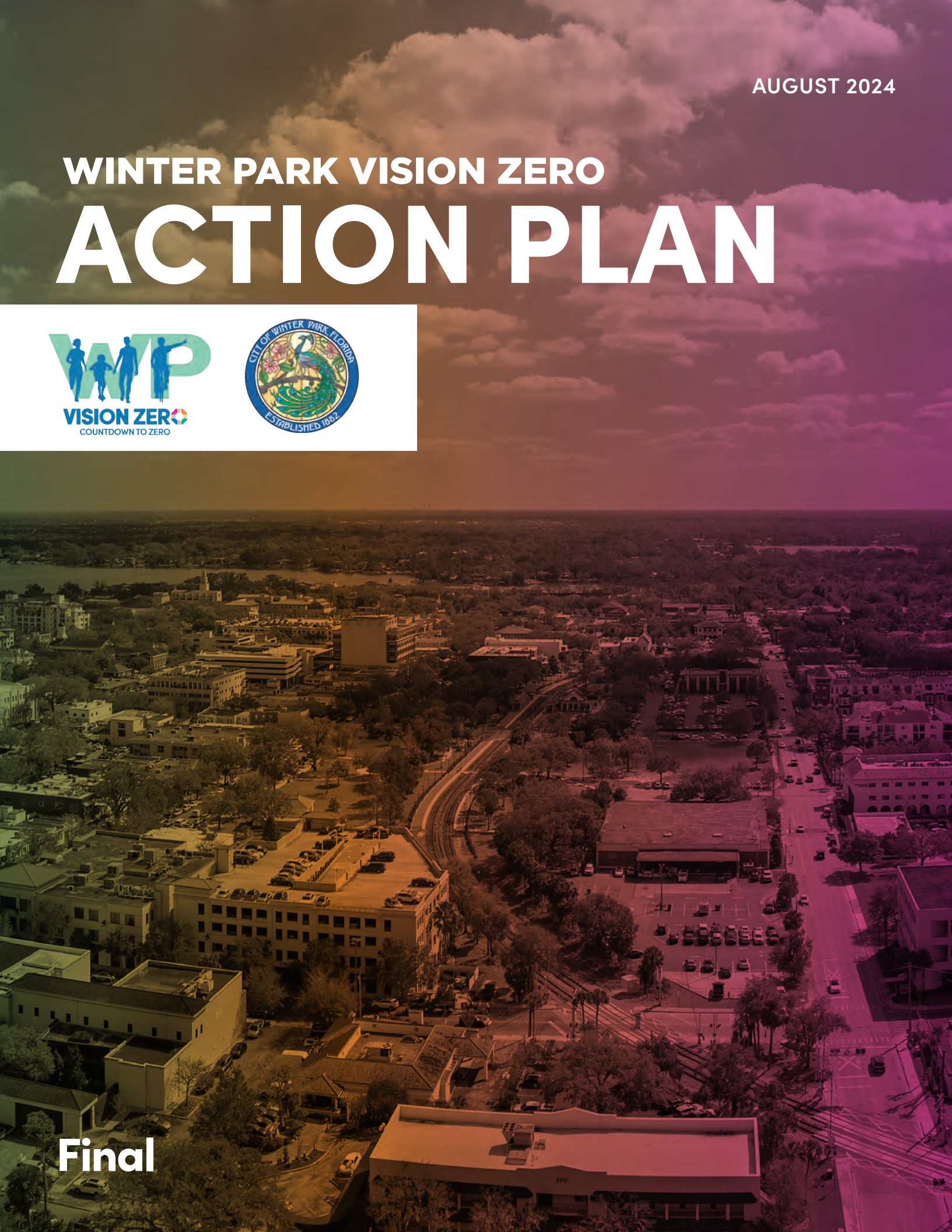
AUGUST 2024

WINTER PARK VISION ZERO
ACTION PLAN

VISION ZERO
COUNTDOWN TO ZERO

CITY OF WINTER PARK, FLORIDA
ESTABLISHED 1882



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Winter Park Vision Zero

Action Plan

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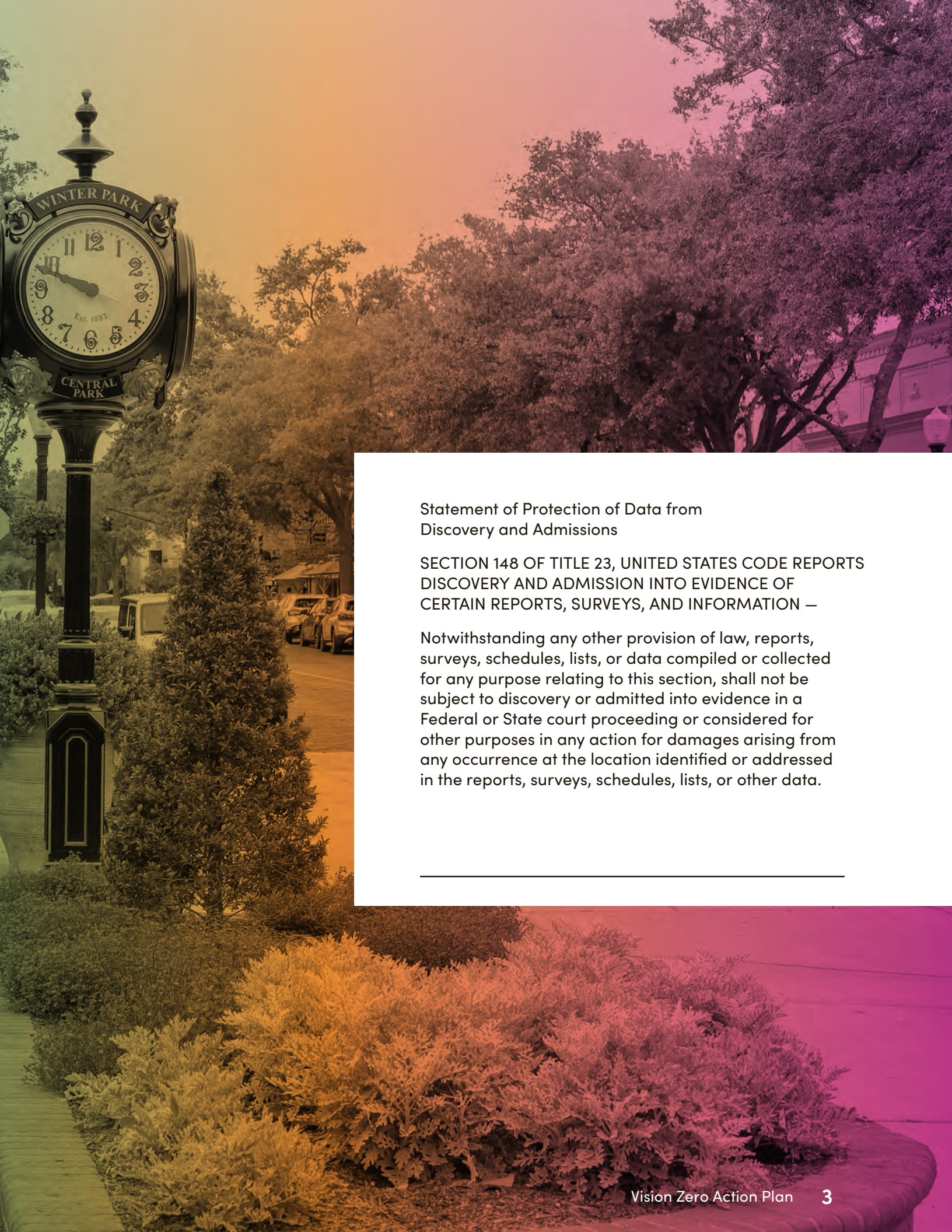

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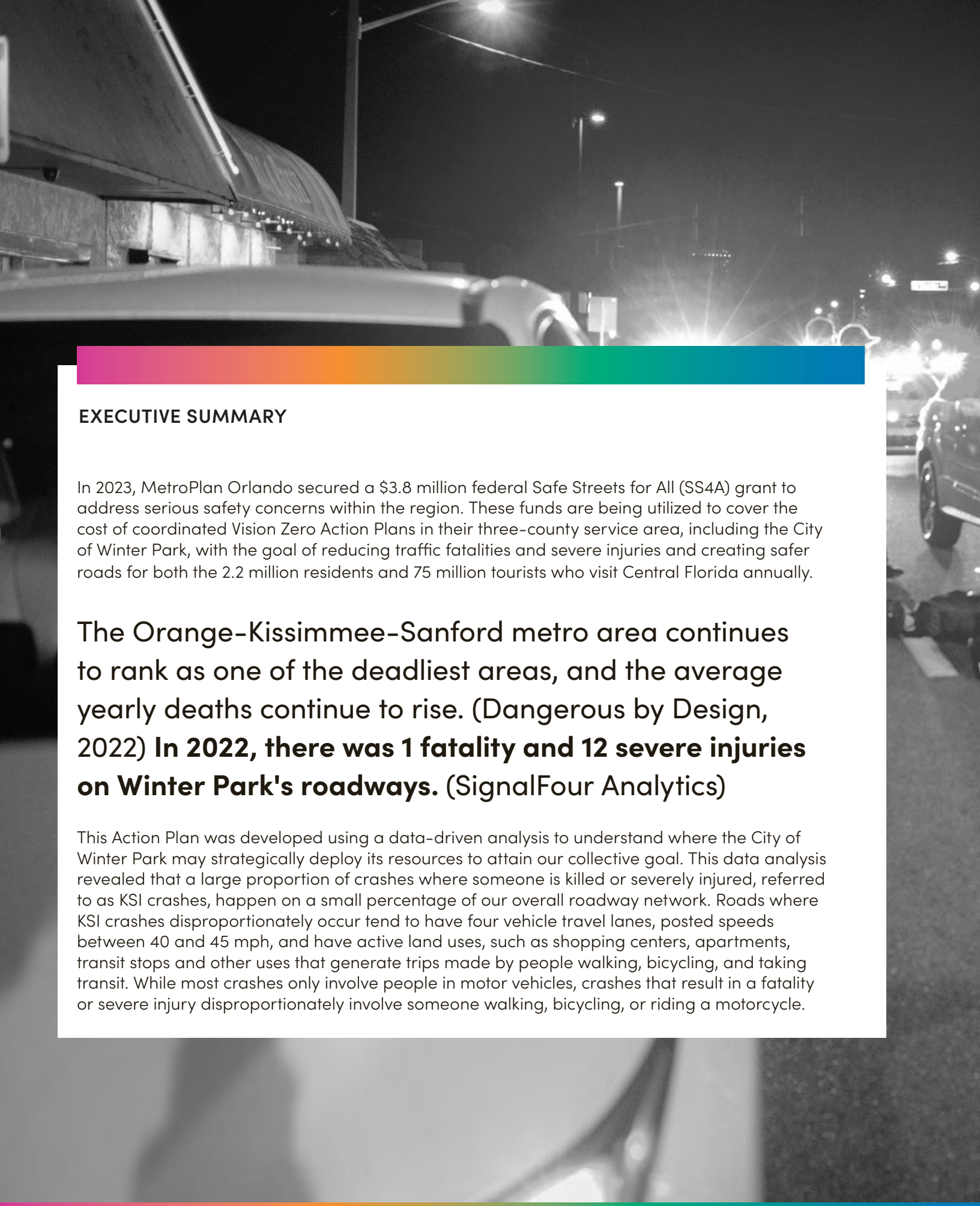
Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section, shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at the location identified or addressed in the reports, surveys, schedules, lists, or other data.

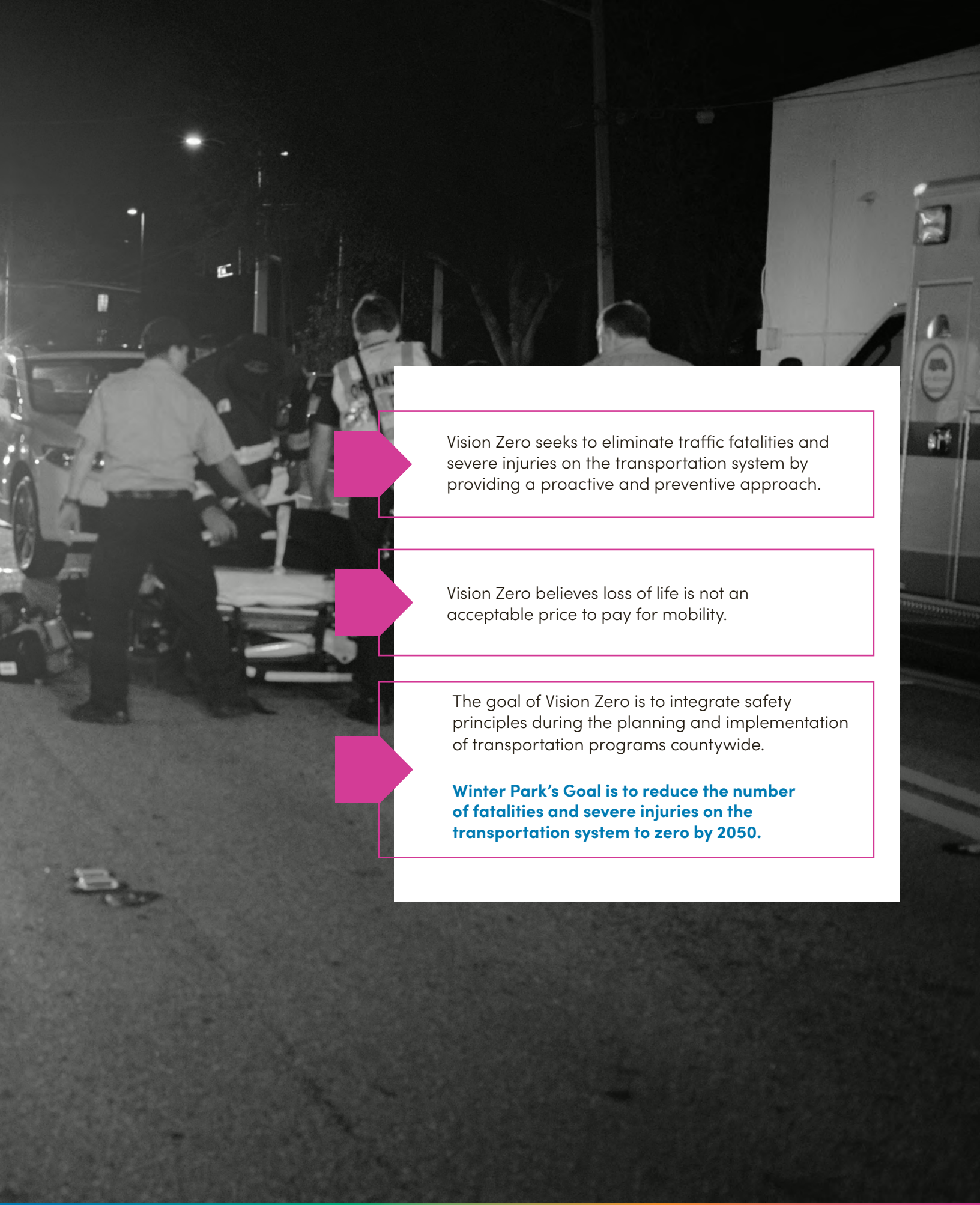


EXECUTIVE SUMMARY

In 2023, MetroPlan Orlando secured a $3.8 million federal Safe Streets for All (SS4A) grant to address serious safety concerns within the region. These funds are being utilized to cover the cost of coordinated Vision Zero Action Plans in their three-county service area, including the City of Winter Park, with the goal of reducing traffic fatalities and severe injuries and creating safer roads for both the 2.2 million residents and 75 million tourists who visit Central Florida annually.

The Orange-Kissimmee-Sanford metro area continues to rank as one of the deadliest areas, and the average yearly deaths continue to rise. (Dangerous by Design, 2022) **In 2022, there was 1 fatality and 12 severe injuries on Winter Park's roadways.** (SignalFour Analytics)

This Action Plan was developed using a data-driven analysis to understand where the City of Winter Park may strategically deploy its resources to attain our collective goal. This data analysis revealed that a large proportion of crashes where someone is killed or severely injured, referred to as KSI crashes, happen on a small percentage of our overall roadway network. Roads where KSI crashes disproportionately occur tend to have four vehicle travel lanes, posted speeds between 40 and 45 mph, and have active land uses, such as shopping centers, apartments, transit stops and other uses that generate trips made by people walking, bicycling, and taking transit. 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.



Vision Zero seeks to eliminate traffic fatalities and severe injuries on the transportation system by providing a proactive and preventive approach.

Vision Zero believes loss of life is not an acceptable price to pay for mobility.

The goal of Vision Zero is to integrate safety principles during the planning and implementation of transportation programs countywide.

Winter Park's Goal is to reduce the number of fatalities and severe injuries on the transportation system to zero by 2050.

Need for a Safety Plan

Within the analysis period of 2018-2022 there were 7 fatalities and 58 serious injuries on Winter Park's roadways (Signal Four Analytics). With these realities affecting the lives of our loved ones, designing mobility in cities with safety in mind is a key component towards systematically eliminating fatalities and promoting a higher quality of life in Winter Park, and across the Central Florida region. 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, the Winter Park Vision Zero Action Plan has been developed, rooted in the core elements of **Vision Zero** and the **Safe System Approach (SSA)**.

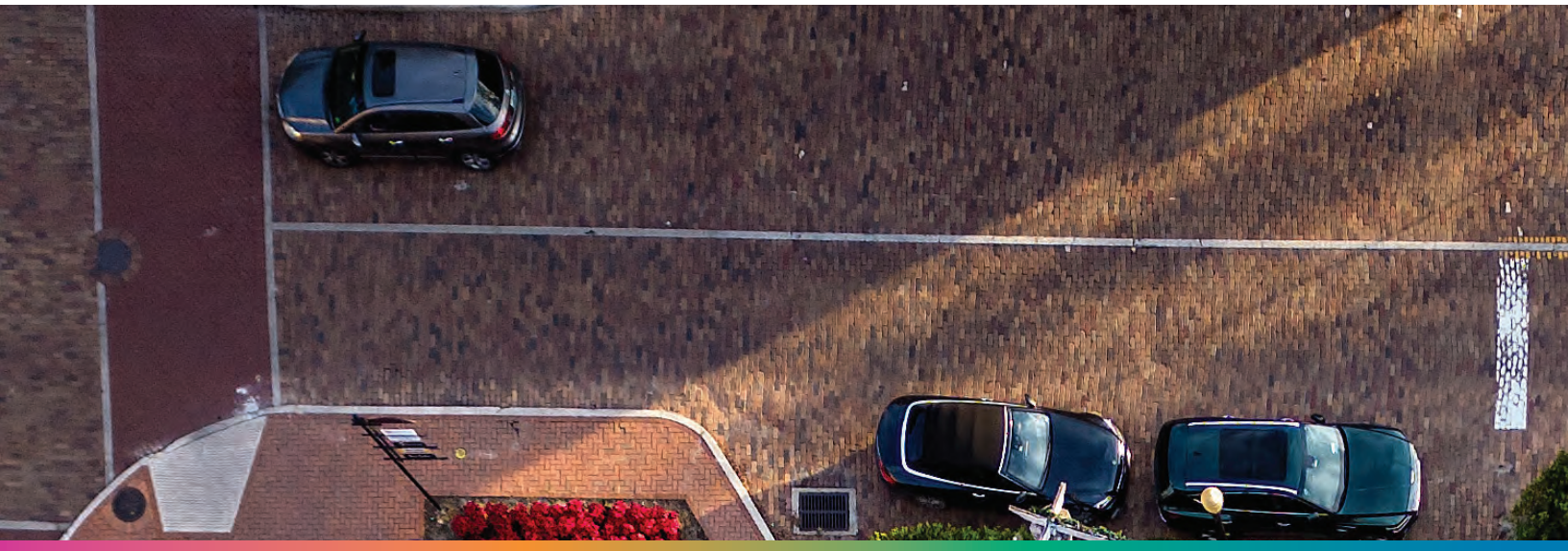
Vision Zero is a road safety philosophy which states that no loss of life or incapacitating injury due to traffic crashes is acceptable. How we can reach zero in the region is through following the core elements of Vision Zero within the Safe System Approach, which acknowledges the vulnerability of the human body when designing and operating a transportation network to minimize serious consequences of crashes. Creating a Safe System means shifting some responsibility from road users to those who plan and design the transportation system. More information about Vision Zero and the Safe System Approach is provided in **Chapter 1**.

What are the Transportation Safety Issues?

This Action Plan was developed using a datadriven analysis to understand where the City may strategically deploy its resources in order to attain our collective goal. Assessing crash statistics, including the types of crashes, behavioral factors leading to crashes, and elements of the built environment are all fundamental to identifying future roadway improvements to creating safer streets. Recommendations outlined in this Action Plan were uniquely identified by understanding crash trends not only city wide, but at a corridor level to effectuate positive change

Additional details about crash trends in the City are provided in **Chapter 2.**

Community outreach was a core component of identifying transportation safety issues within the City and developing a consistent foundation for all local agencies in the region. City staff and leadership advocated for the Vision Zero Action Plan by supporting the plan development process and educating the public about the importance of traffic safety and the goal of reducing traffic fatalities and serious injuries to zero. **Chapter 3** describes the pubilc engagement that was conducted as a part of this plan, and how that feedback was incorporated in the final recommendations.



How will we get to Zero Traffic Deaths and Serious Injuries?

There is no one solution to reach zero traffic deaths and serious injuries. Rather, it will require a multidisciplinary and collaborative approach. **Chapters 4, 5 and 6** provide details on the engineering and non-engineering such as enforcement and engagement that the City will implement to help reach its goal. These chapters also outline an implementation plan to understand where improvements will be prioritized, and specific actions that Maitland will take in collaboration with other agencies in the region.

This Action Plan is firmly grounded on a rigorous and comprehensive data-driven approach and vetted in feedback received from regional partners and community stakeholders. A foundational element of developing this plan lies in analyzing crash trends, community and roadway characteristics to understand road user behavior and elements of the built environment that are leading to serious crashes. Data was complied, analyzed, and mapped to identify causational relationships and then corresponding solutions to empower decision makers to thoroughly understand safety concerns and take action to mitigate them. In addition to physical changes to the roadway system including lighting upgrades, intersection improvements, pedestrian or bicycle improvements, additional behavioral interventions like public safety campaigns are shared in this report.

How will we track our Progress?

Monitoring continued progress is an important part of the process. On an annual basis, the City of Winter Park will reflect on our progress towards zero through an assessment of the crash trends from the prior year and comparing them to the trends documented in the Action Plan. Progress will be shared at an Annual Safety Summit hosted by MetroPlan Orlando where best practices and lessons learned from across the region will be shared.

What action does the City need to take?

Through the data-driven process and conversations with key stakeholders of the community, the City of Winter Park has identified priority areas and design-appropriate safety countermeasures across the city's most dangerous corridors, as outlined in next table. By identifying specific countermeasures and focusing on high-incidence locations, the City of Winter Park is well-equipped to pinpoint areas where investment of resources will have the most significant impact in terms of lives saved and injuries prevented.

Proposed Engineering Countermeasures

Assess a reduction in posted speed limits
Employ speed feedback signs for short recurring periods
Propose lane narrowing or lane reduction
Implement speed sensitive traffic signals
Conduct sight line reviews and evaluate need to remove obstructions at driveways or stop signs
Update worn pavement markings
Evaluate opportunities to consolidate driveways
Consider median installation
Reduce curb radii / turning radii
Install backplates with retroflective borders where needed
Consider the installation roundabouts at intersections
Consider opportunities for intersection reconstruction
Consider prohibition of specific turning movement
Extend median nose into crosswalk at non-signalized and signalized locations
Provide separated bicycle lanes or provide additional buffer to existing bicyle lanes
Add “Bicycle May use Full Road” signage
Reconfigure crosswalk or upgrade to high-emphasis crosswalks at intersections
Upgrade crosswalk striping
Complete sidewalk gaps or widen sidewalks where right-of-way permits
Install median islands with dedicated crosswalks at strategic locations
Install midblock crossings with visibility enhancements and pedestrian refuge islands near key community assets
Install PHBs, RRFBs, or other pedestrian signalization at midblock crossings
Upgrade to audible push button ped crossing signals
Co-locate bus stops with crosswalks at midblock crossings and intersections, locate bus stops to far side of signalized intersections
Consider installation of transit infrastructure (benches, shelters, etc.)
Prohibit turns when pedestrian signal is activated
Install leading pedestrian intervals
Address lighting upgrades at segments and intersections
Conduct Road Safety Audit to identify safety countermeasures

1. SR 527/N. Orange Ave/W. Fairbanks Ave
(from Berkshire Ave to S. Park Ave

2. SR 15/Orlando Ave
(from Norfolk Ave to Elvin Ave)

3. SR 426/W. Fairbanks Ave
(from Driver Ave to Pennsylvania Ave)

4. SR 426/E. Fairbanks Ave/Aloma Ave
(from S. Park Ave to Balfour Dr)

5. Pennsylvania Ave
(from Melrose Ave to SR 527)

6. Lakemont Ave
(from Glenridge Way to Pine Ave)

7. N. Denning Dr
(from Minnesota Ave to N. Park Ave)

8. Howell Branch Rd
(from Horatio Ave to N. Lakemont Ave)

9. SR 423/Lee Rd
(from Gloriosa Ave to SR 17)

10. Morse Blvd
(from Denning Dr to S. Park Ave)

11. Canton Ave
(from Orlando Ave to N. Virginia Ave)

CHAPTER 1

Introduction

The purpose of the City of Winter Park's Vision Zero Action Plan is to articulate its commitment towards achieving zero road fatalities and serious injuries in Winter Park and continue to collaborate with Orange County and neighboring municipalities to accomplish the same. This plan outlines a comprehensive, data-driven approach to improving road safety for all users, utilizing the **Safe System Approach**. We acknowledge that every life is valuable, and no loss of life is acceptable on our roads. Our vision is not just to reduce but to systematically eliminate fatalities and serious injuries (KSI) caused by road traffic crashes. We pledge to put safety at the core of our decision-making processes, working collaboratively with local partners, stakeholders, and the community to achieve our collective goal.

No one entity or agency can fix road safety problems alone. This **Vision Zero Action Plan** results from a coordinated planning effort led by **the City of Winter Park's Public Works and Transportation Department** in partnership with Orange County, MetroPlan Orlando, the Florida Department of Transportation, and other local stakeholder groups. With this Action Plan, Winter Park has joined communities around the world that are working to stop traffic deaths and serious injuries through the Safe System Approach. This plan:

- **Identifies High Injury Networks** –roads with the highest risk of fatal and serious injury crashes. **The identified High Injury Network comprised of approximately 15.1 centerline miles and includes 49.0% of all crashes and 57.9% of KSI crashes that occurred in Winter Park.**

- **Layers a qualitative analysis** by engaging stakeholders and the community and incorporating their feedback and review of the HIN and safety concerns.

- **Identifies barriers and opportunities** to reaching zero in reviewing existing and proposed policy.

- **Accounts for transportation underserved communities** that have been disproportionately affected by traffic crashes. **The percent of pedestrian crashes that resulted in a KSI at nighttime was near equal to those pedestrian crashes resulting in a fatality or serious injury during daytime lighting. Additionally, pedestrian KSIs occurred most substantially on four-lane roads with 35 – 40 mph speeds.**

- **Prioritizes feasible projects** that will have the greatest safety impacts. Winter Park will work with our regional partners to implement changes and monitor long-term progress on safety.

Safe System Principles

The Safe System Approach acknowledges the vulnerability of the human body when designing and operating a transportation network to minimize serious consequences of crashes. Creating a Safe System means shifting some responsibility from road users to those who plan and design the transportation system. While road users are responsible for their own behavior, there is a shared responsibility with those who design, operate, and maintain the transportation network, including the automotive industry, law enforcement, elected officials, and government agencies. In a Safe System, road system designers and operators take on the highest level of ethical responsibility to design and build our transportation system in a way that encourages safer behavior and provides redundancies.

The Safe System is Built on the Following Principles:

DEATH AND SERIOUS INJURY ARE UNACCEPTABLE

This plan focuses on eliminating crashes resulting in death and serious injuries in Maitland by 2050.

HUMANS MAKE MISTAKES

Everyone (people walking, bicycling, driving, etc.) makes mistakes that can lead to a crash. The goal of the SSA is to design and operate our transportation system to ensure these mistakes don't have life-altering impacts.

HUMANS ARE VULNERABLE

Human bodies can only withstand a limited amount of impact from a crash before death or serious injuries occur.

RESPONSIBILITY IS SHARED

Every person in the transportation system, from elected officials to everyday users, to planners and engineers, has a role to play in reaching zero fatalities and serious injuries.

SAFETY IS PROACTIVE

Rather than waiting for a crash to occur, transportation agencies should seek to proactively identify and address dangerous situations.

REDUNDANCY IS CRUCIAL

Redundancy means making sure there are multiple layers of the transportation system working together towards safer outcomes so that if one layer fails, people are still protected.

Five Elements of the Safe System Approach

The SSA addresses the five elements of a safe transportation system—safer people, safer vehicles, safer speeds, safer roads, and post-crash care—in an integrated manner, through a wide range of interventions.

SAFER PEOPLE

Encourage safe, responsible driving and behavior by people who use our 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.

POST-CRASH CARE

Partner with law enforcement and emergency response to identify strategic investments in crash response, crash assessment, and crash reporting.

SAFER ROADS

Prioritize roadway design changes throughout the MetroPlan Orlando region that address the factors contributing to severe injury and fatal crashes.

SAFER SPEEDS

Use a multidisciplinary approach that induces drivers to travel at speeds appropriate for the context that will reduce injuries even when human error leads to crash.

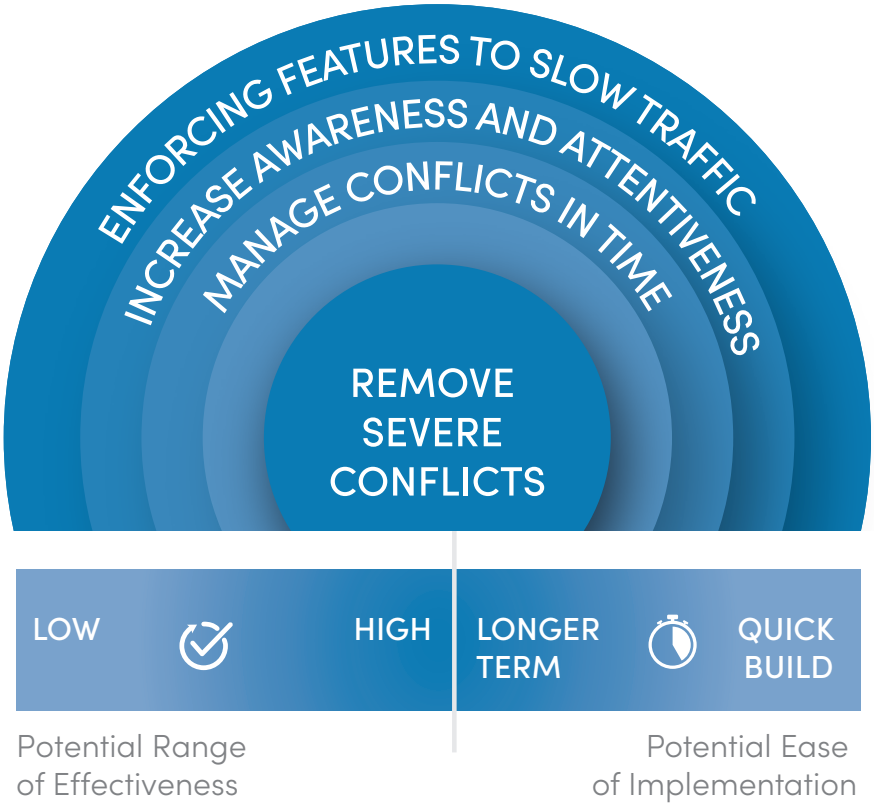
Source: Adapted from Federal Highway Administration, 2024.

Safe System Strategy

Consistent with the Safe System Approach Framework, the planning, design, and operation of facilities within the City of Winter Park should anticipate human error and consider human vulnerabilities. The Institute of Transportation Engineers (ITE) and the Road to Zero Coalition's Safe Systems Explanation and Framework articulate that to anticipate human mistakes, a Safe System seeks to:

- Separate users in space by providing road users moving at different speeds or different directions, such as turning vehicles, dedicated space to minimize conflicts with other road users.
- Separate users in time when road users need to occupy the same space on the roadway, such as an exclusive pedestrian crossing phase or a dedicated turn phase.
- Alert users to potential hazards – through strategies that increase visibility and increase attentiveness, as well as reducing impairment.
- Accommodate human injury tolerance through interventions that reduce speed or impact force, like physical design treatments and occupant protection.

These elements 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 timeframes. The FHWA has further developed a draft Safe Systems Solutions Hierarchy (January 2024) within the Safe System elements of Safe Roads. Following this framework, the most effective strategies are those that remove severe conflicts and minimize conflict and speed, providing adequate reaction time for drivers to make adjustments and save lives.



CHAPTER 2

Crash Trends and Analysis


WINTER PARK

WINTER PARK CRASH TRENDS

The following represents an overview of the crash trends on the roadway network in Winter Park:

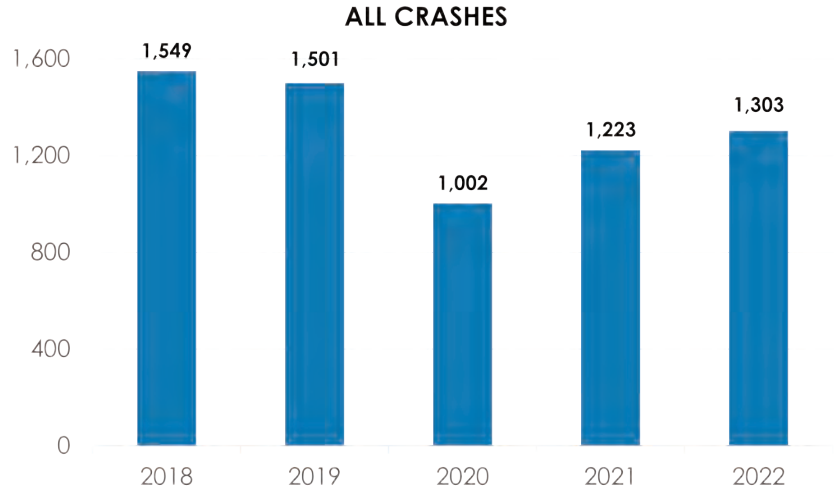
YEARS OF CRASH DATA:	TOTAL CRASHES:	TOTAL FATAL CRASHES:	TOTAL SERIOUS INJURY CRASHES:
2018-2022	6,578	7	58

A comprehensive strategy to improve roadway safety requires an understanding of local crash trends and the various factors contributing to such incidents. The primary data was for this analysis was sourced from the University of Florida's Signal Four (S4) Analytics crash data, offering a solid foundation for the Project Team's research. This crash data was supplemented with data from the Florida Injury Surveillance System (FISS) and the Florida Department of Transportation (FDOT) Modal Office, to provide more detailed injury information for non-motor vehicle injuries.

Other relevant contextual information was incorporated with the base data. This involved factors such as road conditions or social vulnerability factors which can influence both traffic accidents and guide the demand for specific measures. These layers of data helped to understand crash patterns and sort different crashes into a group of 'collision profiles' that show the factors most common for crashes resulting in fatalities or serious injuries.

CRASHES BY YEAR:

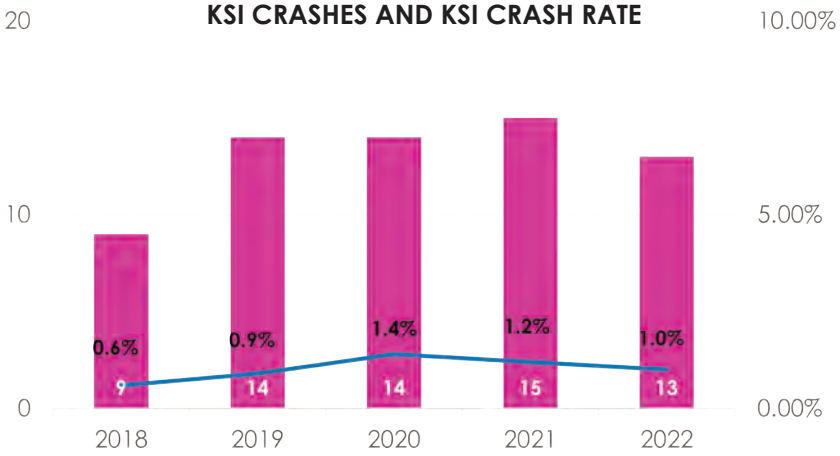
Over the 5-year analysis period, the total number of crashes varied slightly with the highest number of crashes (1,549) occurring in 2018. The lowest number of annual crashes (1,002) was in 2020, likely due to the lower number of trips that occurred in the pandemic year. In review of KSI crashes, a different trend is noted, with the highest number of KSI crashes (15) occurring in 2021 and the lowest number of KSI crashes in 2018 (9).



There has been a 15.9% decrease in overall crashes in the five year period.

CRASHES BY INJURY SEVERITY:

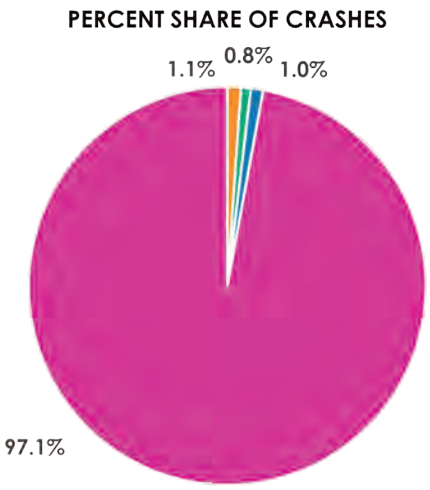
KSI crashes accounted for just 1% of all crashes in the city; however, as shared in the crash analysis by mode of transportation, pedestrians, bicyclists, or motorcyclists are much more at risk of a fatality or serious injurty in instance of a crash.

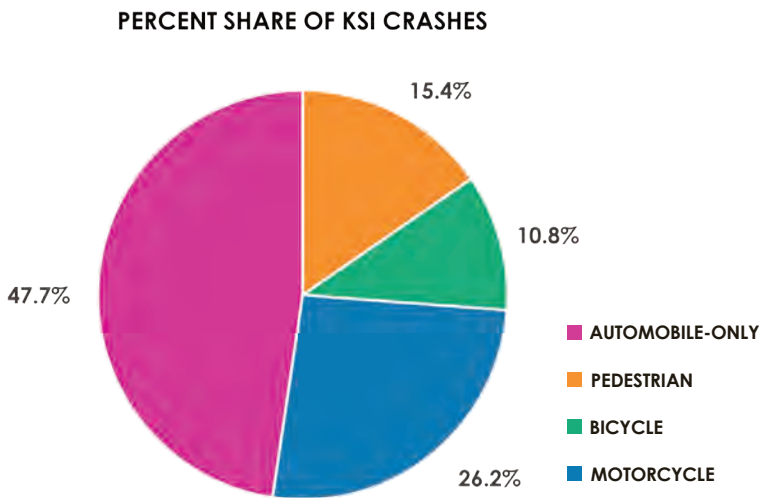


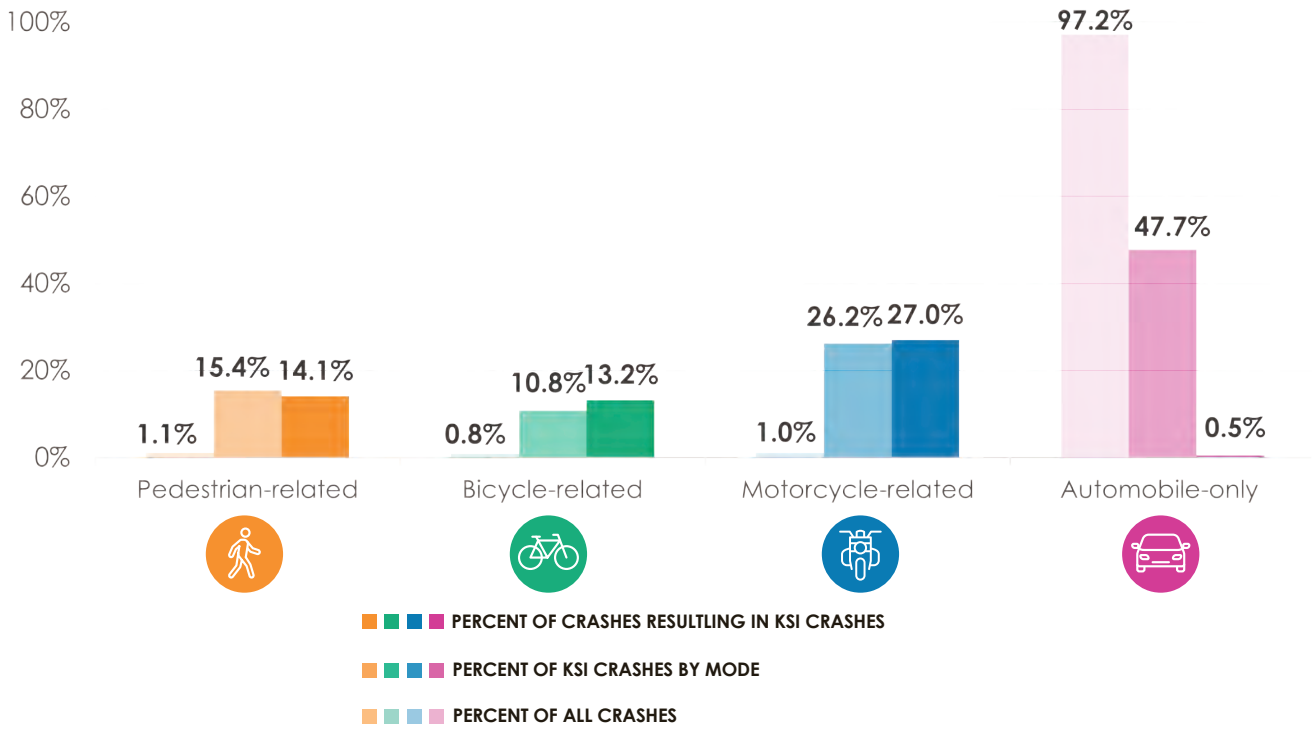
There has been a 44.4% increase in KSI crashes in the five year period.

CRASHES BY MODE:

- **Pedestrian:** Pedestrian-involved crashes made up 1.1% of all crashes, but 15.4% of KSI crashes, and 14.1% of every pedestrian-involved crash resulted in a fatality or serious injury.
- **Bicycle:** Bicycle-involved crashes made up 0.8% of all crashes and 10.8% of KSI crashes, but 13.2% of every bicycle-involved crash resulted in a fatality or serious injury.
- **Motorcycle:** Motorcycle-involved crashes made up 1.0% of all crashes, but 26.2% of KSI crashes, and 27.0% of every motorcycle-involved crash resulted in a fatality or serious injury.
- **Automobile-Only:** crashes involving automobiles made up 97.1% of all crashes and 47.7% of KSI crashes, but only 0.5% of automobile-only crashes resulted in a fatality or serious injury.

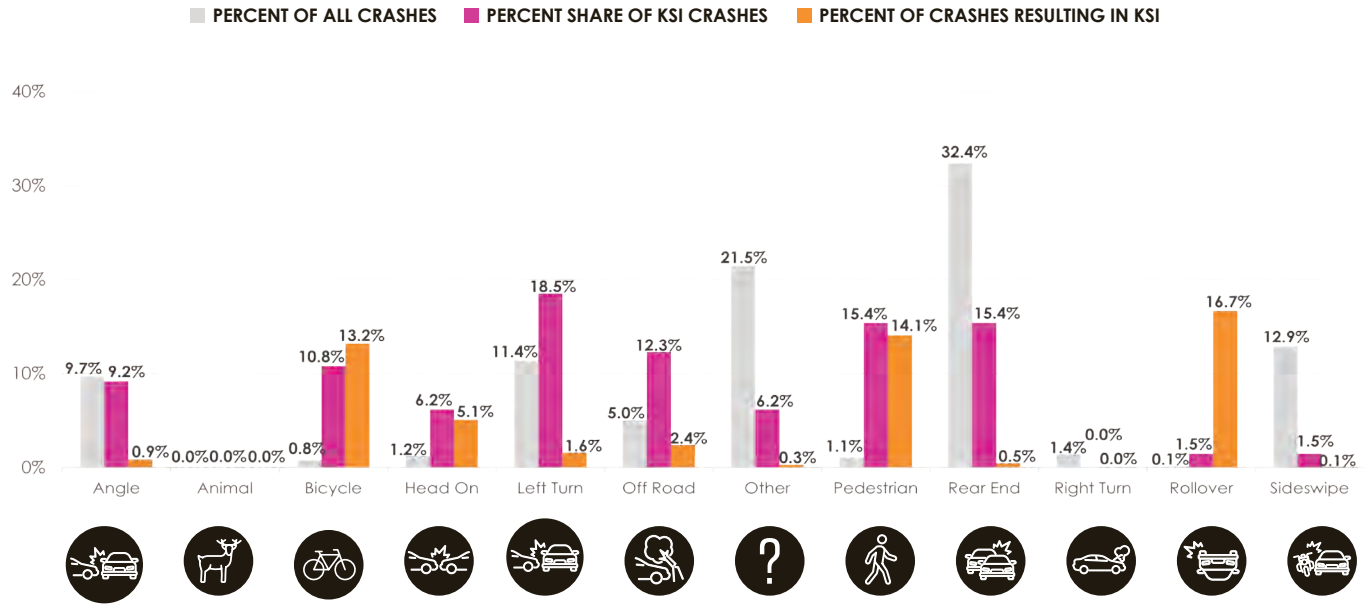






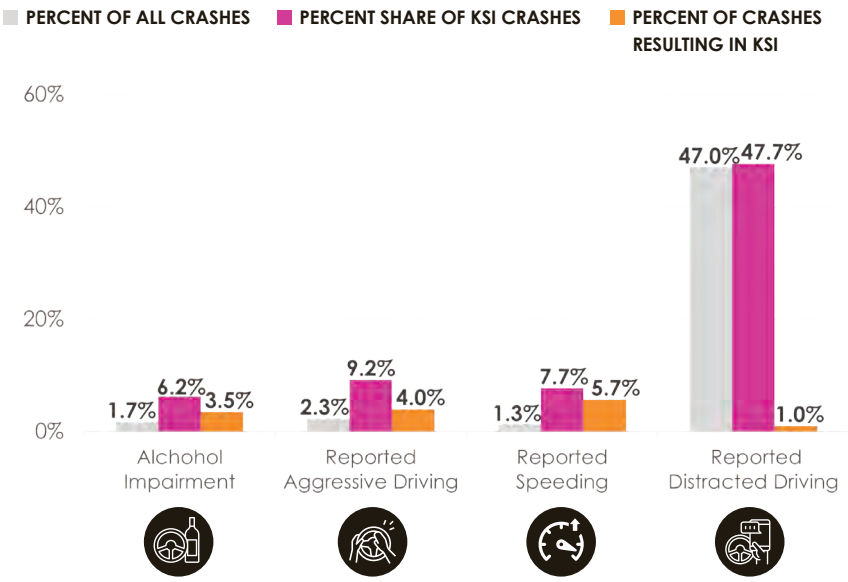
CRASHES BY TYPE:

Rear end crashes were the most common type of crash with 32.4% of the crashes. Left turn crashes, while comprising 11.4% of total crashes, were the most common to result in a fatality or serious injury, constituting 18.5% of all KSI crashes. The second and third crash types most likely to result in a KSI crash were rear end crashes (15.4%) and pedestrian crashes (15.4%). The top three crash types to occur that resulted in a KSI were rollover, pedestrian, and bicycle crashes with 16.7%, 14.1% and 13.2% of this crash type resulting in a KSI, respectively.



BEHAVIORAL FACTORS:

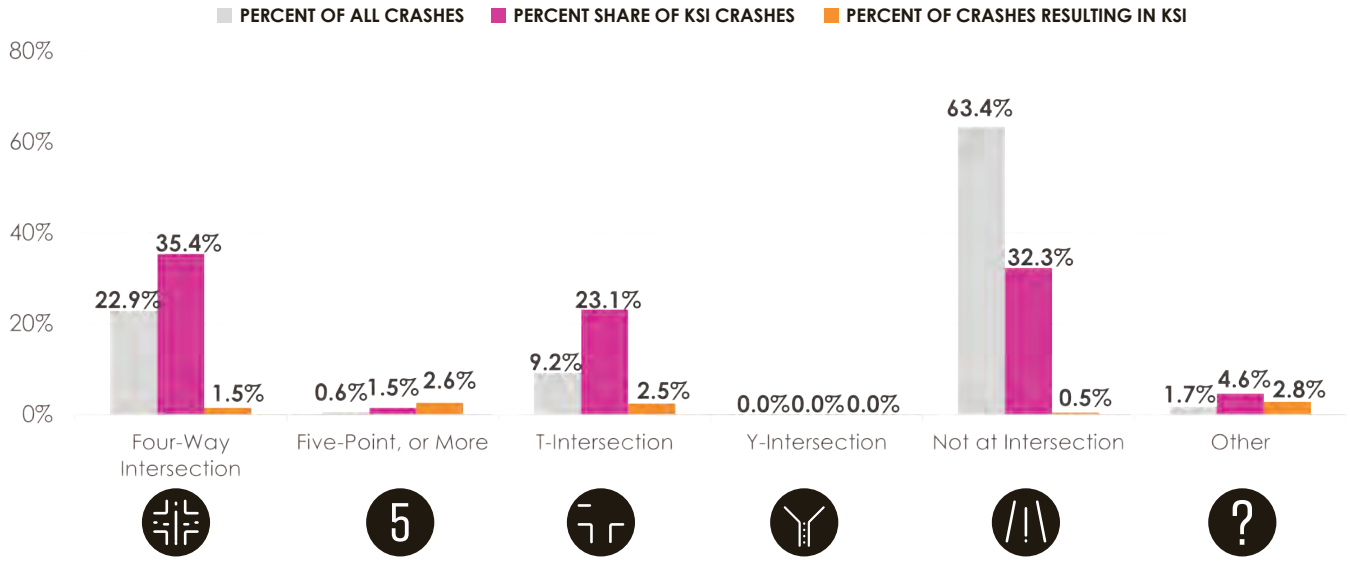
- **ALCOHOL IMPAIRMENT:** Crashes that involved alcohol impairment comprised 1.7% of all crashes, however, comprised 6.2% of KSI crashes, and 3.5% of every alcohol-involved crash resulted in a fatality or serious injury.
- **SPEEDING:** Crashes that reported speeding comprised 1.3% of all crashes and comprised 7.7% of KSI crashes, and 5.7% of speeding-involved crashes resulted in a fatality or serious injury.
- **AGGRESSIVE DRIVING:** Crashes with reported aggressive driving comprised 2.3% of total crashes and 9.2% of KSI crashes. 4.0% of reported aggressive-driving crashes resulted in a fatality or serious injury.



- **DISTRACTED DRIVING:** crashes with reported distracted driving comprised 47.0% of all crashes and 47.7% of KSI crashes, 1.0% of reported distracted driving crashes resulted in a fatality or serious injury.

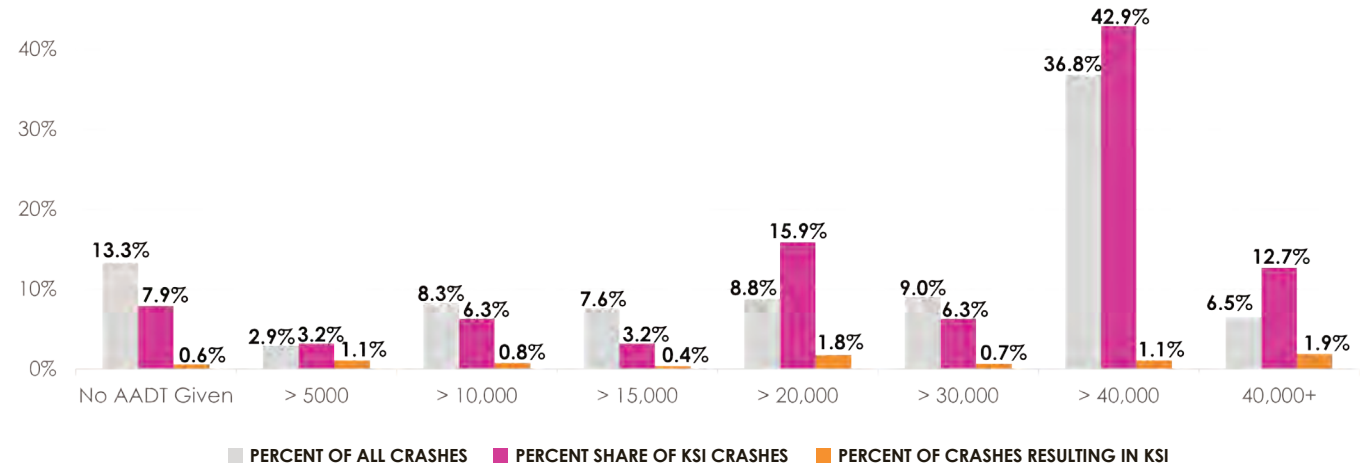
CRASHES BY LOCATION:

34.9% of all crashes occurred at an intersection, with crashes occurring at 4-way or T-intersections disproportionately resulting in a serious injury or fatality (approximately 35% and 23% respectively). 63.4% of crashes in Winter Park occurred outside of intersections.



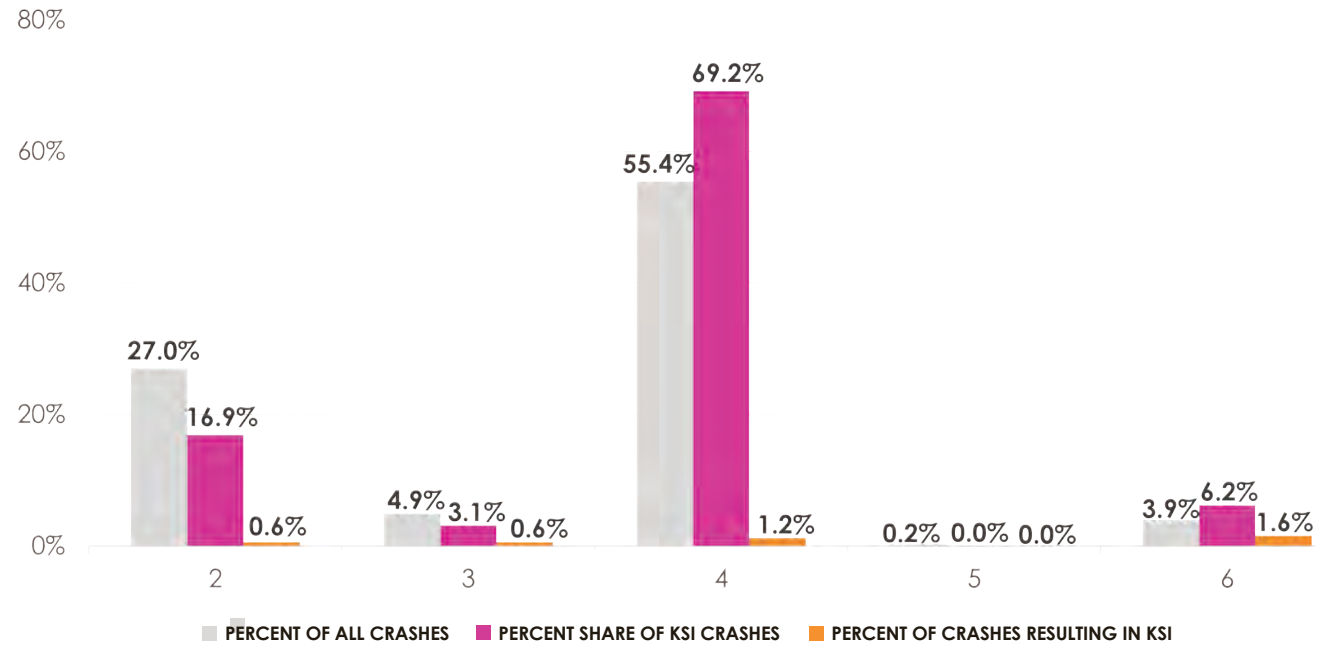
ROADWAY VOLUME (AADT):

Approximately 36.8% of all crashes and 42.9% of KSI crashes occurred on roadways with traffic volumes greater than, but less than 40,000 daily trips.



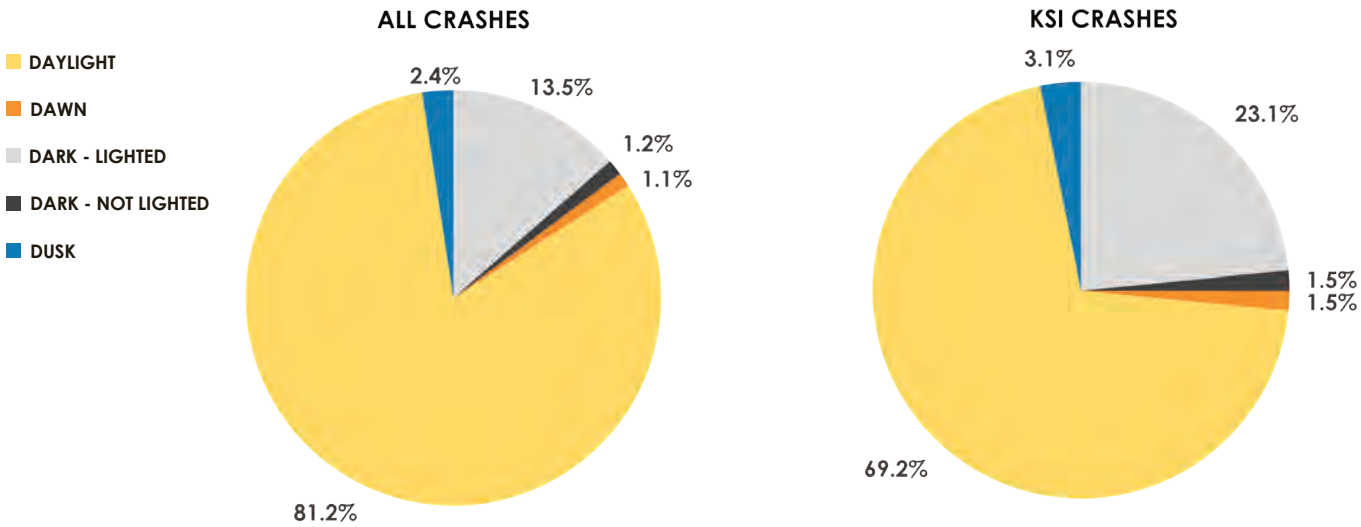
NUMBER OF LANES:

Approximately 55.4% of all crashes in the city of Winter Park occur on roadways with 4 travel lanes. The proportion of KSI crashes also increased as the number of lanes increased, with approximately 69.2% of KSI crashes occurring on roadways with 4 travel lanes.



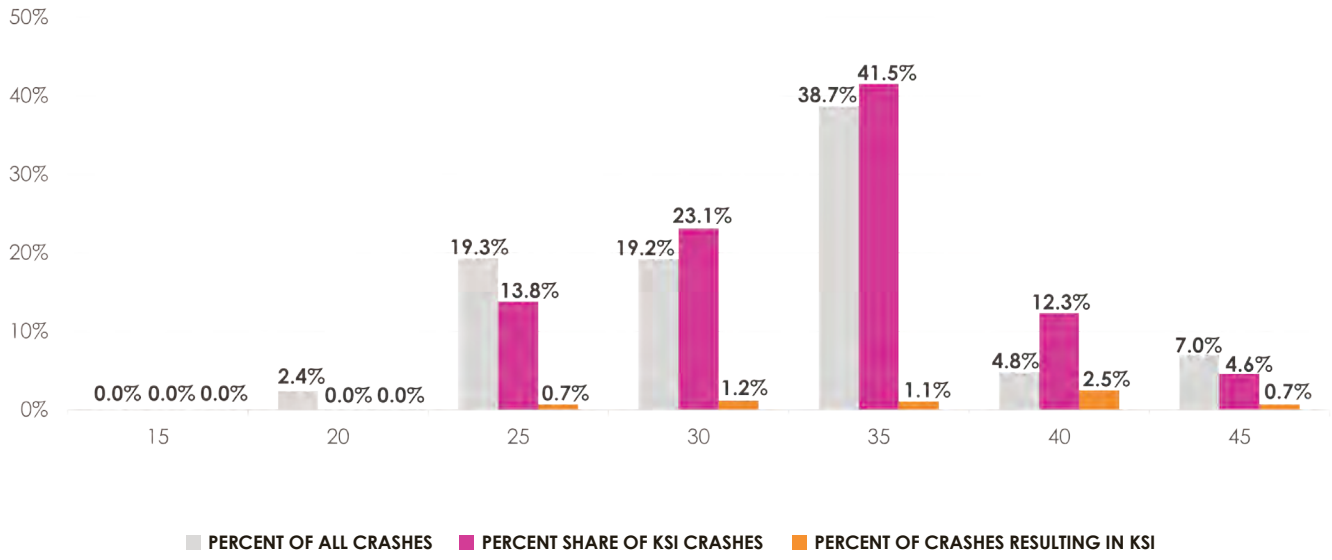
LIGHTING CONDITIONS:

Most crashes occurred during daylight hours (81.2%); however, crashes that occurred during dark conditions were more likely to result in a serious injury or fatality. Dark – lighted conditions were reported for 23.1% of KSI crashes in Winter Park, and dark – not lighted conditions were reported for 1.5% of KSI crashes.



POSTED SPEED LIMIT:

Crashes disproportionately occurred on roadways with higher speeds. With 38.7% of crashes in the City occurring on roadways with a posted speed limit of 35 mph. 58.4% of the City's KSI crashes occur red on roadways where the posted speed is 35 mph or greater.



High Injury Network

The next step in creating the Vision Zero Action Plan was to identify the High-Injury Network (HIN) for the roadways in Winter Park. The HIN is a key tool for prioritizing countermeasures and helps Winter Park target safety improvements where they are most needed. The HIN for Winter Park was based on a thorough review and analysis of crash data to find locations with a high number of severe injuries and fatalities in the past five years (2018-2022). The Project Team also checked the quality and accuracy of crash citation records to verify the location of crashes occurred only on the roadway system instead of parking lots. The approach to developing the HIN, along with a tie the associated collision profiles from the crash analysis, intentionally excludes limited access (LA) facilities such as Interstate 4, or other tolled roadways and corresponding on-off ramps. The top 11 HIN corridors are identified below:

Overall Rank (Worst Segment)	Road Name	From	To	Length (mi)	Total Crashes (KSI Crashes)	Automobile Crashes (KSI Crashes)	Pedestrian Crashes (KSI Crashes)	Bicycle Crashes (KSI Crashes)	Motorcycle Crashes (KSI Crashes)
1	SR 527/N. Orange Ave/W. Fairbanks Ave	Berkshire Ave	S. Park Ave	1.41	404 (3)	396 (1)	2 (0)	2 (1)	4 (1)
2	SR 15/Orlando Ave	Norfolk Ave	Elvin Ave	1.96	844 (9)	814 (4)	8 (3)	10 (1)	12 (1)
3	SR 426/W. Fairbanks Ave	Driver Ave	Pennsylvania Ave	1.75	520 (9)	508 (1)	3 (2)	0	9 (6)
4	SR 426/E. Fairbanks Ave/ Aloma Ave	S. Park Ave	Balfour Dr	2.27	638 (7)	619 (0)	5 (1)	1 (0)	13 (6)
5	Pennsylvania Ave	Melrose Ave	SR 527	0.67	59 (2)	57 (2)	0	1 (0)	1 (0)
6	Lakemont Ave	Glenridge Way	Pine Ave	2.24	241 (3)	234 (2)	4 (0)	3 (1)	0
7	N. Denning Dr	Minnesota Ave	N. Park Ave	1.43	60 (1)	59 (1)	0	0	1 (0)
8	Howell Branch Rd	Horatio Ave	N. Lakemont Ave	0.92	102 (1)	99 (1)	1 (0)	1 (0)	1 (0)
9	SR 423/Lee Rd	Gloriosa Ave	SR 17	1.07	268 (2)	264 (0)	2 (0)	2 (1)	0
10	Morse Blvd	Denning Dr	S. Park Ave	0.68	69 (0)	65 (0)	3 (0)	1 (0)	0
11	Canton Ave	Orlando Ave	N. Virgina Ave	0.63	26 (0)	26 (0)	0	0	0

In addition to the identification of the HIN, a supplementary analysis was completed based on a combination of equity and crash factors to prioritize segments for future action. This establishes alignment with the ultimate goal of targeting solutions where they will have the most direct impact in reaching zero fatalities and serious injuries.

Crash Profiles

After analyzing the crash trends and the HIN, the Project Team identified 10 collision profiles that show the main causes of fatal and serious injuries on Winter Park's roads. These profiles give more information about the highest risk factors for crashes in Winter Park.

A decision tree analysis was used to to examine other factors that contributed to the specific cases of KSI crashes for each of the collision profiles identified. By finding common elements and situations that cause severe crashes, Winter Park can better recognize patterns and trends that allow us to focus on and address specific behaviors, locations, types of road users, and/or times that have higher risks. If a collision profile shows a pattern of left turn accidents in areas without turn lanes, a proposed change could be made for signalization timing or adding protected turn lanes. Instead of treating crashes as separate incidents, the collision profiles show where dangerous collisions are a conjoining of a multitude of factors, allowing us to use resources effectively to deal with systemic issues and offer targeted solutions. The collision profiles are:

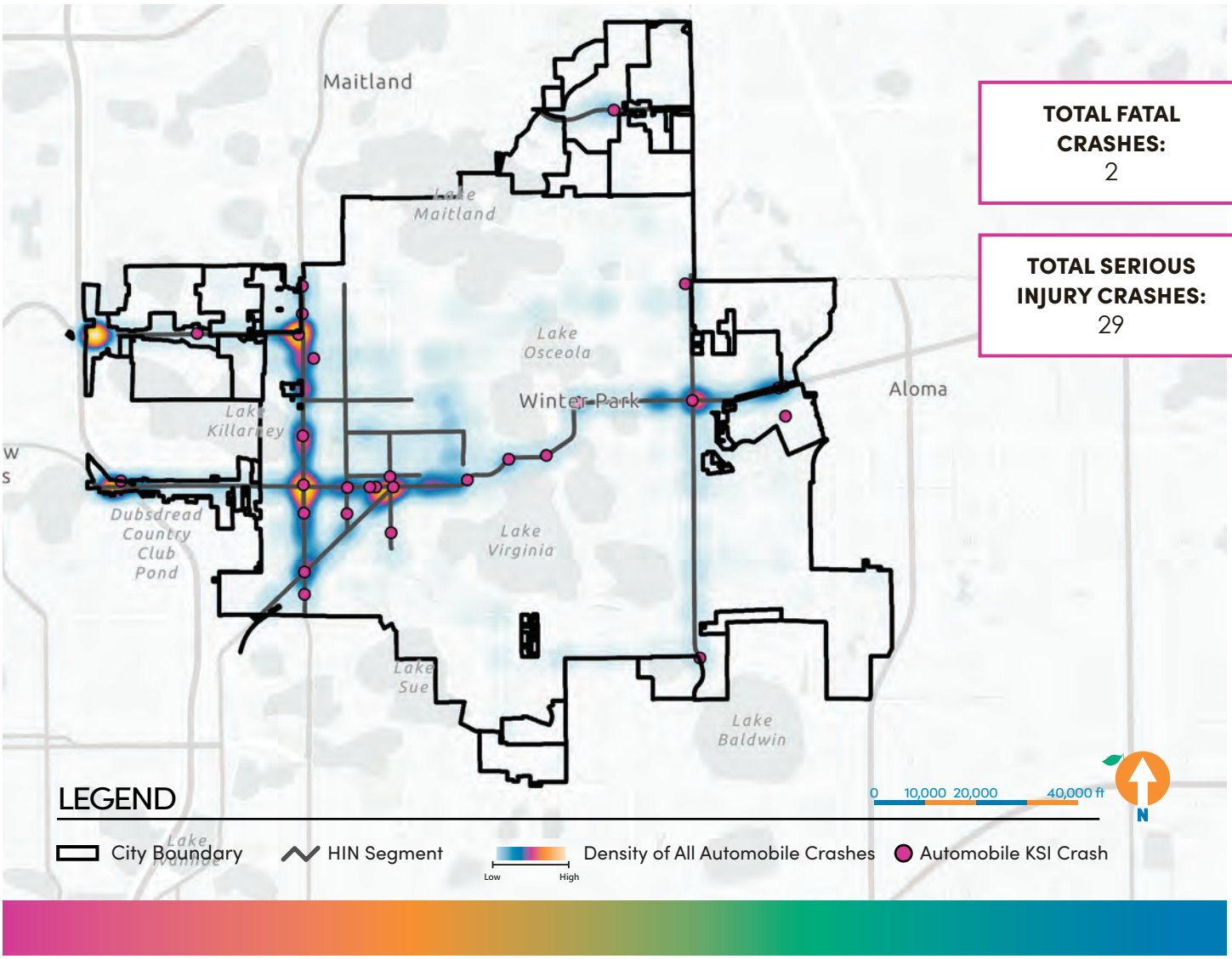
#	Crash Profile	Total Crashes	Percent of Total Winter Park Crashes	KSI Crashes	Percent of Total Winter Park KSI Crashes	Percent of Crashes Resulting in KSI
1	Angle	635	9.7%	6	9.2%	0.9%
2	Left Turn	747	11.4%	12	18.5%	1.6%
3	Rear End	2,128	32.4%	10	15.4%	0.5%
4	Bicycle	53	0.8%	7	10.8%	13.2%
5	Motorcycle	63	1%	17	26.2%	27%
6	Pedestrian	71	1.1%	10	15.4%	14.1%
7	Speed Related	88	1.3%	5	7.7%	5.7%
8	Distract Driving	3,091	47%	31	47.7%	1%
9	Aging Driver	1,325	20.1%	9	13.8%	0.7%
10	Context Classification C4	4,055	61.6%	45	69.2%	1.1%

Modal Crash Trends

This section provides an overview of crash trends by mode that occurred in the City, revealing the most common factors specific to pedestrian, bicycle, motorcycle, and automobile-only crashes, with emphasis placed on identifying the contributing factors most likely to result in a fatality or serious injury. The maps on the following pages share an HIN specific to each mode, as well as the top contributing factors leading to these crashes.

AUTOMOBILE-ONLY HIN AND CRASH TRENDS

The following represents an overview of the **6,391** automobile-only crashes that occurred in the City of Winter Park.



TOTAL FATAL CRASHES: 2

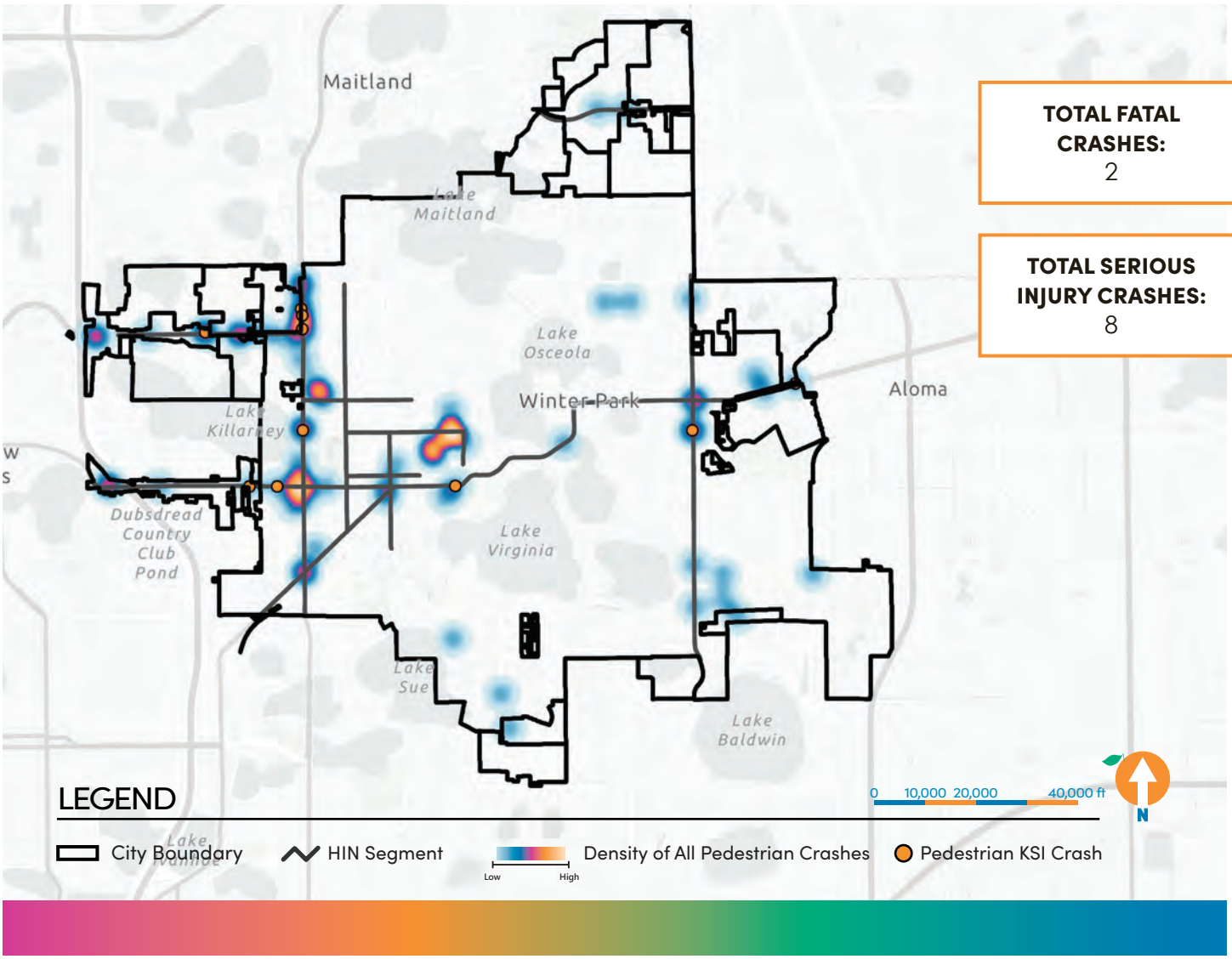
TOTAL SERIOUS INJURY CRASHES: 29

TOP CONTRIBUTING FACTORS FOR AUTOMOBILE-ONLY KSI CRASHES

- Without bicycle lanes, comprising **100%** of all automobile-only KSI crashes
- In the C4 Context Classification, comprising **67.7%** of all automobile-only KSI crashes
- In locations without presence of median, comprising **54.8%** of all automobile-only KSI crashes
- With reported aggressive driving, comprising **51.6%** of all automobile-only KSI crashes
- In locations with posted speed limit of 35 mph, comprising **41.9%** of all automobile-only KSI crashes
- At four-way intersections, comprising **41.9%** of all automobile-only KSI crashes

PEDESTRIAN HIN AND CRASH TRENDS

The following represents an overview of the **71** pedestrian-involved crashes that occurred in the City of Winter Park.



TOTAL FATAL CRASHES:
2

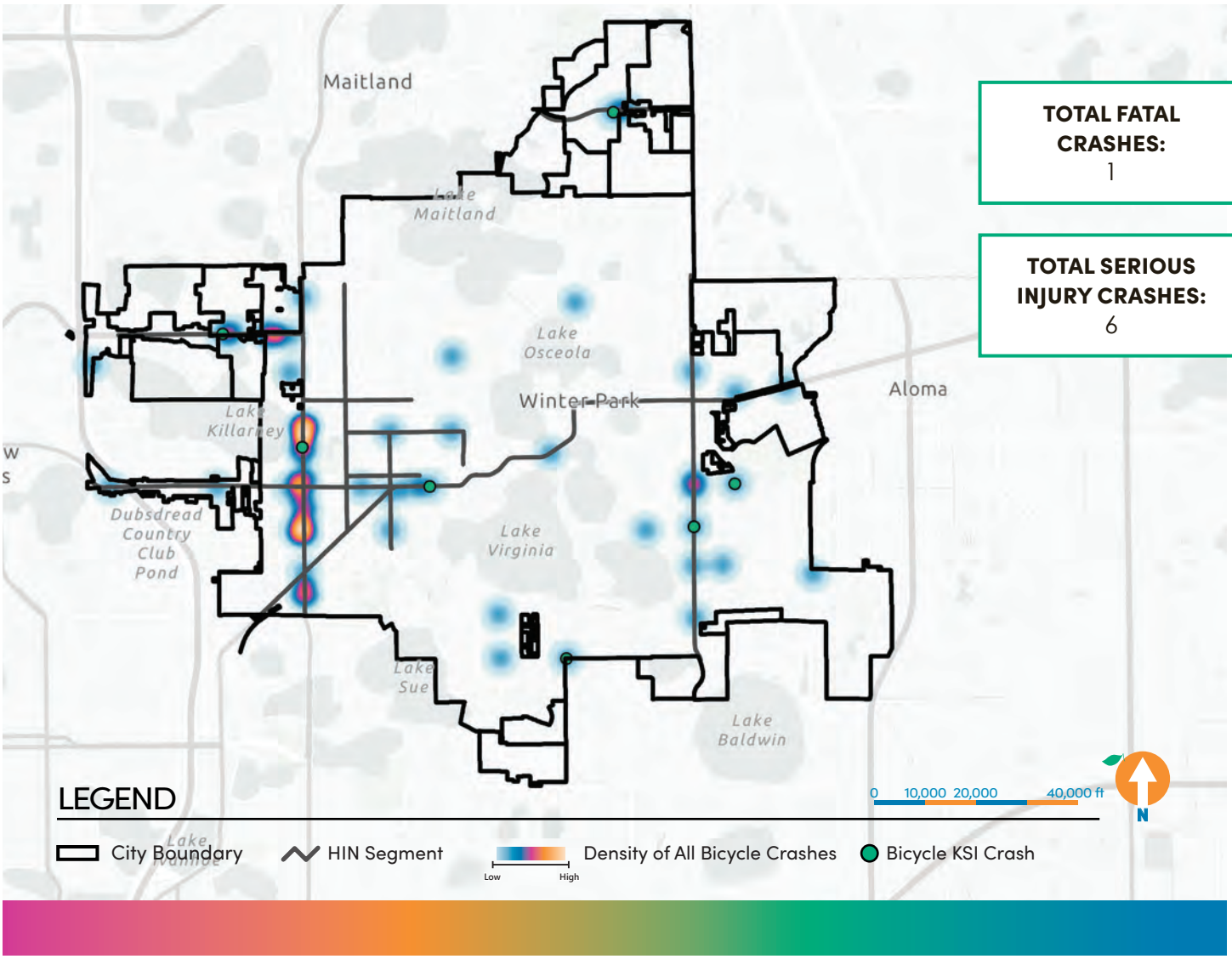
TOTAL SERIOUS INJURY CRASHES:
8

TOP CONTRIBUTING FACTORS FOR PEDESTRIAN-INVOLVED KSI CRASHES:

- on roads with the C5 Context Classification, with **100%** of these crashes resulting in a KSI
- In dark-unknown or dark-lighted conditions, with **66.7%** of these crashes resulting in a KSI
- In locations with posted speed limit of 40 mph, with **57.1%** of these crashes resulting in a KSI
- When a motorist failed to yield, comprising **50.0%** of all pedestrian KSI crashes
- On roads with 5 lanes, comprising **50.0%** of all pedestrian KSI crashes
- On a roadway segment, comprising **40.0%** of all pedestrian KSI crashes

BICYCLE HIN AND CRASH TRENDS

The following represents an overview of the **53** bicycle-involved crashes that occurred in the City of Winter Park.



TOTAL FATAL CRASHES: 1

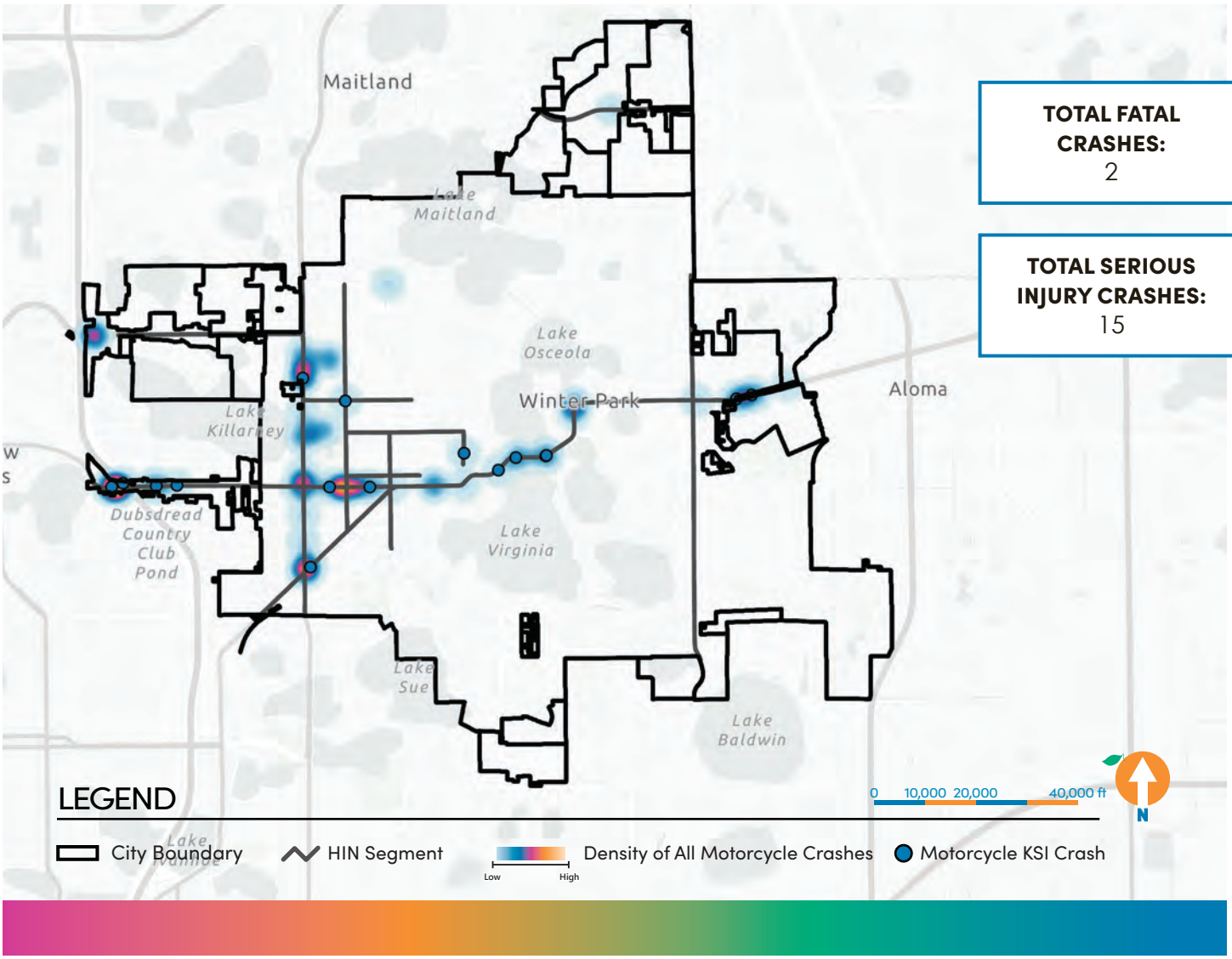
TOTAL SERIOUS INJURY CRASHES: 6

TOP CONTRIBUTING FACTORS FOR BICYCLE-INVOLVED KSI CRASHES

- In locations with one bicycle lane, with **100%** of these crashes resulting in a KSI
- With reported aggressive driving, with **100%** of these crashes resulting in a KSI
- In dark not-lighted conditions, with **33.3%** of these crashes resulting in a KSI
- On roads with 3 lanes, with **33.3%** of these crashes resulting in a KSI
- On roads with volumes between 10,000-15,000 AADT, with **33.3%** of these crashes resulting in a KSI
- At t-intersections, with **30.0%** of these crashes resulting in a KSI

MOTORCYCLE HIN AND CRASH TRENDS

The following represents an overview of the **63** motorcycle-involved crashes that occurred in the City of Winter Park.



TOTAL FATAL CRASHES: 2

TOTAL SERIOUS INJURY CRASHES: 15

TOP CONTRIBUTING FACTORS FOR MOTORCYCLE-INVOLVED KSI CRASHES:

- Without bicycle lanes, comprising **94.1%** of all motorcycle KSI crashe
- With reported speeding, with **80.0%** of these crashes resulting in a KSI
- With reported aggressive driving, with **66.7%** of these crashes resulting in a KSI
- At t-intersections, with **66.7%** of these crashes resulting in a KSI
- Between the hours of 9 PM to 12 AM, with **62.5%** of these crashes resulting in a KSI
- On roads with volumes between 30,000-40,000 AADT, comprising **47.1%** of all motorcycle KSI crashes

CHAPTER 3

Public Engagement

The Action Plan's **public engagement plan** is organized around an incremental and layered approach, where members of the project team, established a Working Group made up of key stakeholders, and collaborated with community partners and elected officials. **In-person engagement** was supplemented by **virtual** and **digital campaigns** designed to bring awareness to the plan itself, as well as engagement related activities.

Brand Development

The Vision Zero brand helps to generate visibility and familiarity in an effort to achieve campaign participation community wide. The Winter Park brand is easily recognizable, incorporating the character of the city into the larger vision zero goal: **to reduce the number of fatalities and severe injuries on the transportation system to zero by 2050.**

650 *Comments from citizens*

350 *Citizens shared feedback*

84% *Responses from Orange County*

9% *Seminole County*

7% *Osceola County*

30% *Comments about transportation facilities within underserved communities*

70% *Other comments*

Source: Central Florida Regional Vision Zero Action Plan

Project Team

The Project Team was responsible for facilitating the development of the Action Plan and initiating the ongoing implementation of the plan. The Project Team was comprised of City leadership and key staff along with the Consultant Team, creating a successful platform for coordinated efforts and cross-collaboration from a diverse range of perspectives.

Vision Zero Working Group

The Winter Park Working Group consisted of a core group of stakeholders tasked with guiding the implementation of the Action Plan and acting as plan ambassadors to ensure the principles of Vision Zero are at the forefront of future transportation planning decisions. These stakeholders included local agency staff, elected officials, and additional members that represent different perspectives and interests within the City of Winter Park. The outcome of successful engagement strategy encourages ongoing commitment from key elected official and local agency leaders.

The Vision Zero Working Group members are key champions who:

- Provide overall guidance on the Action Plan's development
- Facilitate engagement with community members, advocacy groups, and other relevant stakeholders
- Collaborate with the project team to develop strategies and polices that align with Vision Zero goals
- Take ownership of Final Action Plan to ensure ongoing commitment and coordination in the implementation of the action plan.

The Working Group convened in five interactive working sessions over the course of the plan development process, providing insight on the following topics:

Meeting 1

Introductions and Overview of the Scope, Vision Zero, and Safe System Approach

Meeting 2

Review of Crash Trends, Draft High Injury Network, and Public Engagement Activities

Meeting 3

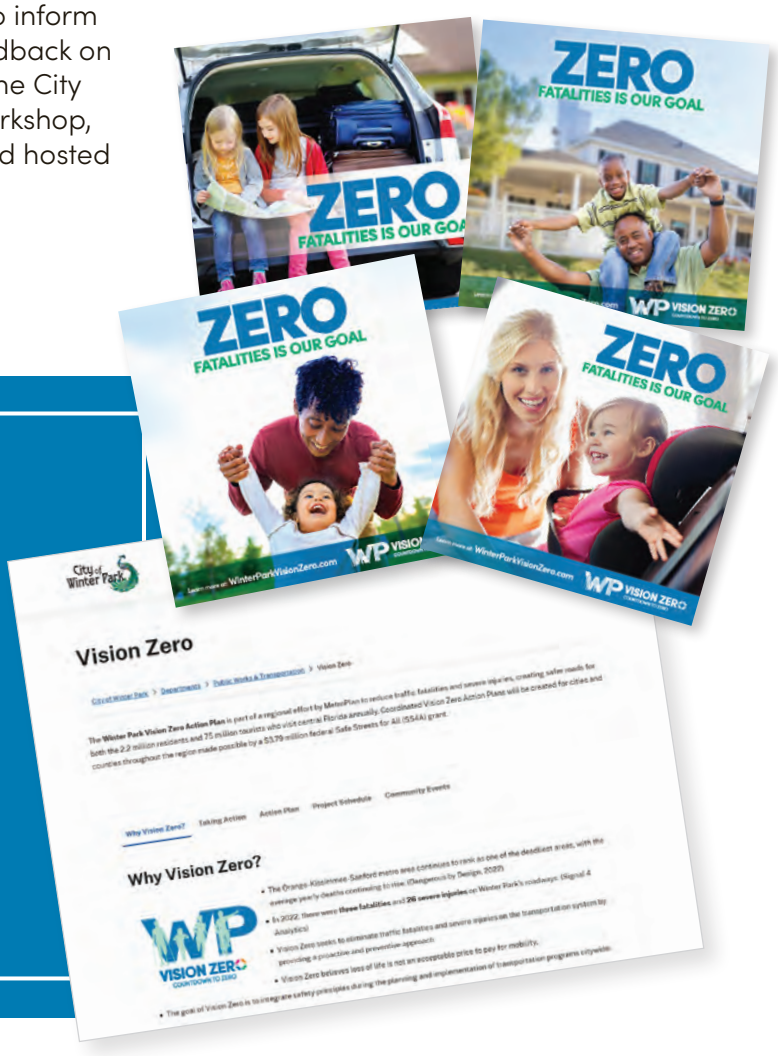
Review of Revised High Injury Network and Collision Profiles, and Updates on Public Engagement

Meeting 4

Updates on Policy Review, Review of MetroPlan Orlando Countermeasures Toolkit, and Consideration of Draft Prioritization CriteriaPublic Engagement

Pop-up Events

A variety of pop-up events were done throughout the City to further engage the community to inform them about the Action Plan and gather feedback on safety concerns. As a part of these efforts, the City participated in a County led community workshop, led by the District Commissioner Bonilla, and hosted it's own "hybird" Town Hall Meeting.



Virtual Events

- Project Website
- Social Media Campaign
- Event Flyers

"Pop-Up" Events

- Run4Love 5K - February 10
- Orange County D5 Community Workshop - February 29
- Farmers Market - March 23
- Hybrid Town Hall - March 36

Virtual Events

WINTER PARK VISION ZERO ACTION PLAN WEBSITE

As part of the Public Engagement Process, a website was created for the Vision Zero Action Plan. The website details project background, data analysis and links, and provides important project updates. This website will also be an important avenue for continued engagement with the public after plan implementation.

SOCIAL MEDIA MARKETING CAMPAIGN

In coordination with the Winter Park Communications Department, social media content was generated for spreading awareness of the public meetings on the county's various outlets. The Social Media package is included in the Appendix. Future use of these assets may include ongoing educational and awareness campaigns and notification of public on important project updates and implementation measures.

What we heard...

Would like to see wider bike lanes overall – need the safe space; Weatherbee bike lanes.	Palm Avenue is dangerous – there is cut through traffic and speeding	Palmer and Temple – landscaping overgrown
West Fairbanks between 17-92 is dangerous – no buffer on the sidewalks and the Fairbanks curves.	A good program may be to kickoff safety programs with HOAs – Examples: Toscano drives with respect – stop at stop signs, drive 18 miles per hour, and stop for pedestrians.	Glenridge near Winter Park Road - there is a cross walk, but no speed bumps and traffic moves very quickly. Schools nearby.
Speeding problem on Lockberry Road in between Pine and YMCA.	Palmer and Terrace intersection issues.	As a best practice, would like to see more narrowing of lanes, complete streets, and RRFBs.
Winter Park road towards Corrine Drive. No bike lanes and kids are riding on sidewalks.	Fairbanks/Formosa - lighting and sidewalks needed.	Dartmouth/Pinewood- sidewalks needed.

CHAPTER 4

Policy Review

In preparing this policy review, the project team conducted a thorough examination of various local policies and plans. The focus was on identifying opportunities to strengthen consistency between these documents and the Vision Zero initiative, as well as pinpointing any barriers to achieving zero fatalities and severe injuries.

The Comprehensive Plan's Transportation Element, Transportation Master Plan, the Land Development Code, and the Intersection Analysis were selected for review because they are relevant to the current and future transportation conditions and challenges in the City of Winter Park. These documents provide guidance and regulations for how the city plans, designs, builds, operates, and maintains its transportation network and facilities. They also reflect the city's vision, goals, objectives, and policies for mobility, accessibility, connectivity, and safety.

These documents were chosen with input from local staff who are familiar with the city's context and needs. They also represent different levels of planning and design, from the broad and long-term perspective of the Comprehensive Plan to the specific and short-term analysis of the intersection. By reviewing these documents, we aim to assess how well they incorporate the principles and practices of a safe systems approach to transportation planning and identify gaps and opportunities for improvement.

Comprehensive Plan Transportation Element- The City of Winter Park's Transportation Element of the Comprehensive Plan provides a framework for developing and maintaining a balanced and safe transportation system that promotes a walkable, bicycle-friendly environment while also ensuring efficiencies along the roadway network.

Transportation Master Plan- The Winter Park Transportation Master Plan (TMP) is a comprehensive framework aimed at enhancing the city's transportation infrastructure and services. The plan emphasizes multimodal transportation, safety, and efficiency, while addressing current and future transportation needs. Key features include roadway reconfiguration, pedestrian and cyclist safety improvements, technology enhancements, and policies for speed management and traffic calming. The plan also integrates the goals of the city's Comprehensive Plan and aligns with regional and federal transportation initiatives.

Land Development Code- Winter Park's Land Development Code (LDC) Article 3 focuses on zoning regulations. The LDC establishes guidelines and requirements for land use, building specifications, and the overall development process within Winter Park. This includes conditional use approvals, public hearing procedures, and specific standards for various types of land development and use. Regulations within the LDC also outline the processes and standards for subdividing and consolidating lots within Winter Park, including procedural steps for securing approvals, conformance to comprehensive plans, specifications for preliminary and final plats, design standards for lots, blocks, streets, alleys, and easements, as well as parks and recreation dedications. The LDC emphasizes conformance with existing neighborhood standards and comprehensive plans, detailing requirements for lot sizes, street design, utilities, and environmental considerations.

Policy Recommendations

LAND DEVELOPMENT CODE (ZONING)

Parking Regulations that Support Safe Systems (Sec. 58-86 / Individual District Sections): Revise parking regulations to discourage excessive reliance on cars. This could involve reducing minimum parking requirements and encouraging the development of car-free zones or areas with limited parking availability, especially in densely populated or pedestrian-heavy areas.

Incorporate Vision Zero Goals into Conditional Use Criteria (Sec. 58-90/ Individual District Sections): When evaluating conditional use permits, include criteria that assess how the proposed use contributes to Vision Zero goals. For example, developments should demonstrate how they will mitigate additional traffic and enhance safety for all road users.

Require Safe Pedestrian and Cycling Connectivity (Section on Connectivity and Subdivision Design): Implement regulations that require new developments to provide safe and direct pedestrian and bicycle connections to nearby amenities, transit stops, and other neighborhoods. This could involve mandating the construction of sidewalks, bike paths, and safe crossing points in new subdivisions.

Integrate Safe Streets Design (Individual District Sections): Amend zoning categories to include requirements for street designs that prioritize pedestrian and cyclist safety. This could involve mandating features like wide sidewalks, protected bike lanes, street lighting, and pedestrian crossings within certain zoning districts, especially in areas with high pedestrian activity.

Countermeasures

The City of Winter Park implements a variety of countermeasures to address safety issues. The Land Development Code, the Comprehensive Plan's Transportation Element, and the Transportation Master Plan, are all documents that contain countermeasures or have the capability to contain countermeasures.

LAND DEVELOPMENT CODE

The reviewed LDC sections do not explicitly list traffic safety countermeasures.

Zoning regulations can indirectly serve as countermeasures by promoting safer community layouts and land uses that reduce conflict points and encourage non-motorized transportation.

Integration of explicit traffic safety countermeasures and design principles in future revisions could strengthen its alignment with Vision Zero.

TRANSPORTATION MASTER PLAN

Quick-Build Capital Projects: Allocate funding for quick build traffic safety improvements. Identify high impact, low cost, and scalable solutions.

Speed Feedback Signs: Implemented in school zones and other critical areas to regulate speed.

Safe Speeds Initiatives: Include broader strategies for speed management beyond targeted areas, possibly integrating automated speed enforcement with equitable enforcement policies.

Pedestrian Countdown Signals and Accessible Pedestrian Signals: Enhance pedestrian safety at intersections.

Enhanced Post-Crash Care Policies: Develop strategies for improving emergency response and post-crash care systems.

Leading Pedestrian Intervals: Provide pedestrians a head start at traffic signals to reduce conflicts with turning vehicles.

Safe Vehicles Promotion: Introduce initiatives encouraging the use of advanced safety features in vehicles.

Traffic Management Center: City is actively developing a Traffic/Event Management Center (TMC.)

Complete Streets and Safe Road Design: Emphasizes designs accommodating all modes of transport, especially in high-traffic areas.

Adopt a citywide Vision Zero Policy: A citywide Vision Zero Policy could commit to eliminating traffic fatalities and serious injuries by 2030.

Develop a Complete Streets Policy: A Complete Streets Policy could ensure that all new and existing streets are designed and operated to accommodate the needs of all users, regardless of age, ability, or mode of travel.

Implement a Network of Low-stress Bikeways: These bikeways could connect key destinations and provide safe and comfortable facilities for cyclists of all skill levels.

Enforcement countermeasures: Involve the use of law enforcement to deter and enforce traffic violations.

Education countermeasures: Involve raising awareness of traffic safety issues and teaching people how to be safe users of the transportation system.

Technology countermeasures: Involve the use of technology to improve safety, such as using red light cameras and speed cameras.

Engineering countermeasures: Include physical changes to the roadway or environment, such as installing traffic signals, crosswalks, and bike lanes.

CHAPTER: 5

Toolkit and Prioritization

The **Non-Engineering** and **Engineering Countermeasure Toolkits** were developed to help inform various safety solutions around the region. The toolkits are provided in the appendix with a high-level summary provided in this chapter.

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 via marketing campaigns, high-visibility enforcement and publicized

The 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 included in the toolkit 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. The toolkit provides references to source documents and users of the guide are encouraged to review applicable source documents related to their specific safety issues and goals.

Non-engineering countermeasure toolkit organization

Safer people

- Public information, social marketing, and educational campaigns
- Enforcement

Safer speeds

- Speed limit setting
- High-visibility enforcement
- Automated enforcement

Safer vehicles

- Emergency technology
- Vehicle maintenance

Safer roads

- Improved data sharing
- Pilot and demonstration projects
- Road maintenance and maintenance of traffic
- Policies and standards
- Grant opportunities

Post-crash care

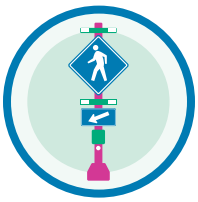
- Emergency medical services
- Trauma care
- Fatal crash response team
- Traffic incident management
- Post-crash strategies

ENGINEERING COUNTERMEASURES

The purpose of the 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 strategy. The key objectives of the 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. The Engineering Countermeasure Toolkit is not intended to be a menu from which community members can request safety tools for their street. Before a specific countermeasure **is selected, analysis must be conducted to understand the existing safety issue.**



Signing and Striping

Pedestrian safety countermeasures are crucial in creating safe roadways for all users. The implementation of engineering solutions such as crosswalk enhancements (high-visibility crosswalk markings), signal improvements (pedestrian countdown timers, lead pedestrian intervals) together will help to save lives. The introduction of suitable signage and striping to enhance visibility and integration of advanced technology can also support ongoing pedestrian and bicycle safety. Alongside these, education programs and enforcement of traffic laws contribute to cultivating safer behaviors. These countermeasures, when executed in a comprehensive and context-sensitive manner, can significantly improve vulnerable roadway user safety on City of Winter Park streets.

Winter Park signing and striping Safety Spotlight: Denning Drive

The Denning Drive Complete Street project intends to enhance mobility and safety for people outside of cars, through the widening sidewalks, improved pedestrian crossings with signage, and improved connectivity of neighborhoods, parks, and civic destinations. This investment has helped to improve the experience for pedestrians, cyclists, transit users, and drivers alike.

Speed Management

Addressing speed is fundamental to the Safe System Approach to making streets safer, and a growing body of research shows that speed limit changes alone can lead to measurable declines in speeds and crashes. The first step to identifying appropriate speeds involves identifying potential conflicts on the road, which may include sharp bends, high-traffic zones, location of community assets such as schools, or areas with a large number of vulnerable roadway users. Once these potential safety concerns have been identified, comprehensive analyses need to be carried out to identify appropriate design speed and target speed.

Determined safe speeds can be implemented through continuous observation of roads, conditions, and speeds, and making necessary adjustments, thus ensuring careful and considerate driving. Continuous monitoring and enforcement may be undertaken, making sure that the selected speed is suitable for the circumstances. Regular reviewing of the effectiveness of the speed choice is essential, as it will assist in identifying necessary amendments to be made.

Other Engineering Strategies

Other engineering strategies represent cross-cutting transportation safety countermeasures that apply a broad approach to enhance safety across multiple modes of transport, addressing the needs of motorists, cyclists, and pedestrians alike. These countermeasures, implemented in an integrated manner, can contribute significantly to making transportation systems safer and more efficient such as lighting and access management.

Design speed and target speed are two critical terms that come into play when considering traffic safety and road design. Both design speed and target speed play a key role in promoting safe, efficient, and user-friendly transportation systems for all roadway users.

Design speed is essentially the maximum safe speed that can be maintained on a particular section of the roadway when conditions are most favorable. It is the speed used by engineers during the geometric design of a roadway. This encompasses the determination of features such as horizontal and vertical alignment, lane width, and separation distances.

On the other hand, target speed, also known as 'operating speed', refers to the speed at which drivers feel comfortable driving on a certain road segment under normal conditions. It is not necessarily the legal speed limit, but rather, is based on factors such as the route's physical characteristics, surrounding environment, and the vehicle's capabilities.

While design speed ensures the road is constructed to cater to a certain speed, the target speed is essential to understand driver behavior and safety. Therefore, the setting of appropriate target speeds must consider the road environment, roadside development, vulnerable road users, and the function of the road to help traffic move smoothly and safely.

In an ideal scenario, the design speed and target speed should be closely aligned to ensure that the road infrastructure can safely cope with the speeds at which drivers choose to travel. However, if there's a significant disparity between the two, it may lead to increased risks of crashes, necessitating modifications to the road design or adjustments to speed limits and other traffic management measures to enhance safety.

Pedestrian Facilities

Pedestrian safety countermeasures are crucial in creating safe roadways for all users. The implementation of engineering solutions such as crosswalk enhancements (high-visibility crosswalk markings, raised crosswalks, pedestrian refuge islands), signal improvements (pedestrian countdown timers, lead pedestrian intervals) together will help to save lives. The introduction of suitable signage and lighting to enhance visibility and integration of advanced technology can also support ongoing pedestrian safety. Alongside these, education programs and enforcement of traffic laws contribute to cultivating safer behaviors among drivers and pedestrians alike. These countermeasures, when executed in a comprehensive and context-sensitive manner, can significantly improve pedestrian safety on City of Winter Park's streets.

WINTER PARK BIKEWAY SAFETY SPOTLIGHT: GREENWAY ROUTES MASTER PLAN

The City of Winter Park has established a Greenway Routes Master Plan that outlines flexibility with various facilities like sidewalks, shared use paths, and on-street bicycle routes catering to diverse rider needs through the city. These bikeways offer low-speed, low-traffic roads and connect key destinations without needing exclusive bicycle lanes, while also supporting traffic calming efforts and minimizing pass-through traffic in neighborhoodsand elevators for accessibility, the bridge is designed to alleviate traffic control needs during large events and serve as a gateway to International Drive.

Bikeways

Ensuring bicycle safety is an essential part of building safer roads. Deploying countermeasures such as the creation of dedicated bike lanes, bike boxes, and bicycle-specific traffic signals can help cater to the need of cyclists on the road and better protect them from harm. Intersection improvements, enhanced signage, and protected paths particularly along popular biking routes are important to ensure good visibility for both cyclists and motorists. Innovative technology and regular road maintenance together can also help to ensure direct, smooth and obstacle-free bike travel to substantially foster safer bike travel. By incorporating these bicycle safety improvements in a comprehensive transportation safety framework, City of Winter Park can become more bike-friendly and safer for all road users.

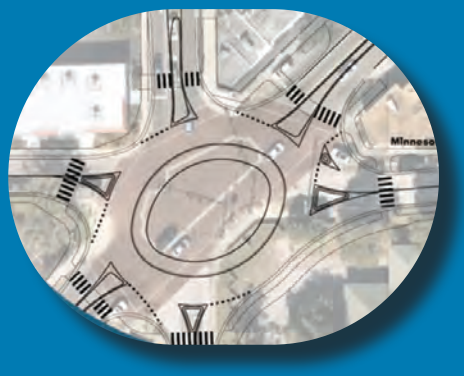
Intersection and Roadways

Intersection enhancements are a crucial aspect of enhancing road safety since intersections frequently serve as points of conflict among pedestrians, cyclists, and motorized vehicles. Measures such as enhancing lighting, using larger or reflective signage, creating high visibility crosswalks, and removing sight obstructions at intersections can significantly minimize collisions. The geometric design of the intersection, too, plays a pivotal role in road safety. Configurations such as roundabouts, traffic islands, raised intersections, and adequate turning lanes streamline traffic flow and minimize points of conflict.

Roadway countermeasures can be designed specifically to prevent roadway departures, where a vehicle unintentionally strays away from its designated lane. Roadway departures account for over half of all traffic fatalities in the United States. If drivers cannot clearly identify the edge of the travel lanes and see the road alignment ahead, the risk of roadway departure may be greater. Tools such as roadside barriers, which include guardrails and median barriers, play an essential role in preventing vehicles from colliding with fixed objects or veering off steep slopes. Furthermore, the utilization of rumble strips or wider edge lines offer effective methods to alert possibly distracted or fatigued drivers when their vehicle begins to divert out of its lane and space to react accordingly.

WINTER PARK INTERSECTION SAFETY SPOTLIGHT: ORANGE AVENUE IMPROVEMENTS

The City of Winter Park will be providing improvements on the Orange Avenue corridor between US 17/92 and Pennsylvania Ave, which has been studied for a complete streets' reconfiguration. Future improvements include lane re-allocation for a center turn lane, along with enhanced pedestrian crossings. The study also includes consideration of a roundabout at the intersection with Denning Drive and Minnesota Avenue.



Signals

Improvements in signalization are a significant factor in ensuring safer roadways. Enhancing elements of traffic control can considerably impact driver behavior, reducing confusion, uncertainty, and errors that may lead to accidents. Safe roadways rely heavily on clear, visible signage and signalization. Updated signs providing drivers with information about road conditions, speeds, and directions are crucial in helping them make informed decisions. Implementing dynamic signs that change based on real-time conditions, such as digital warning signs can further enhance safety.

A focus on technology

Technology plays an important role in improving transportation safety, preventing crashes from happening, contributing to faster emergency response times, and providing more detailed analytics about why crashes are happening. This all helps identify and apply the most appropriate crash countermeasures. Some examples of safety technology in the region include:

- Wrong-way detection
- Emergency vehicle preemption
- Near-miss analysis
- Red light camera
- Automated speed enforcement
- Automated school bus enforcement
- IP targeted safety messaging
- Ignition interlock devices
- Traffic incident management programs

The MetroPlan Orlando Transportation Systems Management & Operations (TSM&O) Master Plan identifies specific technologies that are being planned for in the region, with this plan periodically updated to evaluate and incorporate **new technologies.**

As more autonomous and connected vehicles join the region's vehicle fleet, there are opportunities for ***ADDITIONAL SAFETY TECHNOLOGIES*** to be implemented:

PedSafe

This pedestrian and bicycle crash avoidance system is designed to operate via connected vehicle technologies. Drivers will be alerted when a pedestrian or cyclist is in the area. Also, traffic signals will be designed to become aware of pedestrians crossing the road or intersection.

Speed harmonization

Mobile traffic sensors send real-time conditions at a congested location to a traffic management center. A computer uses this information to calculate optimal speeds for vehicles approaching congestion and sends the speeds to connected vehicles. The drivers receive the recommended speeds and can adjust accordingly, or, in an automated vehicle, the vehicle could adjust to the recommended speed automatically.

Crash prediction and response deployment

Mobile traffic sensors send real-time conditions to a traffic management center where conditions are evaluated to determine if a crash is likely based on past crash patterns in the region. Law enforcement or emergency response can be deployed before a crash occurs, which can prevent a crash from happening, or place a first responder in closer proximity to improve response times.

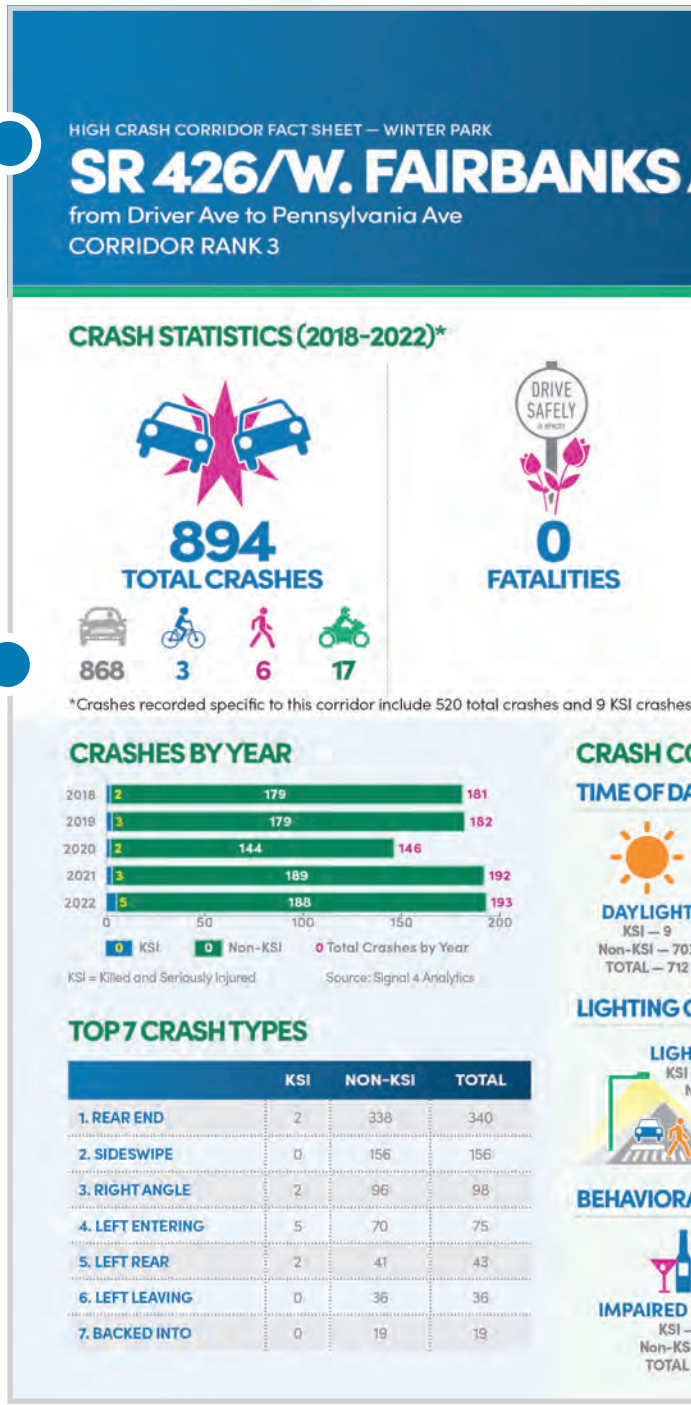
Project Prioritization: HIN Corridor Profiles and Proposed Countermeasures

Road safety interventions are more effective when they are strategically planned to optimize the use of resources. Corridor prioritization is essential as it helps to achieve the highest possible crash reduction, which in turn saves more lives, reduces more injuries, and lowers economic losses due to crashes. The prioritization of specific corridors for safety projects helps ensure that countermeasures are both meaningful and cost-effective. Moreover, a focus on corridors with high crash rates along with considerations for vulnerable populations can significantly improve community well-being and ensure that the benefits of improved safety are fairly distributed.

The following roadway profile pages provide a comprehensive summary of the characteristics, crash data, rankings, and prioritized countermeasures identified in this Vision Zero Action Plan. The pages highlight specific elements of each corridor, such as length, location, design, traffic volume, and other physical characteristics. An overview of crash type data and crash profile data offers vital insight into the frequency, type and severity of accidents that have occurred on these corridors, along with determining high-risk zones. For the purpose of characterizing crash trends along these corridors and identifying appropriate safety countermeasures, the crash data reflected on the HIN profile sheets includes crashes located within a short proximity of the HIN segment where other roads intersect. Recorded crash data specific to the HIN corridor is provided as a sub-set to the more comprehensive crash profile analysis. The profile pages are organized to reflect the rankings, a measure of corridor safety that takes into account various elements identiied in the corridor prioritization framework. Lastly, a prioritized list of countermeasures has been identified for future improvement of safety along each corridor.

The crash data visualized on these cut sheets, combined with the available roadway information, helps to visualize what specific interventions will be most valuable as well as where they should be located.

Roadway Profile and HIN Ranking



Crash Statistics and Contribution Factors

Map With Location of Crashes

AVE VISION ZERO COUNTDOWN TO ZERO

15
SERIOUS INJURIES

7 2 6

of those shared on this HIN corridor profile.

ONTRIBUTION FACTORS

AY

DUSK–DAWN
KSI — 0
Non-KSI — 38
TOTAL — 38

NIGHT
KSI — 6
Non-KSI — 137
TOTAL — 143

CONDITION

ITED
— 6
lon-KSI — 130
TOTAL — 136

NON-LIGHTED
KSI — 0
Non-KSI — 7
TOTAL — 7

AL FACTORS

DRIVING
— 0
— 13
— 13

DISTRACTED DRIVING
KSI — 6
Non-KSI — 413
TOTAL — 419

N

LEGEND

HIN Corridor
Bus Stop
Traffic Signal

Crashes by Mode
Pedestrian
Bicycle
Motorcycle
Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
PRINCIPAL ARTERIAL

CONTEXT CLASSIFICATION
URBAN GENERAL (C4)

CORRIDOR LENGTH
1.75 MILES

AVERAGE POSTED SPEED
35 MPH

AVERAGE PREVAILING SPEED
45 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
30%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 1, 9 AND 23 / 11,724

TRAVEL LANES / MEDIAN TYPE
4 LANES / TWO-WAY LEFT TURN LANE

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install Leading Pedestrian Intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

INTERSECTION AND ROADWAYS
- Extend median nose into crosswalk ($)
- Evaluate opportunities to consolidate driveways ($)
- Conduct sight line reviews at driveways and side streets ($)
- Install median islands with dedicated crosswalks at strategic locations ($$$)

PEDESTRIAN/BICYCLE FACILITIES
- West of Orlando Avenue, install high visibility mid-block crosswalks with PHBs at attractors/generators near transit stops ($$$)
- Buffer bicycle lanes or add separator such zicla zippers ($$)
- East of Orlando Avenue, install crosswalks at midblocks, advanced warning signs and yield markings ($)

OTHER ENGINEERING STRATEGIES
- Conduct Road Safety Audit to identify safety countermeasures ($)
- Lighting upgrades at segments and intersections ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

Roadway Characteristics

Proposed Countermeasures

CHAPTER: 6

Plan Recommendations

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

SR 527/N. ORANGE AVE/ W. FAIRBANKS AVE

from Berkshire Avenue to S. Park Ave

CORRIDOR RANK 1

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018–2022)*

734
TOTAL CRASHES

721 | 3 | 4 | 6

1
FATALITY

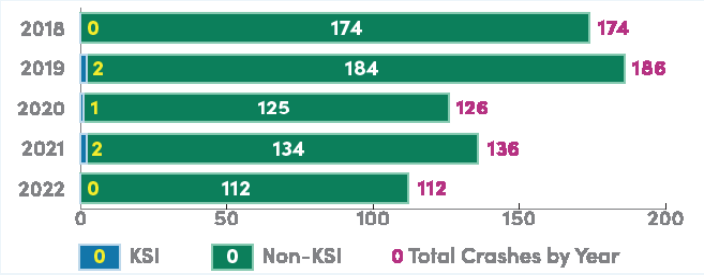
1

4
SERIOUS INJURIES

2 | 1 | 1

*Crashes recorded specific to this corridor include 404 total crashes and 3 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	1	277	278
2. SIDESWIPE	0	123	123
3. RIGHT ANGLE	1	86	87
4. PARKED VEHICLE	0	45	45
5. LEFT ENTERING	0	37	37
6. LEFT LEAVING	0	30	30
7. LEFT REAR	0	16	16

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 3
Non-KSI — 583
TOTAL — 586

DUSK–DAWN
KSI — 0
Non-KSI — 31
TOTAL — 31

NIGHT
KSI — 2
Non-KSI — 115
TOTAL — 117

LIGHTING CONDITION

LIGHTED
KSI — 2
Non-KSI — 110
TOTAL — 112

NON-LIGHTED
KSI — 0
Non-KSI — 5
TOTAL — 5

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 9
TOTAL — 9

DISTRACTED DRIVING
KSI — 3
Non-KSI — 351
TOTAL — 354

LEGEND

N

HIN Corridor

Bus Stop

Traffic Signal

Crashes by Mode

Pedestrian

Bicycle

Motorcycle

Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
PRINCIPAL ARTERIAL

CONTEXT CLASSIFICATION
URBAN GENERAL (C4)

CORRIDOR LENGTH
1.41 MILES

AVERAGE POSTED SPEED
30 MPH

AVERAGE PREVAILING SPEED
39 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
55%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 1, 9, 23 AND 102 / 29,065

TRAVEL LANES / MEDIAN TYPE
4 LANES / UNDIVIDED

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

PROPOSED SAFETY COUNTERMEASURES

SIGNALS

- Install leading pedestrian intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)
- Upgrade to audible push button pedestrian crossing signals ($)

INTERSECTION AND ROADWAYS

- Reconfigure crosswalks at Orange/Orlando Ave. intersection to shorten pedestrian crossing distances ($)
- Consider intersection reconstruction and tightening at Orlando Ave. ($$$)

PEDESTRIAN/BICYCLE FACILITIES

- Evaluate installing midblock crosswalks with pedestrian hybrid beacons every 660-800 feet. ($$$)
- Co-locate bus stops with crosswalks at midblocks and intersections ($)

OTHER ENGINEERING STRATEGIES

- Lighting upgrades at segments and intersections ($$)
- Relocate bus stops to far side of signalized intersections ($)
- Evaluate need to remove obstructions/foliage at driveways ($)
- Employ distracted driving awareness and night time visibility limitations through street pop-up events and community events ($)

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

SR 15/ORLANDO AVE

from Norfolk Ave to Elvin Ave

CORRIDOR RANK 2

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018–2022)*

1,265 TOTAL CRASHES

1,222 | 14 | 13 | 16

2 FATALITIES

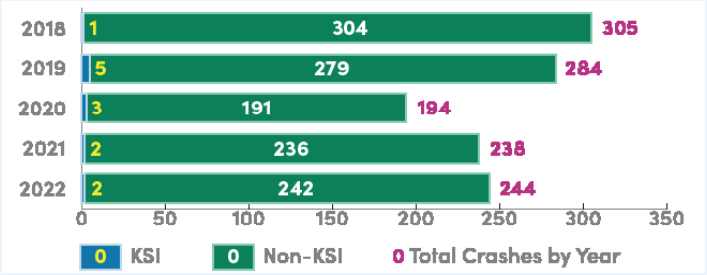
2

11 SERIOUS INJURIES

7 | 1 | 2 | 1

*Crashes recorded specific to this corridor include 844 total crashes and 9 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	3	572	575
2. SIDESWIPE	0	177	177
3. RIGHT ANGLE	1	101	102
4. LEFT ENTERING	0	78	78
5. LEFT LEAVING	2	61	63
6. LEFT REAR	0	49	49
7. BACKED INTO	0	45	45

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 10
Non-KSI — 1,031
TOTAL — 1,041

DUSK–DAWN
KSI — 0
Non-KSI — 41
TOTAL — 41

NIGHT
KSI — 3
Non-KSI — 179
TOTAL — 182

LIGHTING CONDITION

LIGHTED
KSI — 2
Non-KSI — 173
TOTAL — 175

NON-LIGHTED
KSI — 0
Non-KSI — 6
TOTAL — 6

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 19
TOTAL — 19

DISTRACTED DRIVING
KSI — 5
Non-KSI — 609
TOTAL — 614

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
PRINCIPAL ARTERIAL

CONTEXT CLASSIFICATION
URBAN GENERAL (C4)

CORRIDOR LENGTH
1.96 MILES

AVERAGE POSTED SPEED
35 MPH

AVERAGE PREVAILING SPEED
45 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
92%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 1, 9 AND 102 / 22,700

TRAVEL LANES / MEDIAN TYPE
4 LANES / TWO-WAY LEFT TURN LANE

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- » Upgrade to audible push button pedestrian crossing signals ($)
- » Prohibit turns when pedestrian signal is activated ($)

INTERSECTION AND ROADWAYS
- » Consider permanent channelization alternatives at RR crossing – raised median on both sides of crossing ($)
- » Ensure crossing is adequately lit and verify all signs and pavement markings are MUTCD compliant ($)
- » Tighten curb radii at intersections ($$$)
- » Evaluate opportunities to consolidate driveways ($)
- » Extend median nose into crosswalk at non-signalized and signalized locations ($)

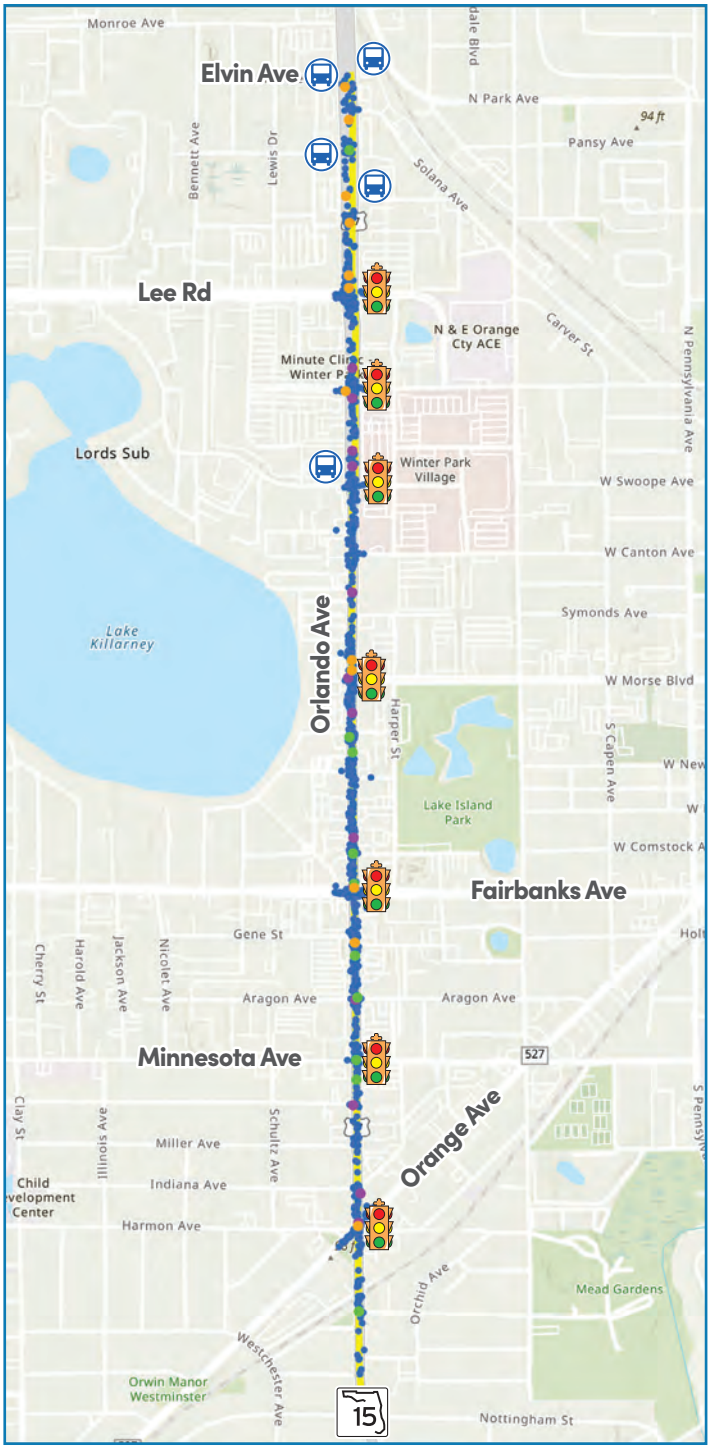
PEDESTRIAN/BICYCLE FACILITIES
- » Install median islands with dedicated crosswalks at strategic locations ($$$)

SPEED MANAGEMENT
- » Implement speed sensitive traffic signals ($)

OTHER ENGINEERING STRATEGIES
- » Coordinate with FDOT and Winter Park CRA on streetscape improvements ($)

SIGNING AND STRIPING
- » Update worn pavement markings throughout corridor ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.



LEGEND

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

N

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

SR 426/W. FAIRBANKS AVE

from Driver Ave to Pennsylvania Ave

CORRIDOR RANK 3

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018–2022)*

894
TOTAL CRASHES

868 | 3 | 6 | 17

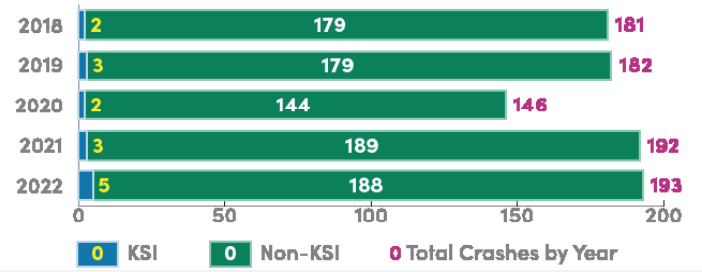
0
FATALITIES

15
SERIOUS INJURIES

7 | 2 | 6

*Crashes recorded specific to this corridor include 520 total crashes and 9 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	2	338	340
2. SIDESWIPE	0	156	156
3. RIGHT ANGLE	2	96	98
4. LEFT ENTERING	5	70	75
5. LEFT REAR	2	41	43
6. LEFT LEAVING	0	36	36
7. BACKED INTO	0	19	19

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 9
Non-KSI — 703
TOTAL — 712

DUSK–DAWN
KSI — 0
Non-KSI — 38
TOTAL — 38

NIGHT
KSI — 6
Non-KSI — 137
TOTAL — 143

LIGHTING CONDITION

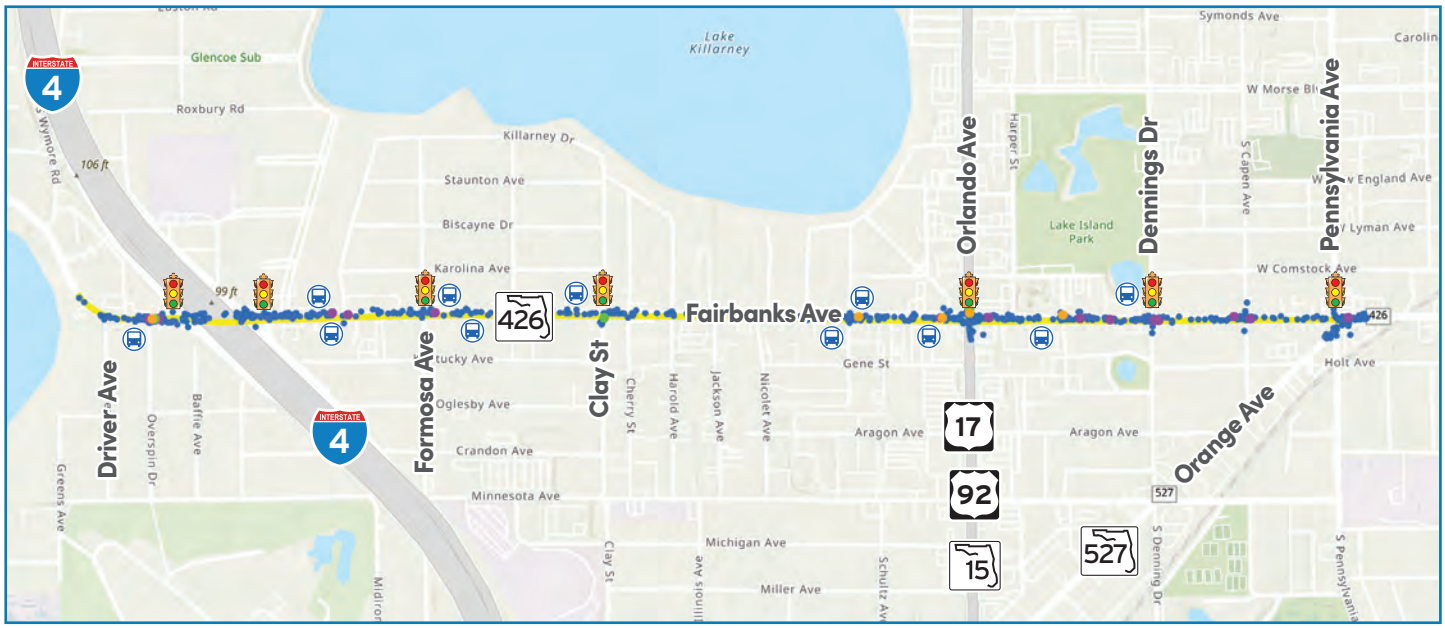
LIGHTED
KSI — 6
Non-KSI — 130
TOTAL — 136

NON-LIGHTED
KSI — 0
Non-KSI — 7
TOTAL — 7

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 13
TOTAL — 13

DISTRACTED DRIVING
KSI — 6
Non-KSI — 413
TOTAL — 419



LEGEND

N

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
PRINCIPAL ARTERIAL

CONTEXT CLASSIFICATION
URBAN GENERAL (C4)

CORRIDOR LENGTH
1.75 MILES

AVERAGE POSTED SPEED
35 MPH

AVERAGE PREVAILING SPEED
45 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
30%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 1, 9 AND 23 / 11,724

TRAVEL LANES / MEDIAN TYPE
4 LANES / TWO-WAY LEFT TURN LANE

PROPOSED SAFETY COUNTERMEASURES

SIGNALS

- Install Leading Pedestrian Intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

INTERSECTION AND ROADWAYS

- Extend median nose into crosswalk ($)
- Evaluate opportunities to consolidate driveways ($)
- Conduct sight line reviews at driveways and side streets ($)
- Install median islands with dedicated crosswalks at strategic locations ($$$)

PEDESTRIAN/BICYCLE FACILITIES

- West of Orlando Avenue, install high visibility mid-block crosswalks with PHBs at attractors/generators near transit stops ($$$)
- Buffer bicycle lanes or add separator such zicla zippers ($$)
- East of Orlando Avenue, install crosswalks at midblocks, advanced warning signs and yield markings ($)

OTHER ENGINEERING STRATEGIES

- Conduct Road Safety Audit to identify safety countermeasures ($)
- Lighting upgrades at segments and intersections ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

SR 426/ E. FAIRBANKS AVE/ ALOMA AVE

from S. Park Ave to Balfour Dr

CORRIDOR RANK 4

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018-2022)*

825
TOTAL CRASHES

802	2	6	15

4
FATALITIES

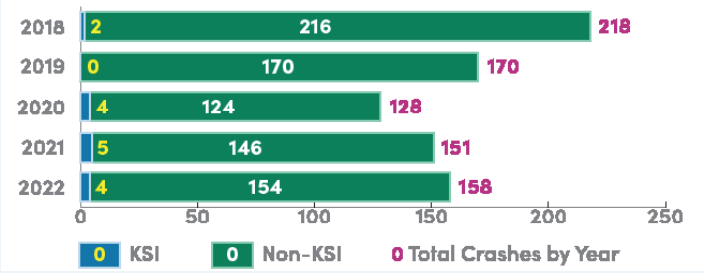
2	2

11
SERIOUS INJURIES

5	2	4

*Crashes recorded specific to this corridor include 638 total crashes and 7 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	2	378	380
2. SIDESWIPE	1	157	158
3. LEFT TURN	1	98	99
4. ANGLE	1	49	50
5. OTHER	2	43	45
6. OFF ROAD	1	40	41
7. UNKNOWN	1	19	20

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 7
Non-KSI — 636
TOTAL — 643

DUSK–DAWN
KSI — 3
Non-KSI — 29
TOTAL — 32

NIGHT
KSI — 5
Non-KSI — 142
TOTAL — 147

LIGHTING CONDITION

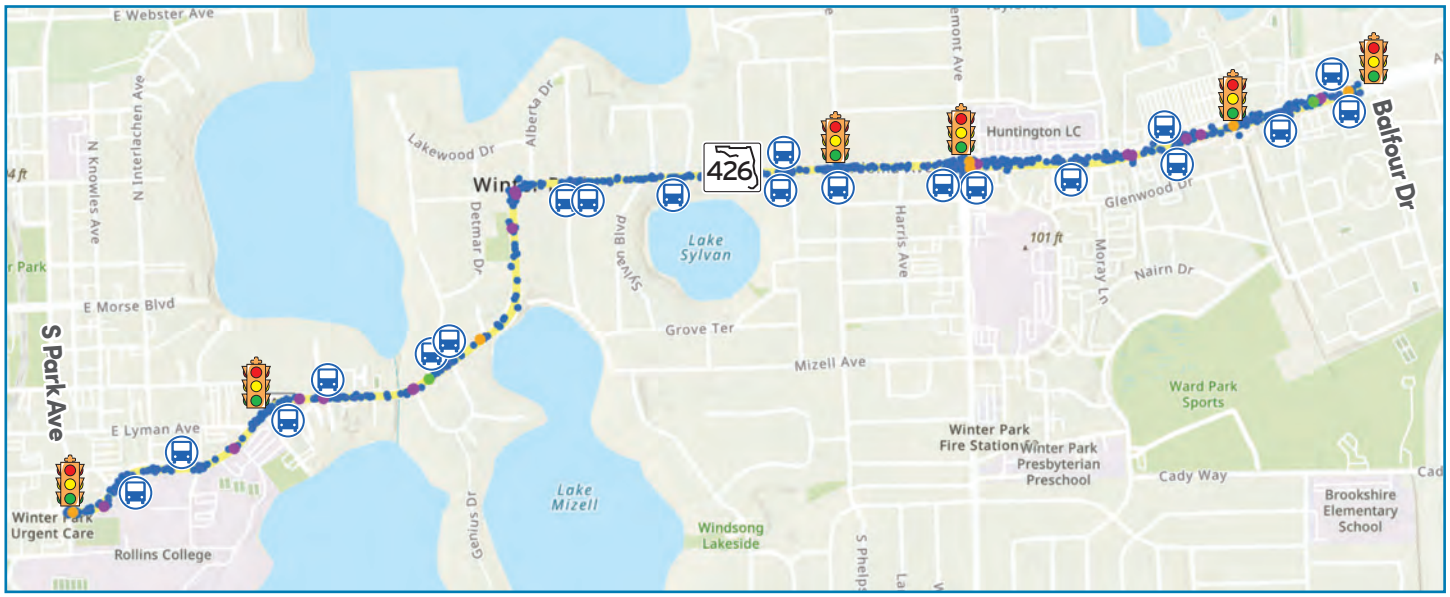
LIGHTED
KSI — 4
Non-KSI — 130
TOTAL — 134

NON-LIGHTED
KSI — 1
Non-KSI — 12
TOTAL — 13

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 3
Non-KSI — 19
TOTAL — 22

DISTRACTED DRIVING
KSI — 9
Non-KSI — 344
TOTAL — 353



N

LEGEND

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN PRINCIPAL ARTERIAL

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
2.27 MILES

AVERAGE POSTED SPEED
33.6 MPH

AVERAGE PREVAILING SPEED
44.8 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
67%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 13, 443 / 14,649

TRAVEL LANES / MEDIAN TYPE
4 LANES / PAVED

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

PROPOSED SAFETY COUNTERMEASURES

SIGNALS

- Install leading pedestrian intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

INTERSECTION AND ROADWAYS

- Extend median nose into crosswalk ($)
- Install raised midblock crosswalks with pedestrian hybrid beacons at Henkel Circle, Trismen Park, and west of Fletcher Place, and raised crosswalk at Interlachen Avenue (FDOT project) ($$$)
- Install raised intersections with high visibility crosswalks at Chase Avenue, Cortland Avenue, Shepherd Avenue, and North Phelps Avenue (FDOT project) ($$$)
- Install median islands where possible ($$$)
- Evaluate opportunities to consolidate driveways ($$$)

PEDESTRIAN/BICYCLE FACILITIES

- Provide high visibility midblock crosswalks with pedestrian hybrid beacons, in-ground lighting, advanced warning signs and yield markings east of Lakemont Avenue ($$$)
- Co-locate bus stops with crosswalks at mibblocks and intersections ($)

OTHER ENGINEERING STRATEGIES

- Lighting upgrades at segments and intersections ($$)
- Employ distracted driving campaign ($)
- Create awareness of night time visibility limitations ($)

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

PENNSYLVANIA AVE

Melrose Ave to S.R. 527

CORRIDOR RANK 5

VISION ZERO
COUNTDOWN TO ZERO

CRASH STATISTICS (2018-2022)*

63
TOTAL CRASHES

61 | 2

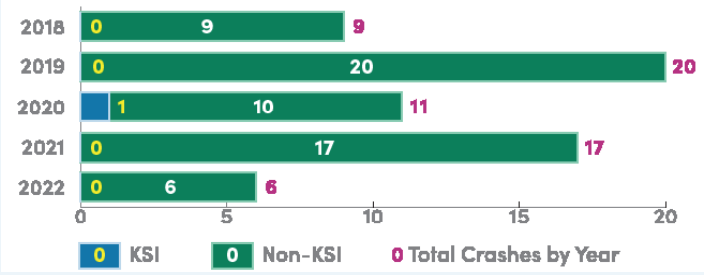
0
FATALITIES

1
SERIOUS INJURIES

1

*Crashes recorded specific to this corridor include 59 total crashes and 2 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 5 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	1	23	24
2. ANGLE	0	17	17
3. OTHER	0	7	7
4. OFF ROAD	0	5	5
5. SIDESWIPE	0	3	3

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 1
Non-KSI — 49
TOTAL — 50

DUSK–DAWN
KSI — 0
Non-KSI — 4
TOTAL — 4

NIGHT
KSI — 0
Non-KSI — 9
TOTAL — 9

LIGHTING CONDITION

LIGHTED
KSI — 0
Non-KSI — 7
TOTAL — 7

NON-LIGHTED
KSI — 0
Non-KSI — 2
TOTAL — 2

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 2
TOTAL — 2

DISTRACTED DRIVING
KSI — 1
Non-KSI — 26
TOTAL — 27

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN MINOR COLLECTOR

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
0.34 MILES

AVERAGE POSTED SPEED
25 MPH

AVERAGE PREVAILING SPEED
31.7 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
62.4%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
NONE

TRAVEL LANES / MEDIAN TYPE
4 LANES / PAVED

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install Leading Pedestrian Intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

PEDESTRIAN/BICYCLE FACILITIES
- In combination with proposed tennis trail on the south side of Melrose Avenue, install high visibility and raised midblock crosswalk with rectangular rapid flashing beacons, in-ground lighting, advanced warning signs and yield markings at the Melrose Avenue intersection ($$$)
- Upgrade existing midblock crossings with high visibility and raised midblock crosswalk with rectangular rapid flashing beacons, in-ground lighting, advanced warning signs and yield markings ($$)

OTHER ENGINEERING STRATEGIES
- Lighting upgrades at segments and intersections ($$)

SIGNING AND STRIPING
- Clear stop sign obstructions/foliage ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

LEGEND

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

N

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

LAKEMONT AVE

from Glenridge Way to Pine Ave

CORRIDOR RANK 6

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018-2022)*

333
TOTAL CRASHES

32 | 6 | 7

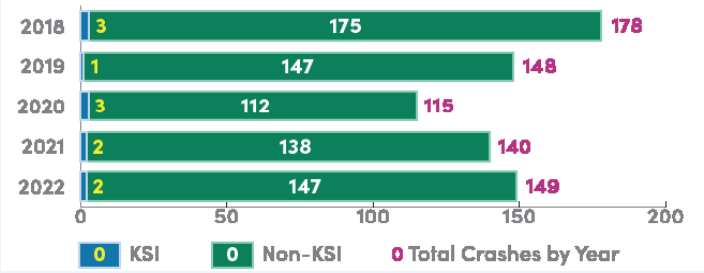
0
FATALITIES

4
SERIOUS INJURIES

2 | 1 | 1

*Crashes recorded specific to this corridor include 241 total crashes and 3 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	2	347	349
2. SIDESWIPE	3	87	90
3. OTHER	1	137	138
4. OFF ROAD	1	40	41
5. LEFT TURN	0	30	30
6. BICYCLE	0	31	31
7. HEAD ON	0	20	20

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 3
Non-KSI — 257
TOTAL — 260

DUSK–DAWN
KSI — 1
Non-KSI — 12
TOTAL — 13

NIGHT
KSI — 0
Non-KSI — 55
TOTAL — 55

LIGHTING CONDITION

LIGHTED
KSI — 0
Non-KSI — 50
TOTAL — 50

NON-LIGHTED
KSI — 0
Non-KSI — 5
TOTAL — 5

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 1
Non-KSI — 14
TOTAL — 15

DISTRACTED DRIVING
KSI — 0
Non-KSI — 118
TOTAL — 118

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN MAJOR COLLECTOR

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
2.24 MILES

AVERAGE POSTED SPEED
30 MPH

AVERAGE PREVAILING SPEED
38.8 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
67.4%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 6, 13 / 32,956

TRAVEL LANES / MEDIAN TYPE
4 LANES / PAVED TURN LANE

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install Leading Pedestrian Intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

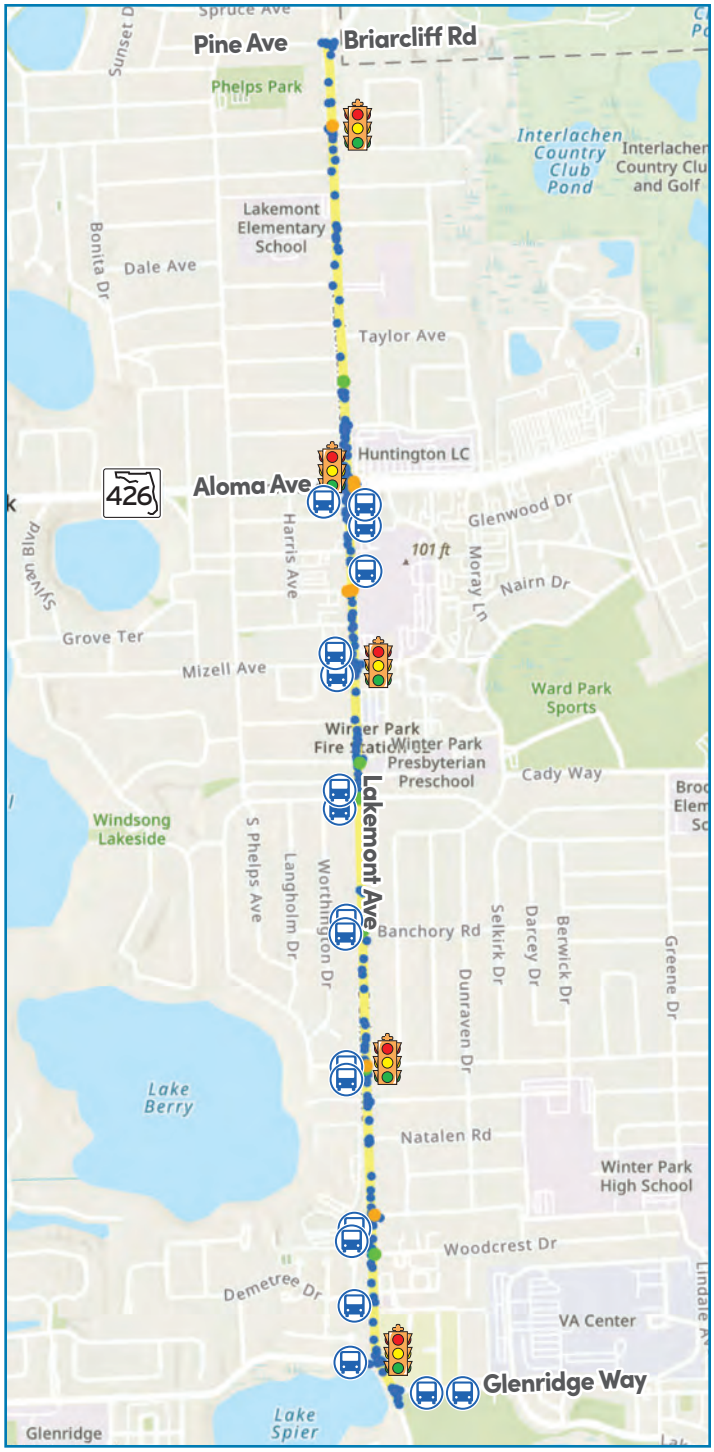
INTERSECTION AND ROADWAYS
- North of Aloma, consider lane repurposing (4 to 3 lanes), with buffered/separated bike lanes and pedestrian paths ($$)

PEDESTRIAN/BICYCLE FACILITIES
- South of Whitehall Drive, install median islands with dedicated crosswalks at strategic locations ($$$)
- Install raised crosswalks at midblocks, advanced warning signs and yield markings ($)
- Widen sidewalks where available right-of-way ($$$)
- Upgrade existing crosswalk with high visibility markings, advanced warning signs and yield markings ($$)

OTHER ENGINEERING STRATEGIES
- Consider transit infrastructure (benches, shelters, etc.) ($)
- Consider far side bus top placement ($)

SIGNING AND STRIPING
- Update worn pavement markings throughout corridor ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.



LEGEND

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

N

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

N. DENNING DR

from Minnesota Ave to N. Park Ave

CORRIDOR RANK 7

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018-2022)*

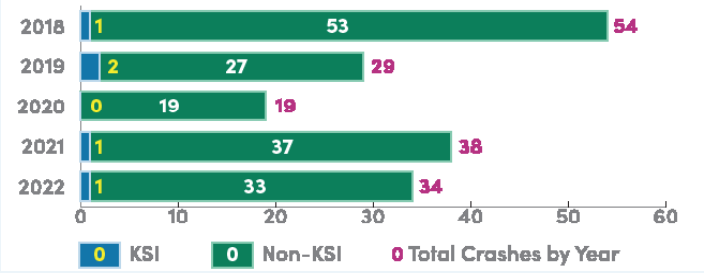
174
TOTAL CRASHES
170 | 4

0
FATALITIES

5
SERIOUS INJURIES
4 | 1

*Crashes recorded specific to this corridor include 60 total crashes and 1 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. LEFT TURN	3	47	50
2. REAR END	0	44	44
3. OTHER	2	23	25
4. SIDESWIPE	0	21	21
5. OTHER	0	14	14
6. OFF ROAD	0	7	7
7. UNKNOWN	0	5	5

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 4
Non-KSI — 137
TOTAL — 141

DUSK–DAWN
KSI — 0
Non-KSI — 8
TOTAL — 8

NIGHT
KSI — 1
Non-KSI — 36
TOTAL — 37

LIGHTING CONDITION

LIGHTED
KSI — 1
Non-KSI — 34
TOTAL — 35

NON-LIGHTED
KSI — 0
Non-KSI — 2
TOTAL — 2

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 5
TOTAL — 5

DISTRACTED DRIVING
KSI — 3
Non-KSI — 80
TOTAL — 83

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN MAJOR COLLECTOR

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
1.43 MILES

AVERAGE POSTED SPEED
25 MPH

AVERAGE PREVAILING SPEED
36.5 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
62.4%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 1, 9, 23, 102, 443 / 40,084

TRAVEL LANES / MEDIAN TYPE
2 LANES / PAVED AND GRASS

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install Install Leading Pedestrian Intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

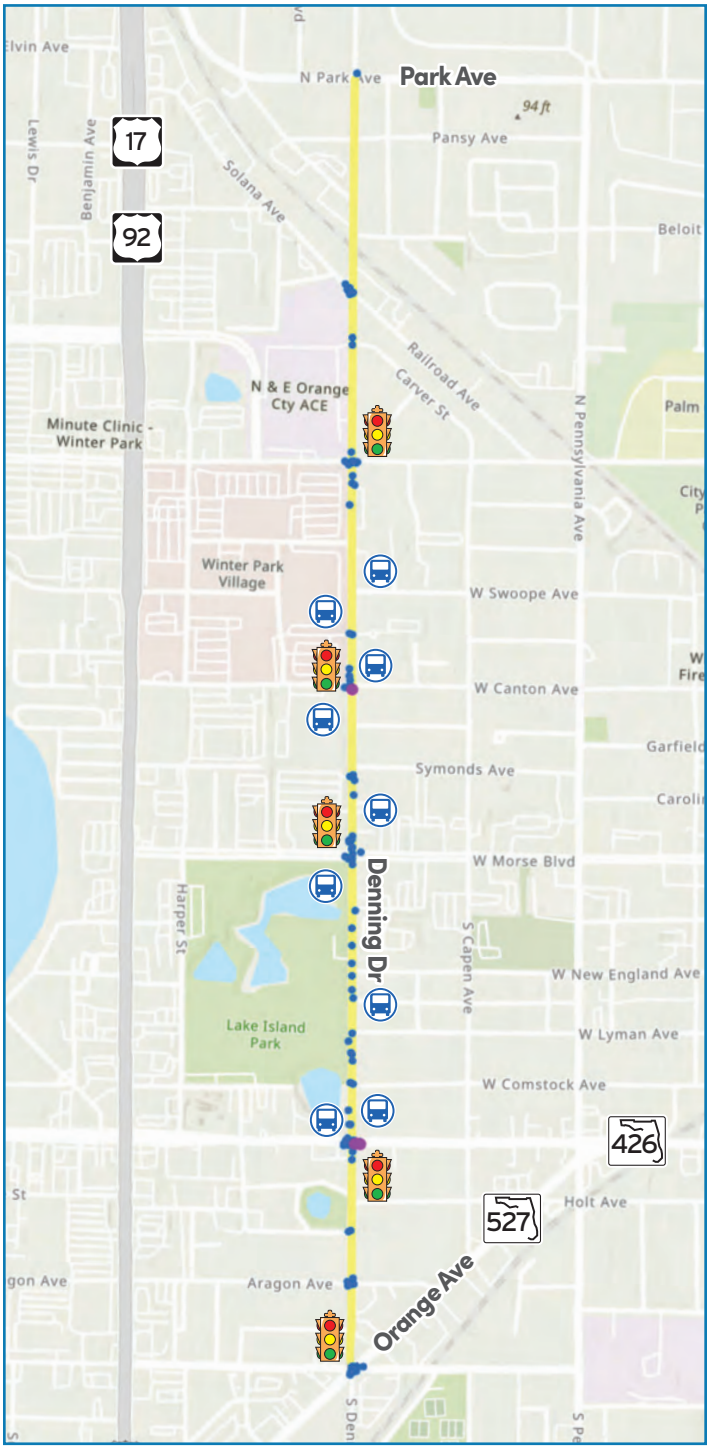
INTERSECTION AND ROADWAYS
- Extend median nose into crosswalk ($)
- North of Webster Avenue, consider adding medians at strategic locations ($$$)

PEDESTRIAN/BICYCLE FACILITIES
- Install high visibility mid-block crosswalks with PHBs at attractors/generators near transit stops ($$$)
- Install raised crosswalks at midblocks, advanced warning signs and yield markings ($$)
- North of Webster Avenue, install high visibility mid-block crosswalks with RRFBs (as warranted), raised crosswalks, advanced warning signs and yield markings ($$$)

OTHER ENGINEERING STRATEGIES
- Lighting upgrades at segments and intersections ($$)

SIGNING AND STRIPING
- Clear stop sign obstructions/foliage ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.



LEGEND

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

N

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

HOWELL BRANCH RD

from Horatio Ave to N. Lakemont Ave

CORRIDOR RANK 8

VISION ZERO
COUNTDOWN TO ZERO

CRASH STATISTICS (2018–2022)*

115
TOTAL CRASHES

110 | 2 | 2 | 1

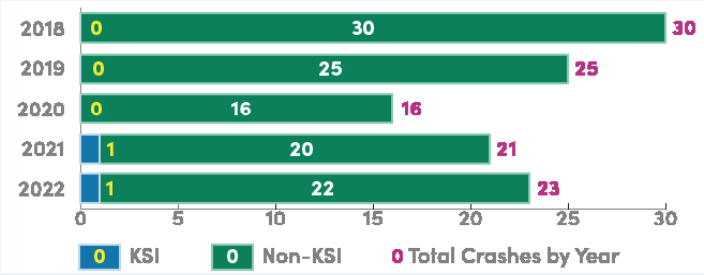
0
FATALITIES

2
SERIOUS INJURIES

1 | 1

*Crashes recorded specific to this corridor include 102 total crashes and 1 KSI crash of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 5 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	0	68	68
2. SIDESWIPE	0	15	15
3. LEFT TURN	0	9	9
4. OFF ROAD	1	8	9
5. OTHER	0	6	6

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 2
Non-KSI — 98
TOTAL — 100

DUSK–DAWN
KSI — 0
Non-KSI — 6
TOTAL — 6

NIGHT
KSI — 0
Non-KSI — 9
TOTAL — 9

LIGHTING CONDITION

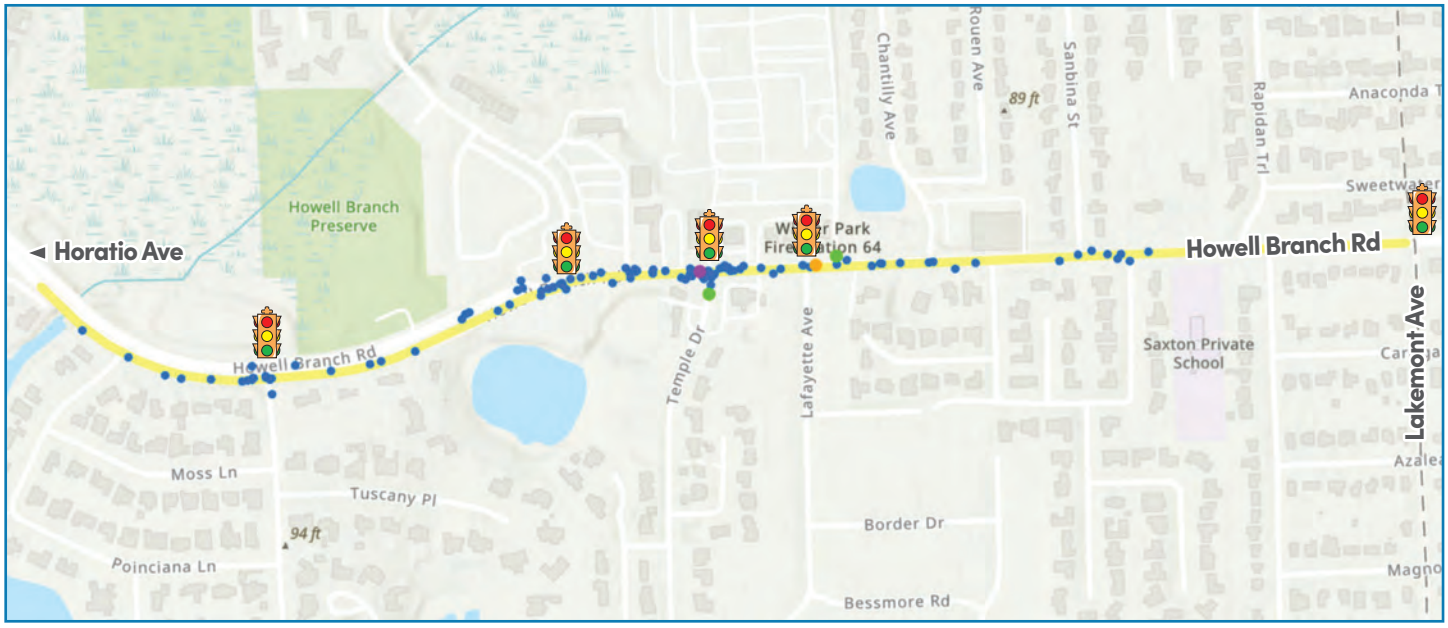
LIGHTED
KSI — 0
Non-KSI — 8
TOTAL — 8

NON-LIGHTED
KSI — 0
Non-KSI — 1
TOTAL — 1

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 2
TOTAL — 2

DISTRACTED DRIVING
KSI — 1
Non-KSI — 58
TOTAL — 59



LEGEND

N

HIN Corridor

Bus Stop

Traffic Signal

Crashes by Mode

Pedestrian

Bicycle

Motorcycle

Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN MINOR ARTERIAL

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
0.93 MILES

AVERAGE POSTED SPEED
40 MPH

AVERAGE PREVAILING SPEED
48 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
0%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
NONE

TRAVEL LANES / MEDIAN TYPE
4 LANES / PAVED

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install Leading Pedestrian Intervals ($)
- Install retroreflective back plates ($)
- Prohibit turns when pedestrian signal is activated ($)

INTERSECTION AND ROADWAYS
- Reduce lane widths from 12' to 11' ($)
- Tighten curb radii at side streets ($$$)
- Extend median nose into crosswalk ($)
- Consider roundabouts at offset intersections ($$$)

PEDESTRIAN/BICYCLE FACILITIES
- Install high visibility midblock crosswalks with PHBs at attractors/generators near transit stops ($$$)
- Buffer bicycle lanes or add separator such zicla zippers ($$)
- Install crosswalks at midblocks, advanced warning signs and yield markings ($)
- Install median islands with dedicated crosswalks at strategic locations ($$$)
- West of Temple Trail, install high visibility, raised, midblock crosswalks with PHBs at attractors/generators ($$$)
- Widen sidewalks where ROW is available ($$$)

SPEED MANAGEMENT
- Consider speed reduction to 35 mph ($)

OTHER ENGINEERING STRATEGIES
- Conduct Road Safety Audit to identify safety countermeasures ($)
- Lighting upgrades at segments and intersections ($)

SIGNING AND STRIPING
- Upgrade crosswalk striping ($)

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

S.R. 423 / LEE RD

from Gloriosa Ave to S.R. 17

CORRIDOR RANK 9

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018–2022)*

333
TOTAL CRASHES

323 | 3 | 7

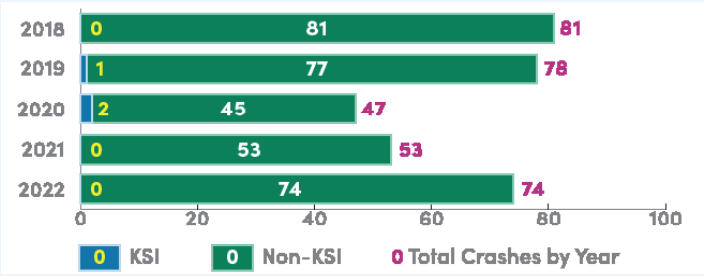
0
FATALITIES

3
SERIOUS INJURIES

1 | 1 | 1

*Crashes recorded specific to this corridor include 268 total crashes and 1 KSI crash of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	1	155	156
2. SIDESWIPE	0	72	72
3. OTHER	0	28	28
4. LEFT TURN	0	22	22
5. ANGLE	0	16	16
6. UNKNOWN	0	14	14
7. RIGHT TURN	0	8	8

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 2
Non-KSI — 287
TOTAL — 289

DUSK–DAWN
KSI — 0
Non-KSI — 13
TOTAL — 13

NIGHT
KSI — 1
Non-KSI — 42
TOTAL — 43

LIGHTING CONDITION

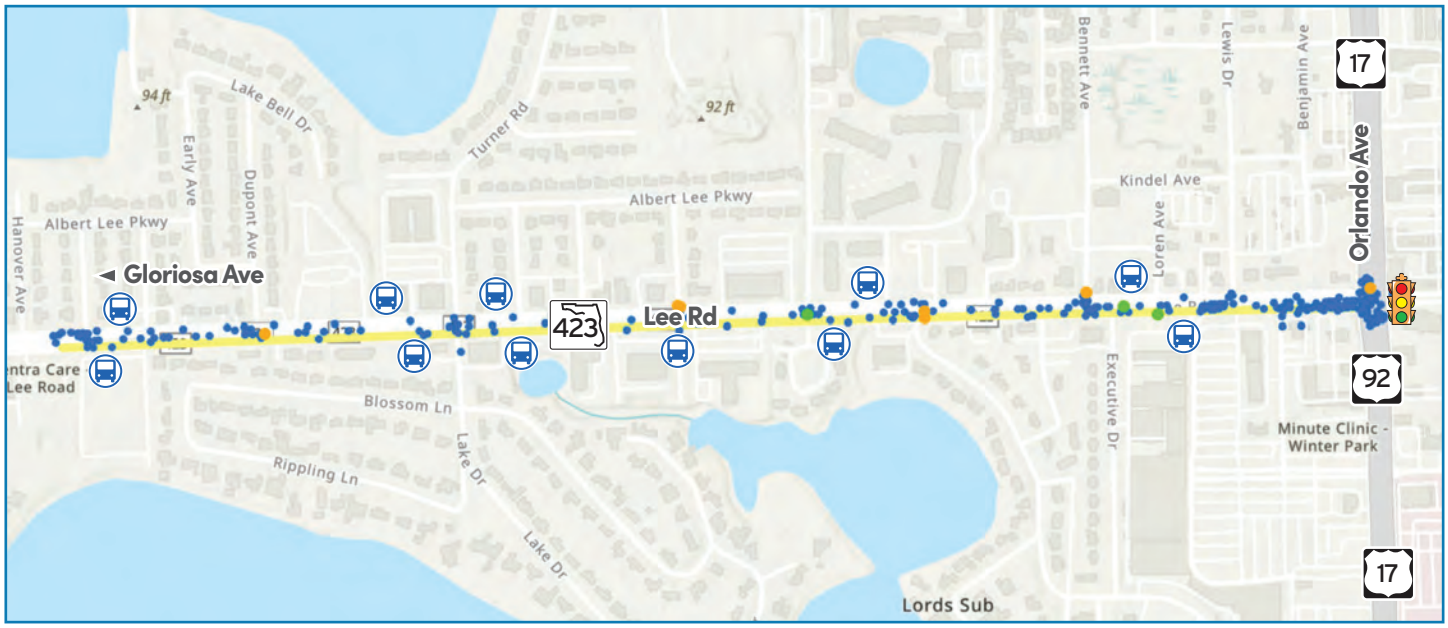
LIGHTED
KSI — 1
Non-KSI — 42
TOTAL — 43

NON-LIGHTED
KSI — 0
Non-KSI — 0
TOTAL — 0

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 2
TOTAL — 2

DISTRACTED DRIVING
KSI — 1
Non-KSI — 166
TOTAL — 167



LEGEND

N

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN PRINCIPAL ARTERIAL

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
1.1 MILES

AVERAGE POSTED SPEED
44.4 MPH

AVERAGE PREVAILING SPEED
51.4 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
58%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 443 / 13,136

TRAVEL LANES / MEDIAN TYPE
4 LANES / CURB & VEGETATION

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install leading pedestrian intervals ($)
- Prohibit right turn on red at Orlando Ave intersection ($)
- Upgrade to audible push button pedestrian crossing signals ($)

INTERSECTION AND ROADWAYS
- Tighten curb radii at intersections ($$$)
- Prohibit left turns from select side streets ($)
- Extend median nose into crosswalk ($)
- Consider roundabouts at major, non-signalized intersections ($$$)

PEDESTRIAN/BICYCLE FACILITIES
- Install high visibility midblock crosswalks with pedestrian hybrid beacons at attractors/generators near transit stops ($$$)
- Co-locate bus stops with crosswalks ($)

SPEED MANAGEMENT
- Reduced speed limit to 40 mph

SIGNING AND STRIPING
- Update worn pavement markings throughout corridor ($)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

MORSE BLVD

from Denning Dr to S. Park Ave

CORRIDOR RANK 10

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018-2022)*

69
TOTAL CRASHES

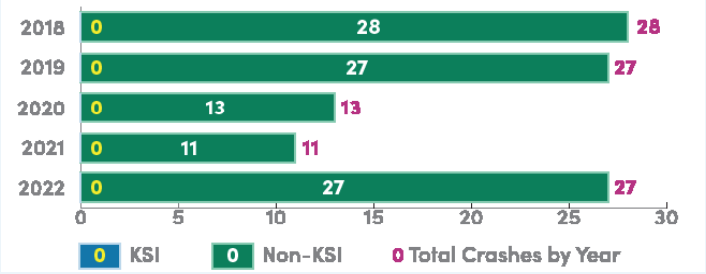
101 | 2 | 3

0
FATALITIES

0
SERIOUS INJURIES

*Crashes recorded specific to this corridor include 69 total crashes and 0 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. ANGLE	0	48	48
2. LEFT TURN	0	15	15
3. REAR END	0	14	14
4. OTHER	0	14	14
5. SIDESWIPE	0	7	7
6. OFF ROAD	0	5	5
7. PEDESTRIAN	0	3	3

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 0
Non-KSI — 88
TOTAL — 88

DUSK–DAWN
KSI — 0
Non-KSI — 3
TOTAL — 3

NIGHT
KSI — 0
Non-KSI — 18
TOTAL — 18

LIGHTING CONDITION

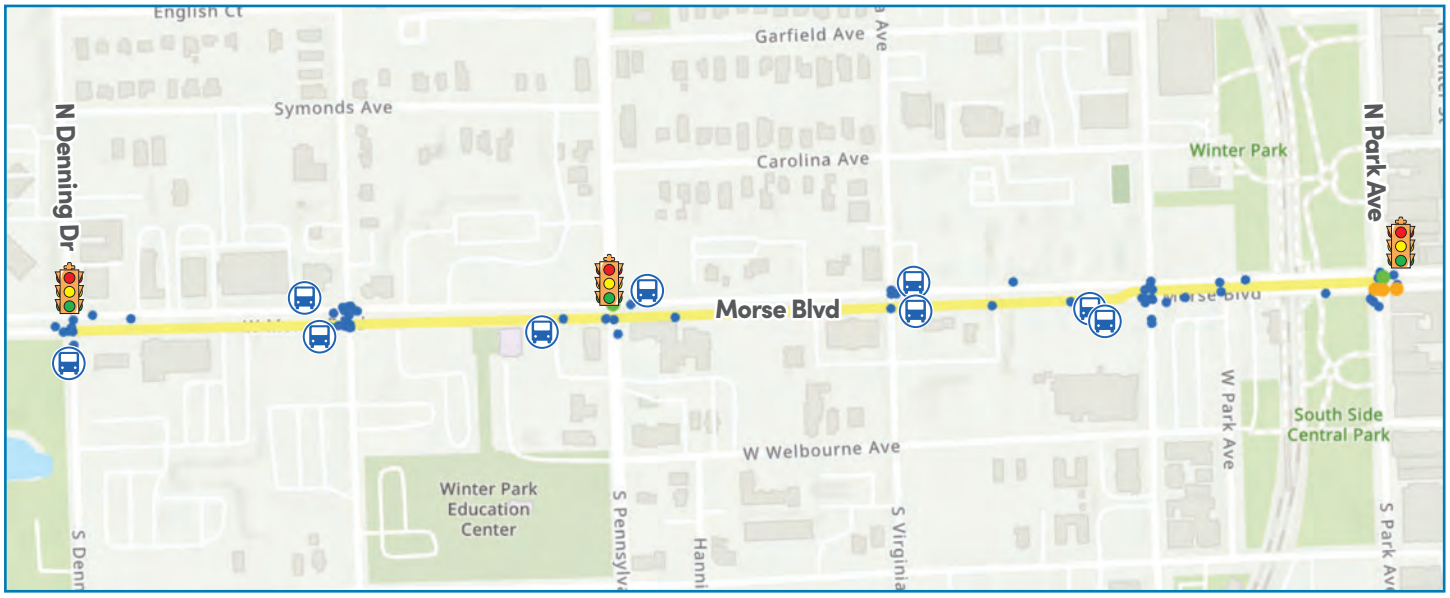
LIGHTED
KSI — 0
Non-KSI — 16
TOTAL — 16

NON-LIGHTED
KSI — 0
Non-KSI — 1
TOTAL — 1

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 1
TOTAL — 1

DISTRACTED DRIVING
KSI — 0
Non-KSI — 45
TOTAL — 45



LEGEND

N

HIN Corridor

Bus Stop

Traffic Signal

Crashes by Mode

Pedestrian

Bicycle

Motorcycle

Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN MINOR COLLECTOR

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
0.86 MILES

AVERAGE POSTED SPEED
25 MPH

AVERAGE PREVAILING SPEED
35 MPH

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
62.4%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
LINK 1, 9, 102, 443 / 17,985

TRAVEL LANES / MEDIAN TYPE
4 LANES / CURB & VEGETATION

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install leading pedestrian intervals ($)
- Prohibit right turn on red at Orlando Ave intersection ($)
- Upgrade to audible push button pedestrian crossing signals ($)
- Install retroreflective back plates ($)

INTERSECTION AND ROADWAYS
- Reduce lane widths to 11' ($)
- Extend median nose into crosswalk at non-signalized and signalized locations ($)

PEDESTRIAN/BICYCLE FACILITIES
- Install raised crosswalks at midblocks, advanced warning signs and yield markings ($$$)

SIGNING AND STRIPING
- Update worn pavement markings throughout corridor ($)
- Clear stop sign obstructions/foliage ($)

OTHER ENGINEERING STRATEGIES
- Employ speed feedback signs

HIGH CRASH CORRIDOR FACT SHEET — WINTER PARK

CANTON AVE

from Orlando Ave to N. Virginia Ave

CORRIDOR RANK 11

VISION ZERO COUNTDOWN TO ZERO

CRASH STATISTICS (2018-2022)*

26
TOTAL CRASHES

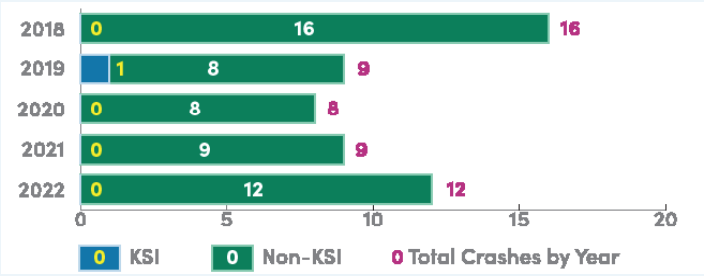
26 1

0
FATALITIES

0
SERIOUS INJURY

*Crashes recorded specific to this corridor include 26 total crashes and 0 KSI crashes of those shared on this HIN corridor profile.

CRASHES BY YEAR



KSI = Killed and Seriously Injured

Source: Signal 4 Analytics

TOP 7 CRASH TYPES

	KSI	NON-KSI	TOTAL
1. REAR END	0	15	15
2. ANGLE	1	13	14
3. LEFT TURN	0	9	9
4. OTHER	0	5	5
5. RIGHT TURN	0	3	3
6. UNKNOWN	0	3	3
7. SIDESWIPE	0	3	3

CRASH CONTRIBUTION FACTORS

TIME OF DAY

DAYLIGHT
KSI — 1
Non-KSI — 45
TOTAL — 46

DUSK–DAWN
KSI — 0
Non-KSI — 1
TOTAL — 1

NIGHT
KSI — 0
Non-KSI — 8
TOTAL — 8

LIGHTING CONDITION

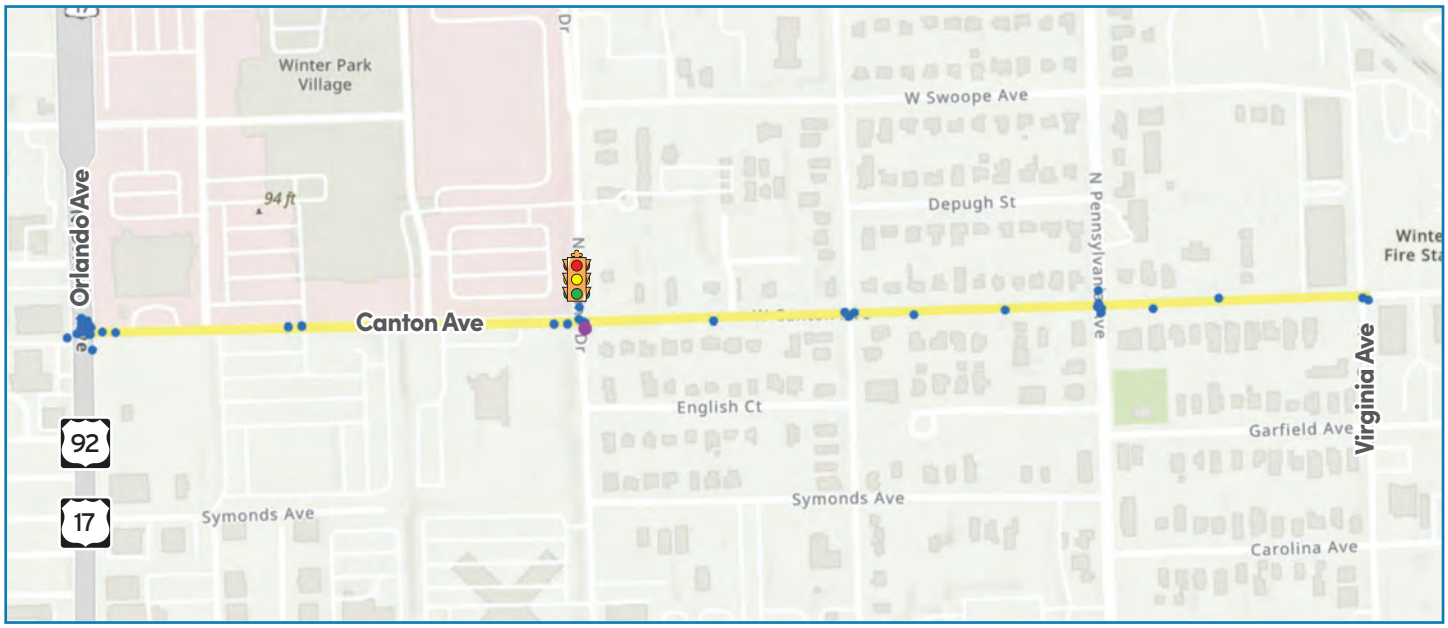
LIGHTED
KSI — 0
Non-KSI — 8
TOTAL — 8

NON-LIGHTED
KSI — 0
Non-KSI — 0
TOTAL — 0

BEHAVIORAL FACTORS

IMPAIRED DRIVING
KSI — 0
Non-KSI — 0
TOTAL — 0

DISTRACTED DRIVING
KSI — 1
Non-KSI — 28
TOTAL — 29



LEGEND

N

- HIN Corridor
- Bus Stop
- Traffic Signal

Crashes by Mode

- Pedestrian
- Bicycle
- Motorcycle
- Motor Vehicle

HIGH INJURY NETWORK (HIN) FACTS

JURISDICTION
WINTER PARK

FUNCTIONAL CLASSIFICATION
URBAN LOCAL

CONTEXT CLASSIFICATION
SUBURBAN COMMERCIAL (C3C)

CORRIDOR LENGTH
0.63 MILES

AVERAGE POSTED SPEED
25 MPH

AVERAGE PREVAILING SPEED
NO DATA

% OF CORRIDOR IN TRANSPORTATION DISADVANTAGED AREA
62%

TRANSIT ROUTES /ANNUAL BOARDINGS & ALIGHTINGS (2022)
NONE

TRAVEL LANES / MEDIAN TYPE
2 LANES / PAVED (NOT TWLTL)

Note: Not for construction purposes. All projects will require more detailed planning, engineering and community engagement.

PROPOSED SAFETY COUNTERMEASURES

SIGNALS
- Install retroreflective back plates at Denning Drive ($)
- Prohibit turns when pedestrian signal is activated ($)

INTERSECTION AND ROADWAYS
- Feasibility study to assess impacts of prohibiting left turns from Canton Avenue onto Orlando Avenue ($)
- Evaluate converting 4-way stop controlled intersections to roundabouts ($$$)
- Install raised crosswalks at midblock locations ($$)

PEDESTRIAN/BICYCLE FACILITIES AND SPEED MANAGEMENT
- Install high visibility midblock crosswalks with rectangular rapid flashing beacons (as warranted) advanced warning signs and yield markings ($$$)
- Add "Bicycle May use Full Road" signage ($)

OTHER ENGINEERING STRATEGIES
- Lighting upgrades at segments and intersections ($$)

SIGNING AND STRIPING
- Clear stop sign obstructions/foilage ($)