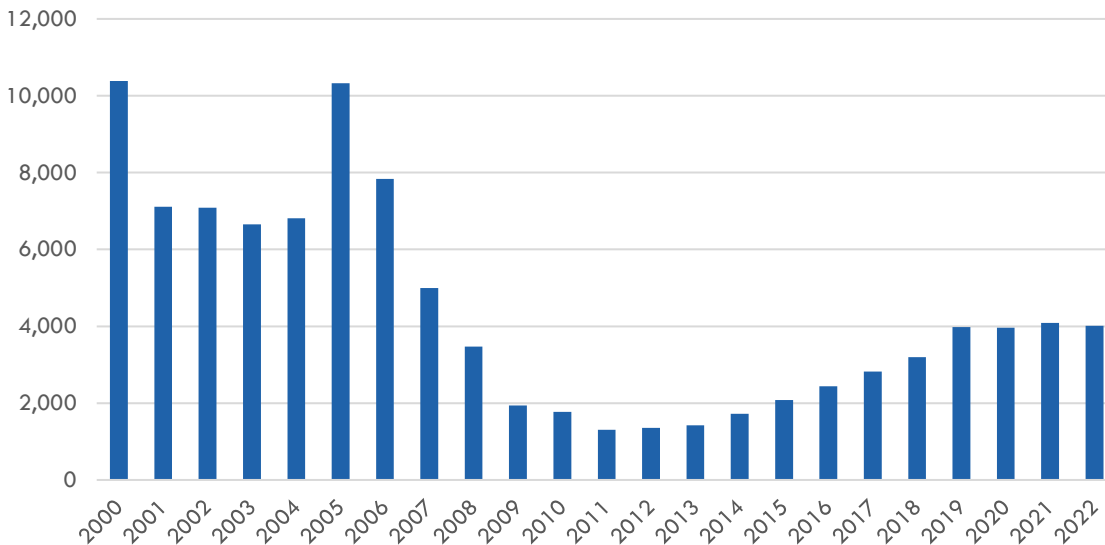
Table 3. New Condominium Units Built, Top Ten Counties, 2022

County	Condominium Units Built
Miami-Dade	4,091
Collier	654
Sarasota	293
Charlotte	292
Lee	176
Broward	156
Brevard	151
Pinellas	143
Monroe	124
Manatee	122

Source: Florida Department of Revenue, Name-Address-Legal File. See Appendix 2 for condominium construction in all counties.

Mobile homes continued to provide an affordable alternative to stick-built single family homes. The state added 4,013 mobile homes on individual parcels in 2022; this does not include homes in mobile home parks. This level of production was well above levels in the 2010s decade but below 2000s-era production.

Figure 3. Mobile Homes by Year Added, Florida, 2000-2022



Source: Florida Department of Revenue, Name-Address-Legal File. Includes mobile homes on individual parcels. Does not include units in mobile home parks.

Mobile home production was scattered throughout the state. Most units were added in mid-sized or rural counties.

Table 4. New Mobile Homes Added, Top Ten Counties, 2022

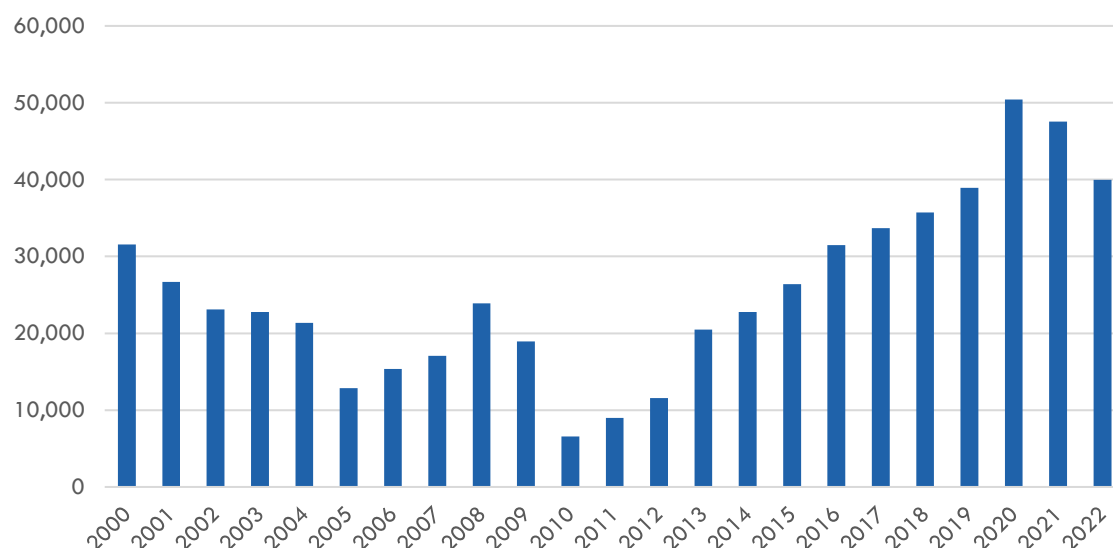
County	Mobile Homes Built
Bay County	236
Polk County	200
Marion County	178
Pasco County	177
Walton County	148
Citrus County	145
Santa Rosa County	133
Levy County	122
Clay County	118
Suwannee County	116

Source: Florida Department of Revenue, Name-Address-Legal File. See Appendix 2 for mobile homes added in all counties.

Florida added 274 multifamily rental developments with 39,966 housing units in 2022.¹ The state has been adding multifamily units at a rapid pace over the last five years compared to earlier in the 2000s and 2010s.

¹ This accounts for developments with 10 or more housing units. The state also added 843 smaller developments, mostly duplexes, for an additional 1,698 units. See Appendix 2 for production by county.

Figure 4. Multifamily Units by Year Built, Florida, 2000-2022



Source: Florida Department of Revenue, Name-Address-Legal File. Includes units in multifamily developments with 10 or more units.

Multifamily development was concentrated in Florida's large urban counties and in fast-growing mid-sized counties including Bay, Polk, and Lee.

Table 5. New Multifamily Units Built, Top Ten Counties, 2022

County	Multifamily Units Built
Orange County	6,567
Hillsborough County	6,349
Miami-Dade County	4,884
Broward County	3,099
Duval County	2,590
Bay County	2,117
Palm Beach County	1,774
Pinellas County	1,623
Polk County	1,366
Lee County	1,255

Source: Florida Department of Revenue, Name-Address-Legal File. Includes units in multifamily developments with 10 or more units. See Appendix 2 for multifamily developments and units added in all counties.

ASSISTED HOUSING INVENTORY

The Shimberg Center's Assisted Housing Inventory tracks affordable rental housing developments with funding from Florida Housing Finance Corporation, U.S. Department of Housing and Urban Development (HUD), USDA Rural Development, and local housing finance authorities. Florida's assisted housing stock currently consists of 3,047 developments with 306,400 affordable units—10 percent of Florida's rental housing supply.

In 2022 and 2023, Florida added 107 assisted rental developments with 12,715 total units to the development pipeline. All of these developments were funded by Florida Housing Finance Corporation.

Table 6 shows the characteristics of the new and forthcoming affordable housing developments. It shows that one-third of new assisted housing units are in developments targeting special populations, including elders, homeless individuals and families, persons with disabilities, and farmworkers. Most units (71 percent) are one or two bedroom apartments, and most (59 percent) target households up to 60 percent of area median income (AMI).

Table 6. Characteristics of New Assisted Housing Developments, Florida, 2022-2023

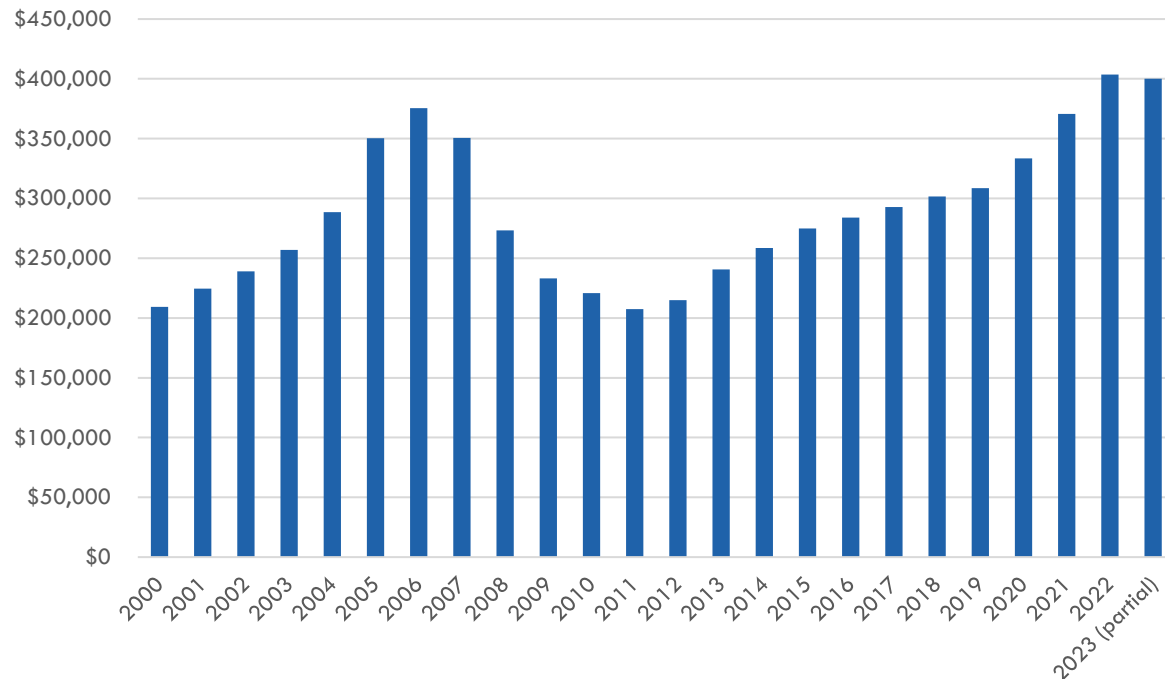
		Developments	Units	% of Units
Total Developments 2022-2023		107	12,715	-
County Size	Large	56	7,812	61%
	Medium	40	4,490	35%
	Small	11	413	3%
Target Population	Family; Link	32	4,074	32%
	Family	32	4,297	34%
	Elderly; Family; Link	19	1,861	15%
	Elderly	11	1,478	12%
	Homeless; Persons with Disabilities	7	410	3%
	Homeless	2	145	1%
	Homeless; Link	1	60	0%
	Elderly; Family	1	298	2%
	Farmworker	1	20	0%
	Family; Homeless; Link; Persons with Disabilities	1	72	1%
Unit Size	0 BR	-	344	3%
	1 BR	-	4,407	35%
	2 BR	-	4,520	36%
	3 BR	-	1,392	11%
	4 or more BR	-	76	0.6%
	Not Avail.	-	1,976	16%
Income & Rent Limits	<=35% AMI	-	1,172	9%
	40-50% AMI	-	1,131	9%
	55-60% AMI	-	7,546	59%
	65-80% AMI	-	1,772	14%
	Not Avail.	-	1,094	9%

Source: Shimberg Center for Housing Studies, Assisted Housing Inventory. "Link" in Target Population refers to Florida Housing Finance Corporation's Link program, under which developers provide a portion of housing units to special needs households referred by community-based supportive service providers. Percentages may not total exactly 100% due to rounding.

HOME SALES

Florida's housing markets have returned to their mid-2000s strength. The statewide median single family home price reached \$400,000 in the first half of 2023. This exceeded the previous inflation-adjusted peak of \$376,000 from 2006 (all prices in 2023 dollars).

Figure 5. Median Single Family Home Sale Price (2023 \$), Florida, 2000-2023



Source: Florida Department of Revenue, Sales Data File. Median prices converted to 2023 dollars using the Consumer Price Index to adjust for inflation.

The sale price growth extended throughout the state. All but six counties surpassed their mid-2000s peak price in 2022 or 2023. Median home prices in the first half of 2023 ranged from the upper \$100,000s in rural North Florida counties to over \$750,000 in coastal counties with strong luxury and second home markets.

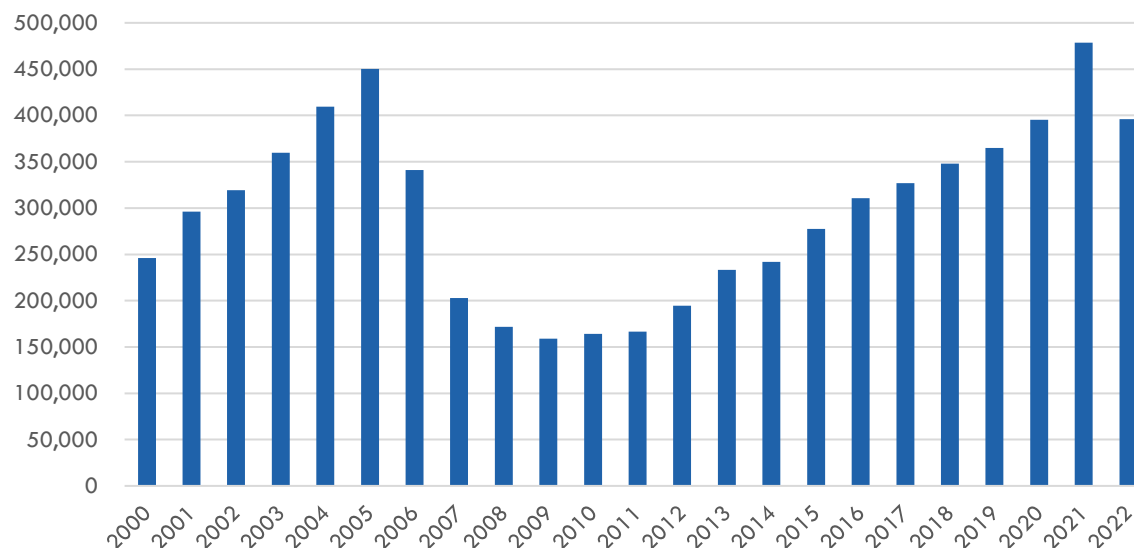
Figure 7. Florida Counties by Median Single Family Home Price, Q1-2 2023

<u>\$150,000-199,999</u>	<u>\$200,000-249,999</u>	<u>\$250,000-299,999</u>	<u>\$300,000-349,999</u>
Calhoun	Bradford	Baker	Alachua
Dixie	Columbia	Citrus	Bay
Hamilton	Gadsden	DeSoto	Clay
Holmes	Hardee	Duval	Hernando
Jackson	Highlands	Escambia	Pasco
Lafayette	Putnam	Gilchrist	Polk
Liberty	Suwannee	Glades	Volusia
Madison	Taylor	Hendry	Wakulla
	Washington	Jefferson	
		Leon	
		Levy	
		Marion	
		Okeechobee	
		Union	
<u>\$350,000-399,999</u>	<u>\$400,000-499,999</u>	<u>\$500,000-749,999</u>	<u>\$750,000-1,000,000+</u>
Brevard	Franklin	Broward	Collier
Charlotte	Gulf	Manatee	Monroe
Flagler	Lee	Martin	Walton
Hillsborough	Nassau	Miami-Dade	
Indian River	Orange	Palm Beach	
Lake	Osceola	St. Johns	
Okaloosa	Pinellas		
Santa Rosa	Sarasota		
St. Lucie	Seminole		
Sumter			

Source: Florida Department of Revenue, Sales Data File

The volume of single family sales has also been strong. There were 396,011 single family home sales in 2022, down from a peak of 478,574 sales in 2021 but similar to average annual sales volume in the early boom years of 2003-2004.

Figure 8. Number of Single Family Home Sales, Florida, 2000-2022



Source: Florida Department of Revenue, Sales Data File

Hillsborough County had the most active single family market in the state, with over 25,000 sales in 2022. As Table 7 shows, sales were highest in Florida's populous urban counties, but growing mid-sized counties (Lee, Polk, Pasco, and Brevard) also saw strong home sales.

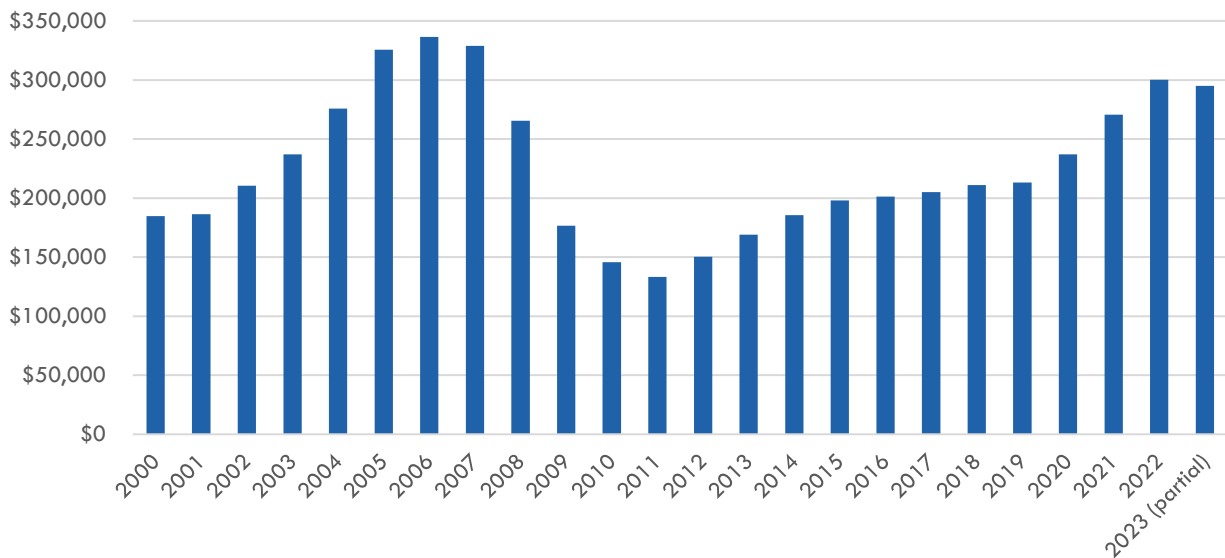
Table 7. Number of Single Family Home Sales, Top Ten Counties, 2022

County	Single Family Sales
Hillsborough	25,403
Broward	21,258
Lee	21,010
Polk	20,853
Duval	20,507
Orange	19,293
Pasco	17,762
Palm Beach	17,440
Miami-Dade	15,438
Brevard	14,008

Source: Florida Department of Revenue, Sales Data File. See Appendix 3 for sales in all counties.

The condominium market was also strong. The state's median condominium sales price was \$295,000 in the first half of 2023, below 2005-2007 levels but well above 2002-2004 and 2009-2020 prices.

Figure 9. Median Condominium Sale Price (2023 \$), Florida, 2000-2023

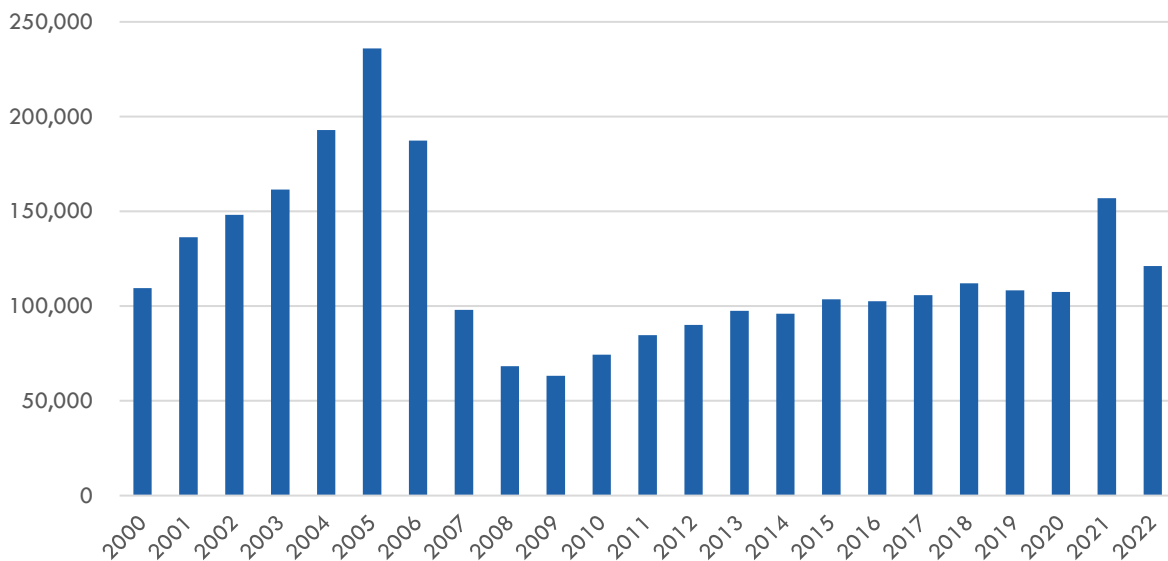


Source: Florida Department of Revenue, Sales Data File. Median prices converted to 2023 dollars using the Consumer Price Index to adjust for inflation.

Q1-2 2023 median condominium prices were far higher in coastal counties with active luxury vacation and second home markets, including Monroe (median condominium price \$855,000), Gulf (\$682,500), Walton (\$630,000), Nassau (\$623,000), and Okaloosa (\$525,000).

Condominium sales volume still lags behind the heights of the 2004-2006 housing boom. Nevertheless, the market is becoming more active. More condominiums sold in 2021 (156,862 sales) and 2022 (121,068) than any year since 2006.

Figure 10. Number of Condominium Sales, Florida, 2000-2022



Source: Florida Department of Revenue, Sales Data File

Half of the 2022 condominium sales took place in the three South Florida counties: Miami-Dade (28,436), Broward (18,132), and Palm Beach.

Table 8. Number of Condominium Sales, Top Ten Counties, 2022

County	Condominium Sales
Miami-Dade	28,436
Broward	18,132
Palm Beach	13,978
Pinellas	7,497
Lee	6,367
Collier	6,141
Orange	4,008
Sarasota	3,752
Hillsborough	3,145
Manatee	2,879

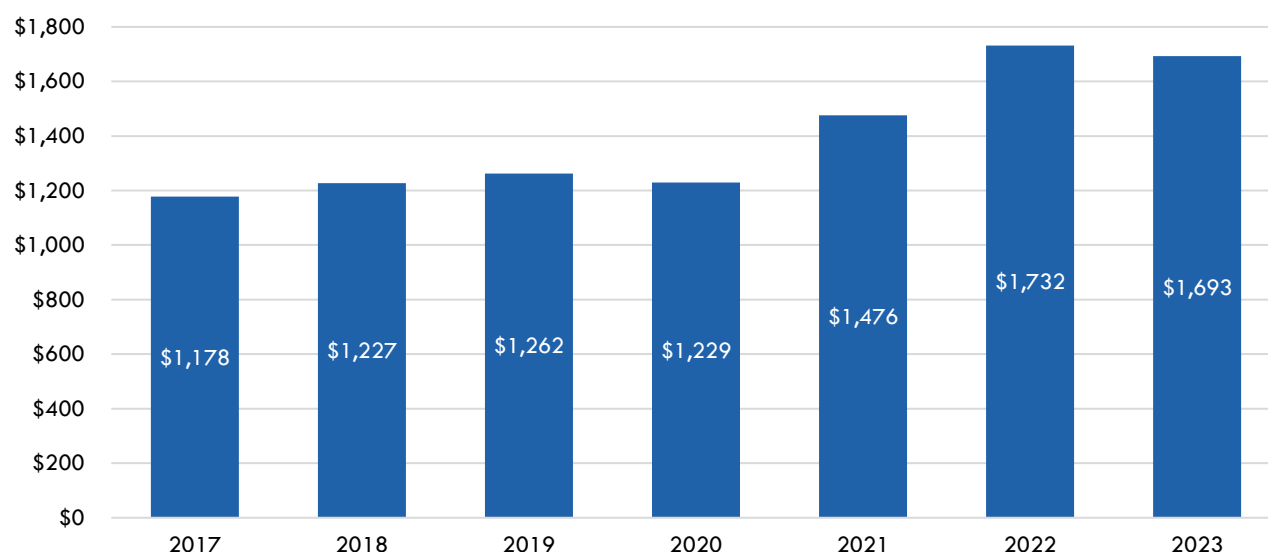
Source: Florida Department of Revenue, Sales Data File. See Appendix 3 for sales in all counties.

RENTAL MARKETS

After several years of stability, Florida rents increased steeply between 2020 and 2022, then held steady at these higher levels in 2023.

Apartment List estimates that median gross rents for housing seekers in Florida increased 41 percent over the two year period between July 2020 and July 2022. Median rent for housing seekers was \$1,693 in July 2023, a two percent drop from the 2022 median of \$1,732 but still well above 2017-2021 levels.

Figure 11. Apartment List Median Rent Estimates, Florida, 2017-2023



Source: Apartment List, Rent Estimates, <https://www.apartmentlist.com/research/category/data-rent-estimates>. Estimate of median gross rent for new leases, including utilities. All rent estimates refer to July estimates for a given year.

Apartment List also provides median rent estimates for 26 of Florida's 67 counties. Among these counties, Southeast and Southwest Florida counties topped the list for highest rents in July 2023.

Table 9. Median Rent, Top Five Counties, July 2023

County	Median Rent	Increase since July 2020
Palm Beach	\$2,144	42%
Collier	\$2,103	56%
Miami-Dade	\$2,014	42%
Broward	\$2,008	40%
Sarasota	\$1,893	42%

Source: Apartment List, Rent Estimates, <https://www.apartmentlist.com/research/category/data-rent-estimates>. Estimate of median gross rent for new leases, including utilities.

AFFORDABLE HOUSING NEEDS: RENTERS AND SPECIAL POPULATIONS

With these strong markets and rising prices and rents, Florida continues to have an affordable housing gap. The Center produces a triennial Rental Market Study for Florida Housing Finance Corporation assessing affordable rental housing needs by county and demographic group. The last study, published in 2022, estimated that there were 768,460 renter households in Florida who were low-income (with incomes below 60 percent of the area median income, or AMI) and cost burdened (paying more than 40 percent of income for housing).

Using the most recently available data, we estimate that there are now 862,465 low-income, cost burdened renters in Florida. Sixty percent of these households live in Florida's seven large counties (population 825,000 or more); 37 percent live in medium-sized counties (population 100,001-824,999); and three percent live in small counties (population 100,000 or less).

Table 10. Low-Income ($\leq 60\%$ AMI), Cost Burdened ($>40\%$) Renter Households by County in Florida, 2023

	All Renter Households	Low-Income ($\leq 60\%$ AMI), Cost Burdened ($>40\%$) Renters	Low-Income/ Cost Burdened Renters as % of All Renters in the County	Low-Income/ Cost Burdened Renters as % of State Total
Large				
Broward	296,815	94,812	32%	10.99%
Duval	177,925	51,030	29%	5.92%
Hillsborough	230,005	61,448	27%	7.12%
Miami-Dade	480,962	137,427	29%	15.93%
Orange	236,126	69,821	30%	8.10%
Palm Beach	200,656	60,858	30%	7.06%
Pinellas	150,217	43,928	29%	5.09%
Large Total	1,772,706	519,324	29%	60.21%
Medium				
Alachua	28,738	8,971	31%	1.04%
Bay	23,950	6,086	25%	0.71%

	All Renter Households	Low-Income (<=60% AMI), Cost Burdened (>40%) Renters	Low-Income/ Cost Burdened Renters as % of All Renters in the County	Low-Income/ Cost Burdened Renters as % of State Total
Brevard	71,958	23,415	33%	2.71%
Charlotte	17,659	3,785	21%	0.44%
Citrus	13,233	4,138	31%	0.48%
Clay	22,151	4,919	22%	0.57%
Collier	42,571	14,638	34%	1.70%
Escambia	46,045	14,569	32%	1.69%
Flagler	12,138	3,549	29%	0.41%
Hernando	17,194	3,363	20%	0.39%
Highlands	11,141	3,084	28%	0.36%
Indian River	17,464	5,180	30%	0.60%
Lake	43,477	10,784	25%	1.25%
Lee	94,488	23,677	25%	2.75%
Leon	34,772	10,046	29%	1.16%
Manatee	51,579	15,595	30%	1.81%
Marion	40,592	10,749	26%	1.25%
Martin	16,262	4,475	28%	0.52%
Okaloosa	29,835	5,424	18%	0.63%
Osceola	53,809	17,944	33%	2.08%
Pasco	65,359	19,302	30%	2.24%
Polk	90,484	24,905	28%	2.89%
Santa Rosa	16,103	4,170	26%	0.48%
Sarasota	49,874	14,122	28%	1.64%
Seminole	66,627	18,505	28%	2.15%
St. Johns	23,292	5,748	25%	0.67%
St. Lucie	36,182	14,015	39%	1.62%
Sumter	9,918	2,382	24%	0.28%
Volusia	67,180	17,989	27%	2.09%
Medium Total	1,114,075	315,529	28%	36.58%
Small				
Baker	2,149	503	23%	0.06%
Bradford	2,449	653	27%	0.08%
Calhoun	1,047	323	31%	0.04%
Columbia	7,617	2,032	27%	0.24%
DeSoto	3,378	935	28%	0.11%
Dixie	1,302	347	27%	0.04%

	All Renter Households	Low-Income (<=60% AMI), Cost Burdened (>40%) Renters	Low-Income/ Cost Burdened Renters as % of All Renters in the County	Low-Income/ Cost Burdened Renters as % of State Total
Franklin	1,226	378	31%	0.04%
Gadsden	4,649	1,434	31%	0.17%
Gilchrist	1,057	282	27%	0.03%
Glades	859	268	31%	0.03%
Gulf	1,304	402	31%	0.05%
Hamilton	1,267	318	25%	0.04%
Hardee	2,507	694	28%	0.08%
Hendry	4,036	1,261	31%	0.15%
Holmes	1,674	368	22%	0.04%
Jackson	4,727	1,458	31%	0.17%
Jefferson	1,378	425	31%	0.05%
Lafayette	598	150	25%	0.02%
Levy	3,809	1,016	27%	0.12%
Liberty	603	186	31%	0.02%
Madison	1,846	463	25%	0.05%
Monroe	14,405	4,116	29%	0.48%
Nassau	7,660	1,794	23%	0.21%
Okeechobee	3,910	1,222	31%	0.14%
Putnam	7,376	1,820	25%	0.21%
Suwannee	4,296	1,078	25%	0.12%
Taylor	1,981	497	25%	0.06%
Union	1,315	351	27%	0.04%
Wakulla	2,480	765	31%	0.09%
Walton	7,437	1,634	22%	0.19%
Washington	1,998	439	22%	0.05%
Small Total	102,340	27,612	27%	3.20%
State Total	2,989,121	862,465	29%	100.00%

Source: Shimberg Center analysis of U.S. Census Bureau, 2022 American Community Survey; University of Florida Bureau of Economic and Business Research, 2023 Population Projections

Elderly Households

Older households make up an increasing share of Florida's renters in need. Forty percent of low-income, cost burdened renter households are headed by someone age 55 or older—nearly 347,000 households in all. In Pasco/Pinellas Counties and a Southwest region stretching from Sarasota County to Collier County, older households make up half of the cost-burdened renters.

Table 11. Low-Income ($\leq 60\%$ AMI), Cost Burdened ($>40\%$) Renter Households by Age of Householder and Region, Florida, 2023

Planning and Service Area	Age of Householder								Total
	15-54	% 15-54	55-74	% 55-74	75-84	% 75-84	85 or Older	% 85 or Older	
1) Escambia, Okaloosa, Santa Rosa	15,641	64%	6,661	27%	1,301	5%	981	4%	24,584
2) Bay, Calhoun, Franklin, Gadsden, Gulf, Jackson, Jefferson, Holmes, Leon, Liberty, Wakulla, Walton, Washington	16,672	71%	5,431	23%	1,083	5%	(X)	(X)	23,612
3) Alachua, Bradford, Citrus, Columbia, Dixie, Gilchrist, Hamilton, Hernando, Lafayette, Lake, Levy, Madison, Marion, Sumter, Suwannee, Taylor, Union	26,468	56%	14,218	30%	4,737	10%	1,654	4%	47,077
4) Baker, Clay, Duval, Flagler, Nassau, Putnam, St. Johns, Volusia	53,715	61%	25,309	29%	6,224	7%	2,338	3%	87,586
5) Pasco, Pinellas	31,950	50%	20,959	33%	6,498	10%	3,865	6%	63,272
6) DeSoto, Hardee, Hillsborough, Highlands (part), Manatee, Polk	66,240	64%	27,370	26%	6,627	6%	3,371	3%	103,608
7) Brevard, Orange, Osceola, Seminole	88,792	68%	28,399	22%	9,735	8%	2,719	2%	129,645
8) Charlotte, Collier, Glades, Hendry, Highlands (part), Lee, Okeechobee, Sarasota	31,125	50%	17,740	29%	8,167	13%	5,176	8%	62,208
9) Indian River, Martin, Palm Beach, St. Lucie	44,267	53%	24,618	29%	9,411	11%	5,910	7%	84,206
10) Broward	60,458	64%	24,530	26%	6,733	7%	3,090	3%	94,811
11) Miami, Monroe	79,513	56%	44,936	32%	12,262	9%	4,833	3%	141,544
State Total	514,841	60%	240,171	28%	72,778	8%	33,937	4%	862,153

Source: Shimberg Center analysis of U.S. Census Bureau, 2022 American Community Survey; University of Florida Bureau of Economic and Business Research, 2023 Population Projections. Regions are modified from Florida Department of Elder Affairs Planning and Service Areas.

Persons with Disabilities

Nearly one-third of the state's cost burdened, low income renter households include at least one person with a disability—an estimated 272,862 households in all. In most of these households, the individuals with disabilities are adults, particularly in age 55+ households. However, 32,437 of the cost burdened renter households include children with disabilities.

Table 13. Low-Income, Cost Burdened Renter Households with Persons with Disabilities, Florida, 2023

Household Age & Disability Characteristics	Households
Householder Under Age 55, Adult(s) with a Disability in the Household	80,581
Householder Age 55 or Older, Adult(s) with a Disability in the Household	159,844
Child(ren) with a Disability in the Household	22,223
Child(ren) and Adult(s) with Disabilities in the Household	10,214
Total	272,862

Source: Shimberg Center analysis of U.S. Census Bureau, 2022 American Community Survey; University of Florida Bureau of Economic and Business Research, 2023 Population Projections.

Persons with Special Needs

Florida's special needs housing programs serve a subset of persons with disabilities as well as other vulnerable individuals and families. Specifically, for the purpose of housing programs, Florida Statutes defines a person with special needs as:

An adult person requiring independent living services in order to maintain housing or develop independent living skills and who has a disabling condition; a young adult formerly in foster care who is eligible for services under s. [409.1451](#)(5); a survivor of domestic violence as defined in s. [741.28](#); or a person receiving benefits under the Social Security Disability Insurance (SSDI) program or the Supplemental Security Income (SSI) program or from veterans' disability benefits. (Section 420.0004 (13), Florida Statutes)

Combining several data sources, we estimate that 100,225 households meet this definition, primarily low-income, cost burdened renters receiving disability-related benefits.

Table 13. Estimates of Households with Persons with Special Needs, Florida, 2023

Category	Definition	Estimate	Data Sources
Disability-related benefits	Low-income ($\leq 60\%$ AMI), cost burdened ($>40\%$) renter households with at least one household member who is: 1) age 18-64, with a disability, receiving Social Security; 2) age 18+, with a disability, receiving SSI; 3) age 18+ with a VA service-related disability rating of 10 percent or more	91,181	U.S. Census Bureau, 2019 American Community Survey Public Use Microdata Sample; 2021 BEBR population projections.
Survivors of domestic violence	Estimated number of households based on total number of persons using domestic violence emergency shelters	6,576	Florida Department of Children and Families, Domestic Violence Annual Report, 7/1/2021-6/30/2022. Assumes each adult entrant equals one household.
Youth aging out of foster care	Estimate based on youth receiving Aftercare, Extended Foster Care, and Postsecondary Education Services	2,468	Estimated need for affordable housing (1,742 units) and supportive housing (625 units) from Florida Assessment of Housing for Special Needs and Homeless Populations 2021. ²
Total			100,225

Affordable and Available Rental Housing Supply

Another measure of the affordable rental housing gap is the affordable/available analysis, which compares the number of renter households at various income levels to the supply of units that are affordable and available to them. An affordable and available unit at a particular income threshold is: 1) affordable at that income threshold and 2) either vacant or occupied by a household with an income at or below the threshold.

An “affordable” unit is any market rate, subsidized, or public housing unit costing no more than 30 percent of income at the top of the income threshold expressed as a percentage of area median income (AMI), adjusted for unit size.³ Many “affordable” units are effectively unavailable to low-income households because they are already occupied by higher income households. The affordable/available analysis accounts for this difference by removing units that are occupied by higher income households from unit counts.

This analysis compares the statewide affordable/available housing supply to renter households for six income groups: 0-30, 0-40, 0-50, 0-60, 0-80, and 0-120 percent of AMI. Each category is inclusive of those that come before it. For example, all households and units in the 0-30 percent of AMI group also appear in all of the other groups.

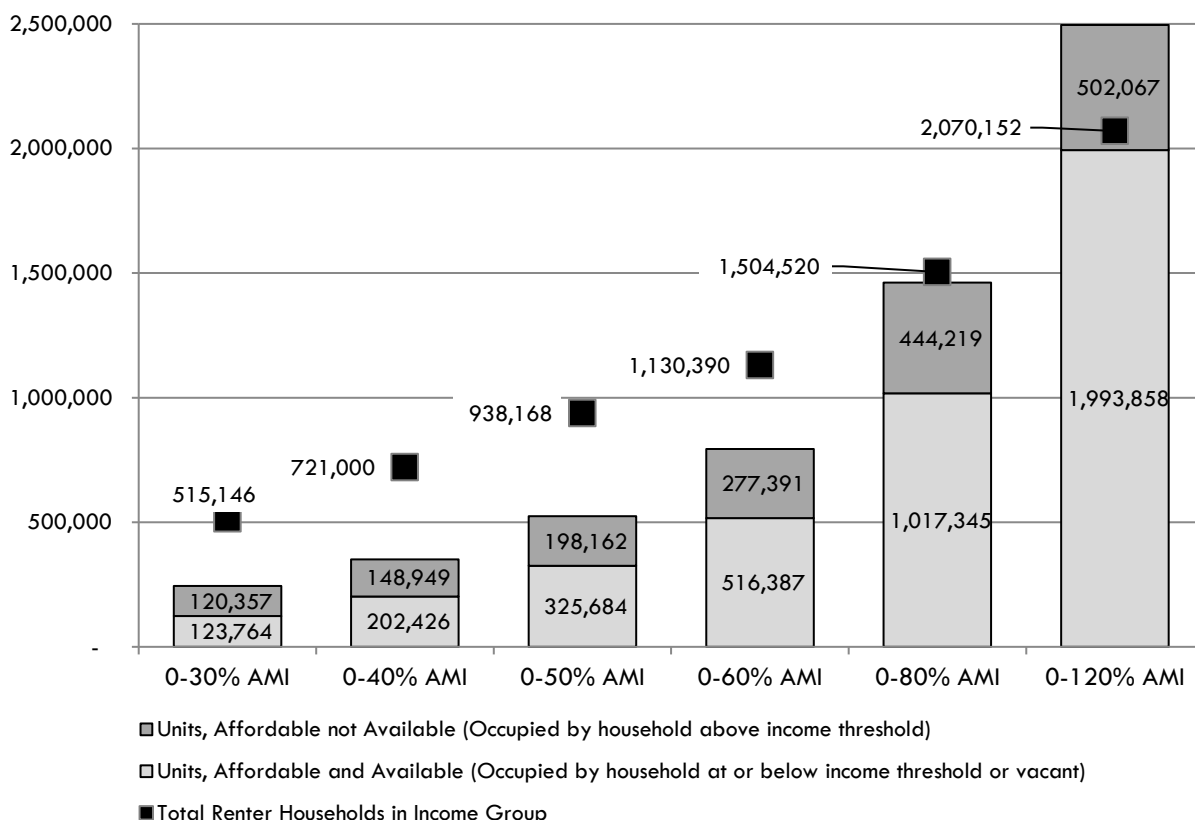
Figure 12 shows the distinction between affordable units and affordable/available units. All units in each column have rents that do not exceed 30 percent of income for a household at the top of the income group,

² Report available at https://floridahousing.org/docs/default-source/programs/special-programs/special-needs-housing/florida-assessment-of-housing-for-homeless-and-special-needs-populations/needs-assessment-full-report.pdf?sfvrsn=b09bf67b_2.

³ For more information about the affordable/available method and affordability thresholds, see the 2022 *Rental Market Study* produced by the Shimberg Center for Florida Housing Finance Corporation, http://shimberg.ufl.edu/publications/RMS_2022.pdf.

adjusted by unit size. However, the units in the darker shaded areas are occupied by households with incomes above the top threshold and therefore are not available to the households in that income category.

Figure 12. Affordable Units, Affordable/Available Units, and Renter Households by Income, Florida, 2022



Source: Shimberg Center tabulation of U.S. Census Bureau, 2022 American Community Survey

Figure 12 shows that for the 0-30 through 0-60 percent of AMI levels, there are more renter households than affordable units, whether available or not. At the 0-80 percent of AMI level, affordable units and renters are roughly in balance. However, there is still a shortage of affordable and available units, since nearly one-third of affordable units are rented by households with higher incomes. At the 0-120 percent of AMI level, there are sufficient affordable units, but the number of affordable and available units is slightly lower than the number of renter households.

Individual regions in Florida show widely varying results when comparing households to affordable and available units, particularly at the 0-120 percent of AMI income level. Appendix 4 shows the surplus or deficit of affordable/available units at the regional level. Most of the deficit at 0-120 percent AMI is concentrated in Miami-Dade, Broward, and Palm Beach Counties; other regions show a surplus or slight deficit at this AMI level.

SHIMBERG CENTER ACTIVITIES

Florida Housing Data Clearinghouse

The Shimberg Center produces the [Florida Housing Data Clearinghouse](#) under contract with Florida Housing Finance Corporation. Since 2000, the Clearinghouse has provided a free online source of housing supply and demand data for the state, counties, and cities.

The Clearinghouse provides data on the following topics:

- Affordability: housing cost burden, homeownership rates, rents, affordable rental housing supply gaps, and vacancy and occupancy rates
- Supply: Type of housing (single family, mobile homes, condominiums, multifamily), housing age and size, home prices and assessed values, and licensed condominium developments and mobile home parks
- Demographics: population projections, household projections by tenure, age, income, and cost burden
- Workforce: Employment rates, wage and housing cost comparisons by industry and occupation
- Assisted Housing Inventory: supply of affordable rental housing funded by Florida Housing, HUD, USDA Rural Development, and local housing finance agencies
- Home lending: mortgage originations by purpose, race/ethnicity, and interest rates
- Special needs households: housing needs of persons with disabilities, Social Security recipients, homeless individuals and families, and farmworkers
- Housing stability and disaster response: eviction and foreclosure filings, FEMA housing assistance

The Center created a series of county-level presentation materials to assist local government officials and others in communicating data from the Clearinghouse, with a particular focus on the link between local wages, area median income (AMI) levels, and housing costs. These materials are available on the Publications page of the [Shimberg Center's website](#).

The Center provided extensive technical assistance in the use of the Clearinghouse site and custom data requests and reports. Examples included creating a data report on housing needs of ALICE (Asset Limited, Income Constrained, Employed) households in Broward County for a United Way conference and guidebook; providing maps and data on farmworker housing needs in Southwest Florida to USDA staff planning for Hurricane Ian recovery; providing data and materials on the workforce and housing supply to the Florida Council of 100; and providing data and technical support to the Tampa planning staff for the city's ongoing housing needs assessment.

Community Resilience and Disaster Response

The Shimberg Center works closely with state agencies, local governments, UF's Florida Institute for Built Environment Resiliency (FIBER), and our peers at other Gulf Coast and national institutions to learn how Florida's vulnerable populations and housing stock can be kept safe from natural disasters.

In the aftermath of Hurricane Ian, the Shimberg Center provided housing data to HUD and USDA staff assigned to the interagency Federal Disaster Recovery Center in Southwest Florida. Shimberg Research Professor Maria Watson served on the Working Group of the Florida Disaster Housing Task Force convened by the Florida Department of Emergency Management and Florida Housing Coalition. Dr. Watson is continuing to collaborate with Oregon State University to track housing and business recovery from Hurricane Ian.

The Center works with Regional Planning Councils to improve disaster recovery and housing resilience. The Center updated data and mapping tools developed as part of the Tampa Bay Regional Planning Council's

REACH (Resilience and Energy Assessment of Housing and Communities) initiative. We also expanded an affordable housing analysis developed for the East Central Florida Regional Planning Council's HARP (Housing Asset and Resilient Policy) initiative, funded by a resilience grant from the Florida Department of Environmental Protection (FDEP). Both projects involved multi-county assessments of flood hazard exposure for the affordable housing stock, including assisted housing, naturally occurring affordable housing, and mobile homes. The Center is currently working with the Apalachee Regional Planning Council and the Data Center (Southeast Louisiana) to develop new data-sharing tools for long-term disaster recovery and resilience, under a grant from the National Academies of Sciences, Engineering and Medicine (NASEM) Gulf Research Program (GRP). Calhoun and Liberty Counties are serving as pilot areas for the data platform.

At the local level, the Shimberg Center is collaborating with FIBER to analyze flood hazards in Cedar Key and Port St. Joe, with funding from FDEP. The Center and FIBER are developing vulnerability assessments and flood hazard adaptation strategies for community assets, including affordable housing and other residential properties. The assessments rely on building footprint data and multiple flood hazard datasets over three time periods (2022, 2040, and 2070). The projects have also included stakeholder and public outreach.

On the research side, the Shimberg Center, University of Central Florida, the Horne consulting firm, and Florida Housing Coalition were selected by HUD to evaluate the effectiveness of the Community Development Block Grant – Disaster Recovery (CDBG-DR) program in addressing post-disaster recovery needs of renter households. Our research objectives are to (1) better understand CDBG-DR allocations for renters, (2) identify successful processes with corresponding outcomes for rental housing recovery aid programs, (3) engage with and link disaster recovery strategies and programs to actual and desired outcomes among renters from their lived experiences, and (4) translate this research into actionable programmatic recommendations with appropriate timelines, policy making and implementation changes. The Shimberg Center is taking primary responsibility for interviewing renters affected by disasters and documenting their experiences with CDBG-DR and other recovery programs.

Promoting Housing Stability and Affordability

The Shimberg Center works with local organizations to promote long-term housing stability for Florida's homeowners and renters. The Center collects and shares monthly data on eviction and foreclosure filings in Florida communities. We participate in regional eviction prevention networks in the Orlando area and Miami-Dade County and provide summarized data on housing stability to researchers and legal services providers.

The Center is also collaborating with Local Initiatives Support Corporation (LISC) Jacksonville in its Family Wealth Creation initiative, which seeks to preserve housing wealth in historically Black neighborhoods in Jacksonville. The Center is providing data on homeownership, home values, tax foreclosure sales, and potential heirs property sites to support LISC's efforts.

In 2023 the Center produced a Miami-Dade County Housing Needs Assessment on behalf of Miami Homes for All. The report shows that most Miami-Dade households with incomes below \$75,000 per year spend more than 30 percent of income for housing costs, including 90 percent of renters with incomes below \$50,000. The report found a gap of approximately 90,000 affordable and available units for renters with incomes below 80 percent of AML. The assessment includes data on tenure, income, and housing cost burden for municipalities, the unincorporated area, and County Commission districts in Miami-Dade County.

The Center also is collaborating with Bright Community Trust and a number of community organizations on the Homeownership Equity Initiative, a program to make homeownership accessible and inclusive for households in the four-county Orlando metropolitan area. The Center has provided data on homeownership disparities and the benefits of homeownership for families and communities.

General Technical Assistance and Presentations

Under the Florida Housing Data Clearinghouse contract, the Shimberg Center provides extensive pro bono technical assistance to state and local agencies, the housing industry, non-profit organizations, and the public in the assessment of affordable housing needs. Examples of technical assistance during 2023 include:

- Assisting local government staff in Alachua, Brevard, and Orange Counties and the Cities of Winter Springs, Jupiter, Tampa, Gainesville, Apopka and Key West in preparing affordable housing assessments and plans.
- Providing data to support affordable development and philanthropic contributions by non-profits operating in Jacksonville, Deltona, Collier County, Port St. Joe, and Broward County.
- Providing data on condominium developments and affordable/available rental housing to Florida legislative staff and research offices.

The Shimberg Center team made a number of public presentations in Florida and nationally in 2023:

- University of Florida Eyeopener Breakfast, Gainesville, February 2023
- Bright Communities Trust Homeownership Equity Initiative Kickoff, Orlando, February 2023
- Stakeholder Workshops for East Central Florida Regional Planning Council Housing Assets and Resilient Policy Phase II, Virtual, February - May 2023
- School of Landscape Architecture and Planning (SLA+P) Research Seminar Series, Gainesville, FL, February 2023
- Development of a resilience evaluation method of localities through operational continuity of hospitals as indicators, Virtual, March 2023
- Brevard County Affordable Housing Summit, Cocoa, May 2023
- Pinellas Historic Preservation Summit + Expo, St. Petersburg, May 2023
- Florida Bar Foundation Housing Umbrella Group, Gainesville, June 2023
- Hurricane Ian Data Workshop, Washington, DC, June 2023
- Gainesville Alachua County Association of Realtors, Gainesville, August 2023
- Big Bend Area ALICE Conference, Tallahassee, October 2023
- Association of Collegiate Schools of Planning, Chicago, October 2023
- National Association of Counties Rural Housing Project, Chicago and virtual, November 2023
- Tampa Bay Partnership, Tampa and virtual, December 2023

Teaching

Shimberg Center faculty offered courses in housing, sustainability, and the built environment in conjunction with the College of Design, Construction, and Planning:

- Construction Management 6583, Sustainable Housing: graduate course examining sustainability concepts, urban development, residential structures and systems, green building standards, and housing economics
- UF Quest 2935, Foundations, Principles and Applications of Sustainable Development: undergraduate interdisciplinary course covering sustainability concepts, environmental ethics, resilience, energy, water resources, and the built environment
- DCP GulfSouth Studio (Architecture/Landscape Architecture/Urban Planning): undergraduate and graduate studio course addressing urban design, environment, and recovery in Cape Coral following Hurricane Ian. Sponsored by the National Academies of Science Gulf Research Program.

The Center is also working with Florida Sea Grant to develop students' leadership in resiliency science, planning, and design. "Capacity Building for Florida Sea Grant: Promoting Coastal Resilience, Adaptation, and Equity in Florida" is a grant to advance education, information, and professional development over the

2022-2023 and 2023-2024 academic years. The grant ultimately will fund a two-year graduate assistantship, 4-6 undergraduate terminal projects, and two design studio courses on these issues. In the first year, the grant funded undergraduate capstone research projects for two students.

APPENDIX 1. COUNTY HOUSING SUPPLY, 2023

County	Single Family		Condominium		Mobile Home		Multifamily 2-9 Unit			Multifamily 10+ Unit	
	Parcels	% Homesteaded	Parcels	% Homesteaded	Parcels	% Homesteaded	Parcels	% Homesteaded	Dwelling Units	Parcels	Dwelling Units
Alachua	62,936	73%	7,186	23%	5,595	63%	1,608	5%	5,238	357	26,510
Baker	4,963	75%	0	0%	2,448	67%	55	2%	128	4	115
Bay	60,398	59%	19,326	9%	8,530	47%	1,965	17%	5,449	130	12,239
Bradford	5,924	73%	21	67%	2,640	63%	26	23%	61	14	-
Brevard	202,176	72%	35,915	37%	11,254	54%	2,982	23%	7,951	281	27,347
Broward	389,023	77%	253,262	42%	4,136	45%	16,461	16%	48,813	1,621	122,592
Calhoun	2,609	69%	0	0%	1,184	66%	13	23%	40	2	-
Charlotte	80,472	66%	14,441	36%	5,526	41%	1,483	15%	3,461	82	2,613
Citrus	58,137	73%	1,612	37%	15,688	54%	553	10%	1,588	43	1,385
Clay	65,360	75%	2,397	37%	9,487	61%	287	8%	1,003	55	6,043
Collier	104,693	66%	100,635	32%	3,517	37%	1,949	16%	6,118	119	13,849
Columbia	13,625	71%	48	42%	7,729	65%	228	5%	-	39	-
DeSoto	6,006	67%	605	45%	2,698	47%	258	12%	767	31	-
Dixie	2,940	58%	159	8%	3,844	59%	3	33%	6	1	-
Duval	283,283	67%	27,528	39%	9,331	47%	5,140	14%	15,542	695	-
Escambia	103,191	66%	10,415	16%	4,895	44%	4,568	31%	10,795	205	-
Flagler	47,722	75%	4,414	38%	1,665	62%	1,379	14%	-	18	206
Franklin	6,673	39%	432	9%	1,298	52%	7	0%	-	1	-
Gadsden	11,310	66%	0	0%	3,698	57%	149	23%	342	19	313
Gilchrist	2,851	75%	0	0%	2,924	68%	28	39%	69	2	61
Glades	1,820	59%	258	30%	2,210	49%	153	42%	318	1	-
Gulf	6,839	44%	239	2%	1,656	47%	22	5%	71	5	239
Hamilton	2,024	64%	0	0%	1,512	70%	146	60%	-	9	-
Hardee	4,313	67%	0	0%	1,671	47%	201	31%	-	17	-
Hendry	7,400	67%	281	19%	4,515	53%	369	29%	904	18	416
Hernando	68,099	70%	631	48%	11,981	56%	486	8%	1,246	64	3,942
Highlands	34,188	65%	1,345	38%	5,317	42%	799	10%	1,992	59	1,634
Hillsborough	377,627	73%	40,129	40%	13,665	54%	4,616	8%	12,826	878	132,927
Holmes	3,471	68%	0	0%	1,393	62%	15	20%	53	7	175
Indian River	57,444	73%	15,017	39%	1,086	44%	740	10%	2,029	51	3,613

County	Single Family		Condominium		Mobile Home		Multifamily 2-9 Unit			Multifamily 10+ Unit	
	Parcels	% Homesteaded	Parcels	% Homesteaded	Parcels	% Homesteaded	Parcels	% Homesteaded	Dwelling Units	Parcels	Dwelling Units
Jackson	10,324	66%	0	0%	3,107	65%	56	13%	217	60	-
Jefferson	2,867	71%	0	0%	1,307	63%	53	26%	178	15	222
Lafayette	1,019	67%	0	0%	826	57%	8	13%	14	1	-
Lake	119,692	74%	3,619	48%	16,301	59%	1,336	8%	3,553	176	15,215
Lee	248,337	66%	84,880	35%	15,789	37%	10,515	20%	23,845	289	33,004
Leon	73,488	71%	5,061	17%	6,747	55%	2,312	7%	6,556	362	32,159
Levy	8,058	72%	238	10%	9,562	62%	68	9%	209	12	423
Liberty	1,397	65%	0	0%	812	47%	61	69%	127	5	-
Madison	3,225	61%	0	0%	1,762	66%	173	57%	414	10	395
Manatee	116,866	70%	35,438	40%	4,679	38%	4,443	18%	10,076	170	21,717
Marion	124,806	70%	2,502	37%	24,737	52%	3,622	38%	8,997	109	8,669
Martin	49,949	77%	14,966	44%	2,933	52%	1,078	13%	2,827	64	4,905
Miami-Dade	383,127	76%	382,264	36%	300	17%	31,605	26%	85,188	3,599	192,751
Monroe	29,353	43%	6,962	18%	4,687	25%	1,759	26%	4,546	46	2,996
Nassau	29,836	74%	4,084	23%	6,274	64%	372	27%	891	27	-
Okaloosa	69,671	65%	13,590	12%	3,351	45%	758	6%	2,664	177	8,584
Okeechobee	7,478	70%	234	26%	5,853	47%	349	30%	896	10	367
Orange	335,605	69%	52,226	25%	6,159	52%	3,983	11%	9,853	1,110	158,879
Osceola	123,632	59%	13,695	15%	5,444	53%	1,044	9%	2,696	925	24,986
Palm Beach	377,170	73%	185,688	41%	3,671	32%	10,197	17%	28,510	855	75,777
Pasco	185,414	71%	11,844	44%	29,478	50%	3,158	38%	5,817	218	17,905
Pinellas	252,465	76%	103,994	47%	17,008	46%	12,435	29%	32,295	873	70,668
Polk	210,605	65%	8,497	32%	31,587	50%	6,706	18%	17,366	285	25,694
Putnam	17,160	66%	198	30%	15,393	53%	150	12%	380	30	1,287
Santa Rosa	63,909	74%	1,751	18%	6,492	49%	666	8%	1,687	57	2,805
Sarasota	155,601	68%	52,813	39%	11,888	40%	4,668	36%	10,857	190	16,936
Seminole	132,134	74%	15,139	35%	1,717	54%	1,148	11%	2,636	208	41,761
St. Johns	99,201	77%	14,562	37%	5,436	60%	1,618	43%	2,860	52	5,319
St. Lucie	117,429	74%	14,571	39%	4,536	51%	1,490	9%	3,385	78	6,351
Sumter	69,490	72%	512	59%	6,458	52%	104	7%	308	23	2,200
Suwannee	6,326	68%	0	0%	6,826	63%	57	2%	125	8	104
Taylor	5,488	58%	90	4%	3,231	52%	22	9%	69	11	344

County	Single Family		Condominium		Mobile Home		Multifamily 2-9 Unit			Multifamily 10+ Unit	
	Parcels	% Homesteaded	Parcels	% Homesteaded	Parcels	% Homesteaded	Parcels	% Homesteaded	Dwelling Units	Parcels	Dwelling Units
Union	1,406	81%	18	11%	1,201	70%	1	0%	-	15	-
Volusia	184,265	71%	28,414	30%	7,371	57%	2,594	15%	7,161	309	25,515
Wakulla	9,250	74%	278	44%	3,397	61%	31	3%	74	5	160
Walton	37,006	43%	10,736	6%	5,285	43%	638	42%	1,089	38	-
Washington	5,075	66%	0	0%	2,639	55%	27	4%	-	1	-
Florida Total	5,745,641	71%	1,605,160	37%	437,337	52%	155,994	21%	406,864	15,251	1,274,074

Source: Florida Department of Revenue, Name-Address-Legal File. Includes all parcels by housing type regardless of year built. Homesteaded parcels are the owner's primary residence. Dwelling unit data may be missing for some multifamily developments. Dwelling unit counts are suppressed in counties where total dwelling units are less than 2 times the number of parcels for the multifamily 2-9 unit category and less than 10 times the number of parcels for the multifamily 10+ unit category.

APPENDIX 2. HOUSING PRODUCTION BY COUNTY AND HOUSING TYPE, 2022

County	Single Family	Condominium	Mobile Home	Multifamily 2-9 Unit	Multifamily 10+ Unit
Alachua	905	0	56	16	15
Baker	86	0	35	0	0
Bay	2,012	0	236	14	8
Bradford	70	0	38	0	2
Brevard	4,045	151	75	5	3
Broward	1,809	156	21	31	14
Calhoun	19	0	37	0	0
Charlotte	2,429	292	38	69	1
Citrus	1,286	0	145	12	0
Clay	1,630	0	118	0	2
Collier	3,312	654	27	4	4
Columbia	184	0	107	0	0
DeSoto	74	0	17	0	0
Dixie	19	0	39	0	0
Duval	5,338	0	59	7	16
Escambia	1,994	28	48	13	6
Flagler	2,014	0	37	122	0
Franklin	129	0	24	1	0
Gadsden	149	0	57	2	0
Gilchrist	101	0	70	0	0
Glades	64	1	16	0	0
Gulf	320	0	53	0	0
Hamilton	28	0	20	0	0
Hardee	42	0	20	2	0
Hendry	434	25	77	22	0
Hernando	1,367	0	114	2	0
Highlands	488	0	22	3	1
Hillsborough	6,638	110	59	7	23
Holmes	33	0	31	0	0
Indian River	1,224	8	7	5	1
Jackson	76	0	62	0	0
Jefferson	69	0	12	0	0
Lafayette	4	0	15	1	0
Lake	4,089	42	114	13	7
Lee	7,432	176	82	183	8
Leon	479	92	32	2	4
Levy	112	0	122	2	0
Liberty	8	0	18	0	0
Madison	35	0	36	1	0

County	Single Family	Condominium	Mobile Home	Multifamily 2-9 Unit	Multifamily 10+ Unit
Manatee	4,930	122	21	14	5
Marion	4,799	18	178	32	3
Martin	546	2	14	2	2
Miami-Dade	1,614	4,091	0	79	42
Monroe	291	124	2	3	2
Nassau	1,499	4	79	3	1
Okaloosa	1,146	32	72	4	3
Okeechobee	93	0	101	2	0
Orange	3,895	49	42	1	26
Osceola	5,778	118	21	17	11
Palm Beach	3,810	82	13	20	10
Pasco	7,019	8	177	0	6
Pinellas	957	143	43	70	11
Polk	9,235	5	200	21	10
Putnam	161	0	113	0	0
Santa Rosa	2,171	0	133	8	2
Sarasota	3,901	293	31	10	5
Seminole	1,026	0	9	1	5
St. Johns	5,638	27	72	3	5
St. Lucie	5,461	0	10	5	1
Sumter	4,003	0	27	0	2
Suwannee	84	0	116	0	0
Taylor	58	0	53	0	0
Union	31	0	16	0	0
Volusia	3,795	1	45	6	5
Wakulla	391	1	17	0	0
Walton	1,804	0	148	3	2
Washington	66	0	64	0	0
Florida Total	124,749	6,855	4,013	843	274

Source: Florida Department of Revenue, Name-Address-Legal File. Includes parcels in the current parcel inventory with actual year built 2022. Multifamily 2-9 and 10+ counts refer to parcels, not individual dwelling units.

APPENDIX 3. SALES VOLUME AND PRICES (2023 \$) BY COUNTY, 2022

County	Single Family				Condominium				Mobile Home			
	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price
Alachua	4,020	\$232,841	\$328,047	\$434,636	776	\$129,356	\$167,387	\$201,795	216	\$117,455	\$165,576	\$206,970
Baker	248	\$263,886	\$313,042	\$402,556	0	\$0	\$0	\$0	63	\$121,077	\$165,058	\$214,214
Bay	5,235	\$269,060	\$351,848	\$475,927	2,100	\$320,803	\$424,288	\$579,463	371	\$93,136	\$155,227	\$201,795
Bradford	230	\$155,227	\$229,995	\$310,454	2	\$222,492	\$231,806	\$241,120	82	\$77,614	\$157,814	\$201,795
Brevard	14,008	\$284,583	\$359,092	\$465,682	2,456	\$181,098	\$269,060	\$444,985	719	\$113,833	\$165,576	\$201,795
Broward	21,258	\$398,416	\$532,947	\$770,134	18,132	\$155,227	\$226,632	\$340,465	291	\$131,426	\$173,854	\$217,318
Calhoun	73	\$144,879	\$195,586	\$264,921	0	\$0	\$0	\$0	10	\$72,439	\$113,833	\$181,098
Charlotte	6,133	\$310,351	\$397,382	\$519,494	1,529	\$191,447	\$284,583	\$388,068	338	\$134,427	\$170,750	\$222,492
Citrus	4,195	\$217,318	\$279,409	\$374,615	154	\$160,401	\$185,703	\$289,757	819	\$83,823	\$134,530	\$190,412
Clay	5,242	\$294,932	\$358,161	\$429,462	177	\$148,501	\$212,144	\$260,782	497	\$98,207	\$164,541	\$238,015
Collier	7,366	\$517,424	\$716,063	\$1,086,590	6,141	\$331,151	\$454,816	\$705,766	106	\$181,616	\$235,169	\$309,420
Columbia	709	\$181,616	\$263,886	\$336,222	11	\$139,704	\$150,053	\$159,367	294	\$92,101	\$155,227	\$222,492
DeSoto	319	\$205,935	\$264,921	\$388,068	47	\$186,273	\$222,492	\$248,364	69	\$124,182	\$165,576	\$217,318
Dixie	159	\$117,973	\$201,795	\$331,151	14	\$243,189	\$265,439	\$388,068	197	\$67,369	\$124,182	\$181,098
Duval	20,507	\$227,667	\$315,629	\$411,663	2,097	\$164,437	\$217,318	\$279,512	361	\$78,648	\$134,530	\$206,970
Escambia	6,771	\$211,626	\$294,828	\$372,545	508	\$170,750	\$325,977	\$627,635	92	\$46,827	\$87,962	\$138,411
Flagler	4,304	\$320,337	\$377,720	\$470,804	374	\$279,409	\$413,939	\$641,606	88	\$159,884	\$206,400	\$263,886
Franklin	382	\$274,235	\$517,424	\$909,631	44	\$283,031	\$341,500	\$574,858	44	\$62,091	\$116,420	\$179,805
Gadsden	424	\$137,117	\$222,492	\$315,629	0	\$0	\$0	\$0	76	\$62,091	\$95,723	\$159,108
Gilchrist	179	\$199,726	\$306,212	\$413,836	0	\$0	\$0	\$0	128	\$87,962	\$155,175	\$218,353
Glades	95	\$170,750	\$253,538	\$322,873	24	\$38,807	\$64,678	\$107,624	118	\$117,973	\$165,834	\$227,667
Gulf	569	\$351,848	\$491,553	\$765,684	8	\$427,392	\$517,424	\$777,792	64	\$62,091	\$113,833	\$188,860
Hamilton	68	\$113,833	\$181,098	\$254,573	0	\$0	\$0	\$0	37	\$113,833	\$144,879	\$181,098
Hardee	166	\$144,879	\$212,144	\$266,991	0	\$0	\$0	\$0	72	\$72,957	\$105,037	\$165,058
Hendry	624	\$201,795	\$258,660	\$310,454	33	\$170,750	\$205,417	\$231,082	144	\$119,008	\$170,750	\$238,015

County	Single Family				Condominium				Mobile Home			
	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price
Hernando	5,426	\$258,712	\$317,336	\$382,894	56	\$116,420	\$155,227	\$181,098	767	\$123,147	\$162,989	\$205,935
Highlands	2,097	\$182,133	\$243,189	\$315,629	152	\$109,435	\$150,053	\$187,307	313	\$66,230	\$92,101	\$133,495
Hillsborough	25,403	\$331,151	\$405,867	\$519,494	3,145	\$170,750	\$232,841	\$341,500	413	\$165,576	\$227,667	\$301,141
Holmes	123	\$103,485	\$160,401	\$222,492	0	\$0	\$0	\$0	31	\$36,220	\$77,614	\$111,246
Indian River	4,126	\$305,280	\$387,033	\$531,912	1,237	\$171,267	\$253,538	\$465,682	44	\$91,067	\$131,943	\$190,671
Jackson	409	\$119,008	\$181,098	\$258,609	0	\$0	\$0	\$0	73	\$72,439	\$129,356	\$170,750
Jefferson	149	\$191,447	\$289,757	\$410,628	0	\$0	\$0	\$0	47	\$71,922	\$165,576	\$227,667
Lafayette	51	\$103,485	\$180,064	\$300,106	0	\$0	\$0	\$0	28	\$49,673	\$129,356	\$199,208
Lake	7,753	\$312,524	\$388,068	\$481,204	403	\$98,311	\$164,541	\$258,712	889	\$124,182	\$175,924	\$227,667
Lee	21,010	\$330,106	\$418,079	\$616,252	6,367	\$239,050	\$328,254	\$454,298	988	\$103,485	\$150,053	\$211,626
Leon	3,991	\$191,447	\$284,169	\$406,695	524	\$103,537	\$154,192	\$235,428	175	\$55,882	\$87,962	\$131,426
Levy	465	\$188,342	\$259,747	\$384,225	35	\$150,053	\$240,602	\$331,151	445	\$84,858	\$134,427	\$191,447
Liberty	39	\$93,447	\$164,541	\$279,305	0	\$0	\$0	\$0	14	\$30,011	\$49,155	\$98,311
Madison	112	\$98,828	\$168,422	\$284,583	0	\$0	\$0	\$0	56	\$74,509	\$109,953	\$180,012
Manatee	10,751	\$398,416	\$500,866	\$683,000	2,879	\$219,905	\$320,803	\$455,333	300	\$95,723	\$139,704	\$196,518
Marion	11,371	\$228,805	\$286,653	\$362,197	303	\$103,485	\$124,182	\$150,053	1,070	\$77,614	\$130,391	\$186,273
Martin	2,870	\$388,068	\$517,424	\$816,288	997	\$191,447	\$251,365	\$362,197	185	\$155,227	\$195,586	\$243,189
Miami-Dade	15,438	\$450,159	\$569,166	\$827,775	28,436	\$276,304	\$403,591	\$615,735	1	\$150,053	\$150,053	\$150,053
Monroe	1,628	\$731,120	\$1,034,848	\$1,733,370	501	\$465,682	\$698,522	\$1,010,012	225	\$310,454	\$408,558	\$620,909
Nassau	2,735	\$369,441	\$444,467	\$605,386	284	\$417,561	\$606,680	\$833,053	238	\$141,774	\$212,661	\$258,712
Okaloosa	5,031	\$287,688	\$357,023	\$465,682	1,109	\$332,186	\$496,727	\$714,045	101	\$93,136	\$169,612	\$209,039
Okeechobee	418	\$195,586	\$263,886	\$362,093	18	\$96,241	\$129,356	\$139,704	454	\$67,265	\$126,510	\$181,098
Orange	19,293	\$346,674	\$444,985	\$594,210	4,008	\$155,227	\$204,589	\$266,991	338	\$114,868	\$155,227	\$206,970
Osceola	13,266	\$354,435	\$418,079	\$516,389	1,478	\$191,447	\$258,712	\$331,151	329	\$144,879	\$206,970	\$274,235
Palm Beach	17,440	\$465,682	\$646,780	\$957,234	13,978	\$165,576	\$253,538	\$398,416	178	\$129,356	\$155,227	\$216,283
Pasco	17,762	\$284,583	\$379,220	\$488,448	1,113	\$119,008	\$155,227	\$204,900	1,858	\$77,614	\$122,112	\$181,098

County	Single Family				Condominium				Mobile Home			
	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price	Number of Sales	25th Percentile Price	50th Percentile Price (Median)	75th Percentile Price
Pinellas	12,786	\$331,151	\$426,513	\$594,934	7,497	\$186,273	\$259,643	\$429,462	977	\$93,136	\$134,530	\$175,924
Polk	20,853	\$288,723	\$341,603	\$403,591	786	\$124,182	\$158,177	\$217,318	1,828	\$93,136	\$142,033	\$196,518
Putnam	834	\$150,053	\$227,097	\$315,629	19	\$232,841	\$284,583	\$315,629	581	\$76,475	\$124,182	\$181,098
St. Johns	9,893	\$413,939	\$520,011	\$688,174	1,047	\$258,712	\$341,500	\$525,703	270	\$175,924	\$243,189	\$289,757
St. Lucie	10,797	\$334,152	\$396,761	\$468,890	1,148	\$186,273	\$284,583	\$491,553	211	\$150,053	\$201,795	\$248,364
Santa Rosa	5,205	\$294,932	\$363,697	\$467,648	143	\$341,396	\$486,379	\$746,125	205	\$81,753	\$124,078	\$175,924
Sarasota	10,491	\$388,068	\$497,762	\$683,000	3,752	\$284,583	\$380,824	\$620,909	592	\$133,495	\$167,697	\$212,144
Seminole	7,627	\$332,807	\$413,939	\$527,772	1,255	\$153,157	\$187,825	\$235,428	89	\$119,008	\$169,715	\$227,667
Sumter	7,817	\$330,634	\$405,453	\$512,250	32	\$129,615	\$230,202	\$243,189	305	\$79,994	\$139,704	\$196,621
Suwannee	312	\$159,884	\$230,254	\$300,623	0	\$0	\$0	\$0	276	\$89,514	\$155,175	\$221,975
Taylor	252	\$117,559	\$181,098	\$305,280	6	\$250,433	\$277,857	\$361,162	102	\$93,136	\$128,839	\$193,517
Union	44	\$202,830	\$243,189	\$324,942	0	\$0	\$0	\$0	32	\$71,922	\$152,640	\$187,463
Volusia	12,162	\$284,583	\$351,848	\$434,636	2,455	\$165,576	\$289,757	\$486,379	335	\$132,461	\$170,750	\$227,667
Wakulla	791	\$206,970	\$317,698	\$397,382	26	\$172,820	\$242,672	\$315,629	140	\$76,941	\$134,013	\$181,098
Walton	3,495	\$455,230	\$723,359	\$1,497,528	1,252	\$434,636	\$619,874	\$874,447	141	\$98,311	\$162,989	\$222,492
Washington	211	\$139,704	\$201,174	\$279,409	0	\$0	\$0	\$0	73	\$77,614	\$124,182	\$150,053
Florida Total	396,011	\$310,454	\$403,591	\$560,577	121,068	\$195,586	\$300,106	\$460,000	21,013	\$95,206	\$150,053	\$206,970

Source: Florida Department of Revenue, Sales Data File. Includes home sales that took place in 2022, the most recent full year with data available. Arms-length sales only. Home prices adjusted to 2023 dollars using the Consumer Price Index.

APPENDIX 4. SURPLUS/DEFICIT OF AFFORDABLE AND AVAILABLE RENTAL HOUSING UNITS BY INCOME (% AMI), FLORIDA REGIONS, 2022

Region	Counties	Affordable/Available Units Minus Renter Households					
		0-30% AMI	0-40% AMI	0-50% AMI	0-60% AMI	0-80% AMI	0-120% AMI
Cape Coral-Fort Myers, FL MSA	Lee	-12,127	-13,378	-18,568	-17,272	-12,349	-1,135
Deltona-Daytona Beach-Ormond Beach, FL MSA & Palm Coast, FL MSA	Flagler, Volusia	-10,014	-12,451	-15,516	-15,234	-9,359	-357
Fort Walton Beach-Crestview-Destin, FL MSA	Okaloosa	-1,883	-2,668	-3,766	-2,908	-2,236	1,338
Ft. Lauderdale	Broward	-38,051	-54,391	-70,488	-83,786	-84,246	-33,237
Gainesville, FL MSA (minus Gilchrist)	Alachua	-4,632	-6,362	-6,030	-3,822	2,323	3,351
Homosassa Springs, FL MSA	Citrus	-2,043	-2,341	-2,636	-2,663	-893	-620
Jacksonville, FL MSA plus Putnam	Baker, Clay, Duval, Nassau, Putnam, St. Johns	-33,046	-38,430	-42,592	-33,940	-20,099	4,418
Lakeland, FL MSA	Polk	-12,578	-17,497	-20,489	-18,582	-13,186	248
Miami-Dade Plus Monroe	Miami-Dade, Monroe	-62,467	-93,480	-108,871	-130,410	-134,458	-61,721
Naples-Marco Island, FL MSA	Collier	-4,858	-7,220	-10,087	-9,861	-7,936	-1,247
Northeast Nonmetropolitan Area (plus Gilchrist)	Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Levy, Madison, Suwannee, Taylor, Union	-3,311	-3,468	-4,482	-2,139	-51	865
Northwest Nonmetropolitan Area (plus Gadsden, Jefferson, & Wakulla)	Calhoun, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Liberty, Wakulla, Walton, Washington	-4,521	-5,296	-4,372	-3,242	-1,003	36
Ocala, FL MSA	Marion	-6,173	-5,378	-6,830	-5,029	-1,586	3,216
Orlando-Kissimmee, FL MSA	Lake, Orange, Osceola, Seminole	-51,154	-70,138	-89,107	-94,715	-77,753	799
Palm Bay-Melbourne-Titusville, FL MSA	Brevard	-8,504	-11,491	-9,241	-6,901	-691	6,565
Panama City-Lynn Haven, FL MSA	Bay	-3,086	-3,254	-4,840	-4,839	-3,626	1,151
Pensacola-Ferry Pass-Brent, FL MSA	Escambia, Santa Rosa	-9,841	-11,125	-12,909	-9,855	-3,894	-612
Port St. Lucie, FL MSA	Martin, St. Lucie	-7,410	-8,979	-9,712	-8,956	-6,229	683
Punta Gorda, FL MSA	Charlotte	-62	-1,173	-2,475	-2,659	-1,904	-579
Sarasota-Bradenton-Venice, FL MSA	Manatee, Sarasota	-11,394	-16,597	-19,873	-17,238	-10,255	3,057
Sebastian-Vero Beach, FL MSA	Indian River, Okeechobee	-1,769	-1,923	-2,402	-2,499	-1,303	10

Region	Counties	Affordable/Available Units Minus Renter Households					
		0-30% AMI	0-40% AMI	0-50% AMI	0-60% AMI	0-80% AMI	0-120% AMI
South Nonmetropolitan Area (minus Monroe)	DeSoto, Glades, Hardee, Hendry, Highlands	-3,417	-4,566	-5,396	-5,913	-2,835	-1,469
Tallahassee, FL MSA (minus Gadsden, Jefferson & Wakulla)	Leon	-6,053	-7,018	-5,982	-2,315	540	2,293
Tampa-St. Petersburg-Clearwater, FL MSA	Hernando, Hillsborough, Pasco, Pinellas	-64,236	-81,384	-90,984	-83,379	-60,011	3,994
The Villages, FL MSA	Sumter	-630	-891	-962	-713	-839	387
West Palm Beach-Boca Raton	Palm Beach	-28,122	-37,675	-43,874	-45,133	-33,296	-7,728
State of Florida Total		-391,382	-518,574	-612,484	-614,003	-487,175	-76,294

Source: Shimberg Center analysis of U.S. Census Bureau, 2022 American Community Survey. Values are the difference between renter households and affordable/available units at each income level. Negative value means that renter households outnumber affordable/available units.

Serial Number
24-02523W

WEST ORANGE Times

West Orange Times
Published Weekly
Winter Garden , Orange County, Florida

COUNTY OF ORANGE

STATE OF FLORIDA

Before the undersigned authority personally appeared Lindsey Padgett who on oath says that he/she is Publisher's Representative of the West Orange Times a weekly newspaper published at Winter Garden , Orange County, Florida; that the attached copy of advertisement,

being a Notice of Public Hearing

in the matter of Public Hearing on August 20, 2024
Live Local Act

in the Court, was published in said newspaper by print in the
issues of 8/8/2024

Affiant further says that the West Orange Times complies with all legal requirements for publication in chapter 50, Florida Statutes.

*This Notice was placed on the newspaper's website and floridapublicnotices.com on the same day the notice appeared in the newspaper.

CITY OF OCOEE
NOTICE OF PUBLIC HEARING
TO CONSIDER A RESOLUTION
TO OPT-OUT OF THE LIVE LOCAL ACT
PROPERTY TAX EXEMPTION

NOTICE IS HEREBY GIVEN, pursuant to Section 153, Article II of the Code of the City of Ocoee, that on **TUESDAY, AUGUST 20, 2024, at 6:15 P.M.**, or as soon thereafter as practical, the **OCOOE CITY COMMISSION** will hold a **PUBLIC HEARING** at the City of Ocoee Commission Chambers located at 1 North Bluford Avenue, Ocoee, Florida, to consider the adoption of the following resolution:

A RESOLUTION OF THE CITY OF OCOEE, FLORIDA, ELECTING TO NOT EXEMPT CERTAIN PROPERTY UNDER SECTION 196.1978(3)(o) AS ENACTED BY CHAPTER 2024-158, LAWS OF FLORIDA, AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

Interested parties may appear at the public hearing and be heard with respect to the proposed action. The complete case file, including a complete legal description by metes and bounds, may be inspected at the Ocoee Planning Department located at 1 North Bluford Avenue, Ocoee, Florida, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, except legal holidays. The Ocoee City Commission may continue the public hearing to other dates and times, as it deems necessary. Any interested party shall be advised of the dates, times, and places of any continuation of these or continued public hearings shall be announced during the hearing, and no further notices regarding these matters will be published. You are advised that any person who desires to appeal any decision made at the public hearings will need a record of the proceedings and, for this purpose, may need to ensure that a verbatim record of the proceedings is made, which includes the testimony and evidence upon which the appeal is based. In accordance with the Americans with Disabilities Act, persons needing a special accommodation or an interpreter to participate in this proceeding should contact the City Clerk's Office 48 hours in advance of the meeting at (407) 905-3105.

August 8, 2024

24-02523W


Lindsey Padgett

Sworn to and subscribed, and personally appeared by physical presence before me,

9th day of August, 2024 A.D.

by Lindsey Padgett who is personally known to me.



Notary Public, State of Florida
(SEAL)

KIMBERLY S. MARTIN
MY COMMISSION # HH 282034
EXPIRES: July 25, 2026