

Sheldon Road

Hillsborough Ave to Waters Ave

Hillsborough MPO
Hillsborough County

Technical Memorandum

Draft November 2020



VISIONZERO

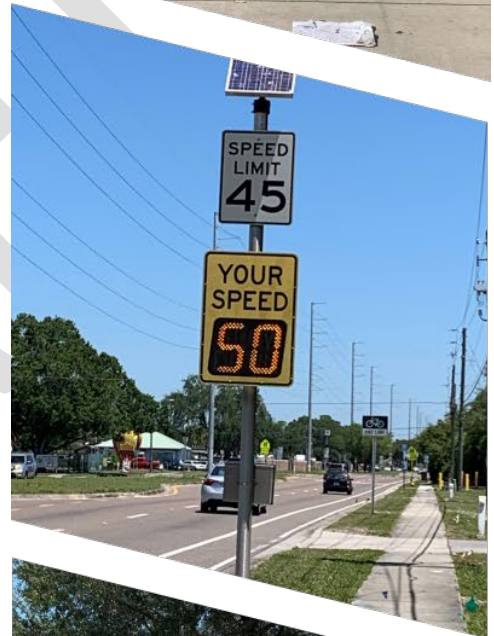
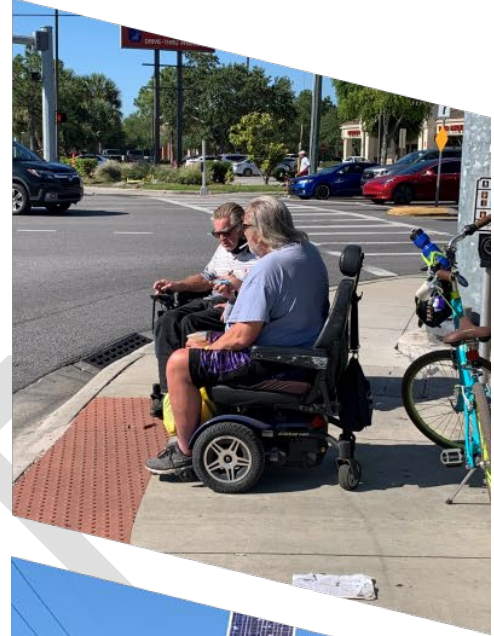
SHELDON ROAD CORRIDOR

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Sheldon Road

Hillsborough Ave to Waters Ave

Existing Conditions

Existing Conditions

Corridor Description

Sheldon Road from W. Waters Avenue to W. Hillsborough Avenue is a Hillsborough County road of approximately 2.06 miles in length. Sheldon road is predominantly a 5-lane section (two travel lanes in each direction with center left turn lanes) with auxiliary lanes (additional right and left turn lanes) at the major gateway intersections with Waters Ave and with Hillsborough Avenue. There is a total of 27 street intersections within the two-mile segment. There are only three traffic signal-controlled intersections plus the Town 'N Country Greenway Trail crossing. Sheldon Road serves approximately 29,500 AADT and has a posted speed limit of 45MPH.

This segment does have a functional classification of "Arterial" with a possible Context Classification of a C3R or a C4. Hillsborough County is still in the process of developing context classifications. The context classification is important to finalize as it will have direct effects on pre-requisite design parameters on the corridor including posted speed limits and geometric features.

HART has a couple of transit routes serving the corridor directly with others crossing Sheldon on either Waters Avenue or on Hillsborough Avenue. The PSTA North County Connector Zone also covers the entire length of the Sheldon corridor and connects to the Northwest Transfer Center /Park-n-Ride Lot on the northwest corner of Sheldon and Waters Avenue. HART also has a HART Flex Zone serving this area of Town 'N Country. In total, there are approximately 24 bus stops along Sheldon Road. Most stops in this segment consist of a bus stop sign and a bench. Shelters do exist at a few locations, but not the norm. It should be noted that no "marked" pedestrian crossings exist at the majority of these bus stop locations. There are actually only four locations (3 intersections plus the trail crossing) where pedestrian marked crossings exist. While an un-marked crossing is still a legal crossing, most drivers rarely yield to a pedestrian under these conditions, posing a threat to vulnerable users.

Land use along Sheldon Road is a robust mixture of dense residential (single and multi-family) neighborhoods with direct access onto Sheldon Road. There is also a significant array of commercial businesses sprinkled throughout the corridor including major services at both gateway intersections. There is also an increasing amount of office and medical uses, a notable number of places of worship and schools. Some minor redevelopment is occurring providing for more commercial/office space along the corridor.

The Hillsborough MPO has identified several locations along the Sheldon Corridor as Communities of Concern per Title VI requirements. Communities of Concern measure more than one standard deviation above the county's median in two or more characteristics: low income, disability, youth, elderly, limited English proficiency, minorities, and carless households. Extreme poverty is if 85% or more of households have an annual household income of \$37,000 or less. These areas are predominantly located around the gateway intersections of Hillsborough Avenue and Water Avenue. There are areas with 2, 5 and extreme poverty characteristics along this corridor. Careful consideration should be given to the corridor based on these community's access and mobility needs.



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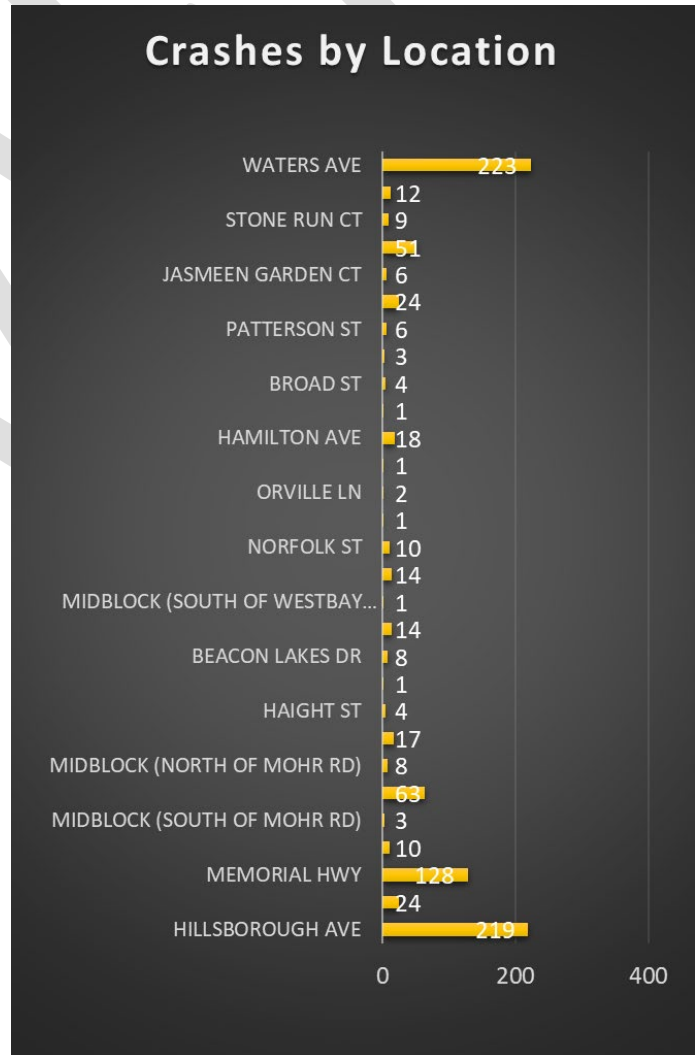
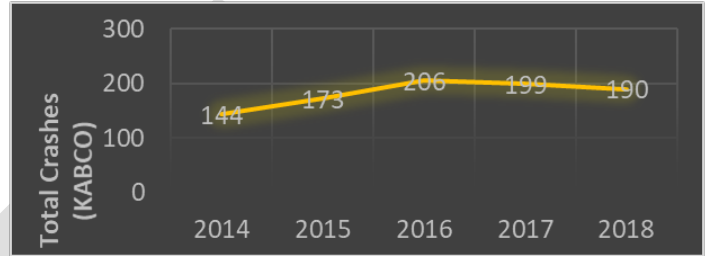
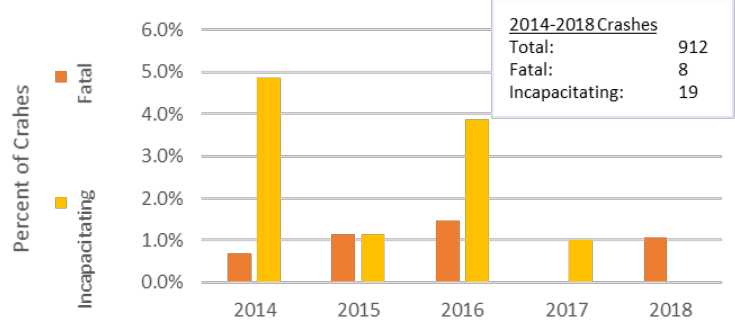
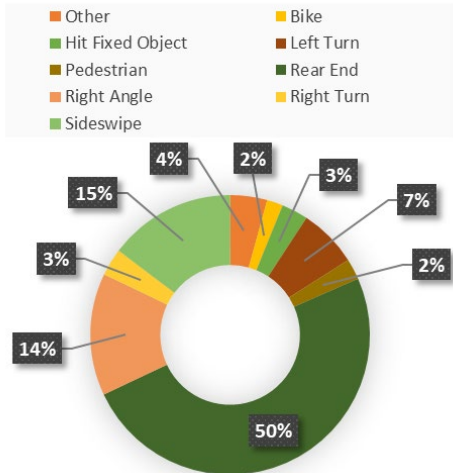
SHELDON ROAD CORRIDOR

Crash Statistics and Analysis

To be consistent with the Hillsborough MPO Speed Management Action Plan crash trend assessment, crash data from January 2014 through December 2018 was obtained from the Crash Data Management System (CDMS) for the Sheldon road corridor. The data was downloaded and scrubbed for: correct location, proximity to corridor limits, and correct street names.

Crash occurrences and location changes are expected from year to year. Based on the data, 912 crashes were recorded along Sheldon Road and its intersections during this time period. A total of eight (8) fatalities and 19 incapacitating injuries were reported. The KABCO Injury Scale is frequently used by law enforcement for classifying injuries and also can be used for establishing crash costs (K-Fata; A-Incapacitating; B-No incapacitating injury; C-Possible injury; and O-No injury.) The reported KABCO 5-year rolling average is 183 for the corridor.

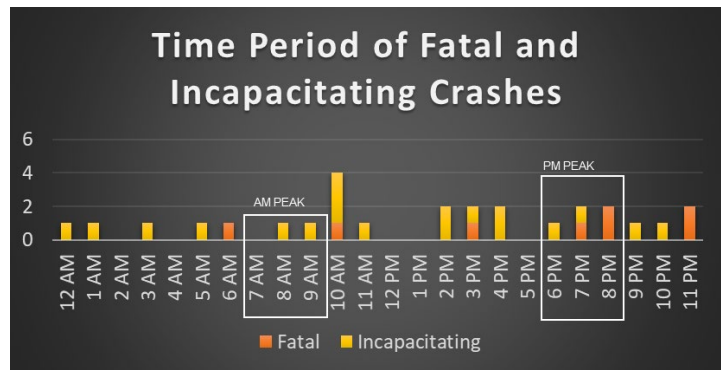
As anticipated, a significant amount of crashes has occurred at the two gateway intersections of Waters Avenue and at the Hillsborough Avenue (48%). However, the majority have occurred at the various midblock and intersections along the corridor. The chart to the right shows the number of total crashes that have occurred at each of the side street intersections and between intersections.



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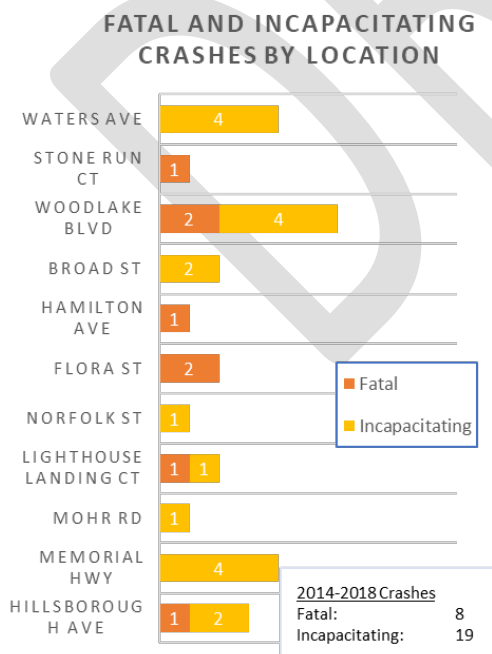
SHELDON ROAD CORRIDOR

Per Vision Zero principles, focusing on fatalities and serious injuries is the only way to save lives, not property. A deeper dive was taken to determine the Fatal and Serious Injury crash trends occurring along Sheldon Road. Of the eight (8) Fatalities and 19 Serious Injuries, 74% occurred during non-peak hours. As the graph shows, the most serious of all crashes are occurring when volumes are lower, there is less congestion, and when the physical capacity of the street is abundant leading to higher speeds. A third of these serious crashes also occurred during non-daylight hours, where street lighting does not exist on this corridor.

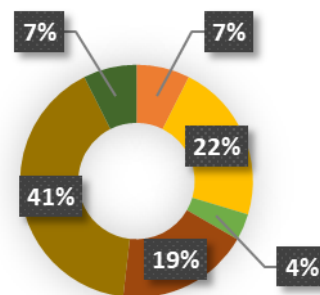


Another notable trend is where the Fatal and Serious Injury crashes are occurring. First, while 48th of total crashes have occurred at the gateway intersections, only 26% of the Fatal and Serious Injury crashes occurred at these locations. In fact, 74% of the Fatal and Serious Injury crashes occurred at side street intersections shown below. Special notice of the Woodlake Blvd intersection with 22% of the serious crashes. both the Woodlake Boulevard intersection and the Flora Street intersection have had more fatalities than the major gateway intersections with significant volume differentials.

When we looked at contributing factors for the Fatal and Serious Injuries, 60% of the crashes had contributing factors such as: Failure to Yield Right-of-Way, followed too Closely, Operated MV in Careless or Erratic manner, Ran a Red Light. These are clear driver behavior patterns related to aggressive driving.



- Failed to Keep in Proper Lane
- Failed to Yield Right-of-Way
- Followed too Closely
- Operated MV in Careless or Erratic Manner
- Other Contributing Actions



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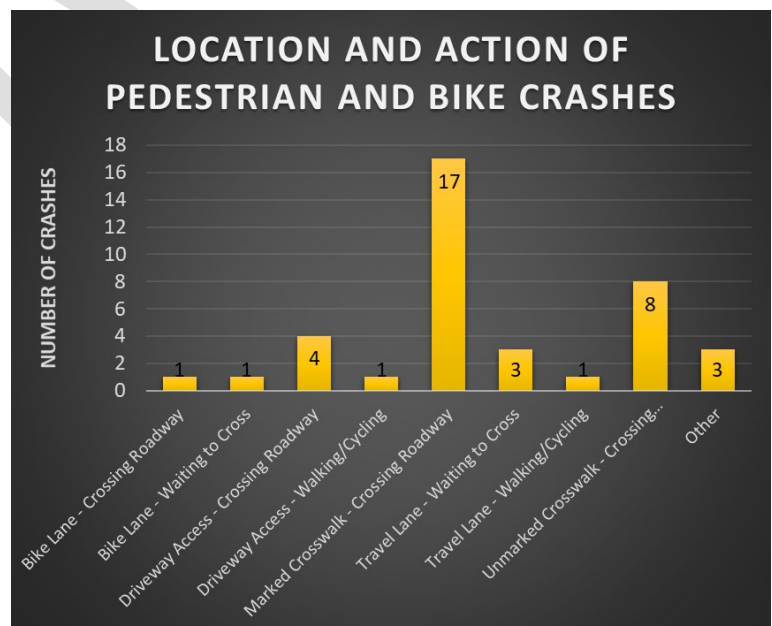
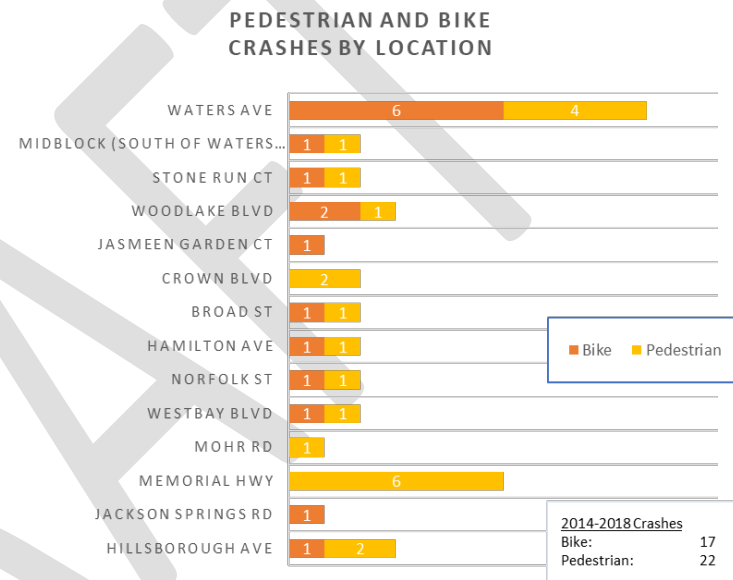
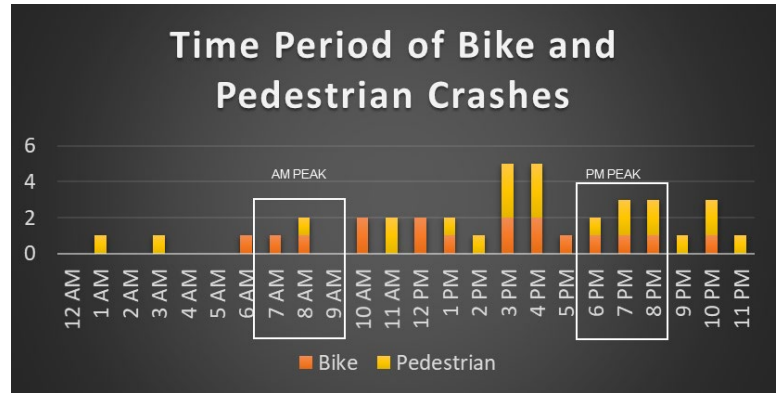
SHELDON ROAD CORRIDOR

The assessment also looked at vulnerable user crash trends in the corridor. Similar to corridor wide trends, 72% of all pedestrian and bicycle crashes occur during off-peak periods. Approximately 21% of the pedestrian and bicycle crashes occurred during night conditions. In terms of where the crashes are occurring, surprisingly, 26% of the crashes occurred at the Waters Avenue intersection with the remaining pretty well distributed at all the other side street intersections in the corridor.

Of the total pedestrian and bicycle crashes, the interesting part of the evaluation was identifying where the vulnerable users were when the collision occurred. Contrary to initial speculation based on the physical nature of the corridor, 64% of pedestrians or bicyclist involved in the total 39 crashes were actually in a legal crosswalk. Seventeen were in a marked crosswalk and eight were in “unmarked” crosswalk location. In fact, only four crashes occurred where either a pedestrian or bicyclist was in the travel lane (motorized path).

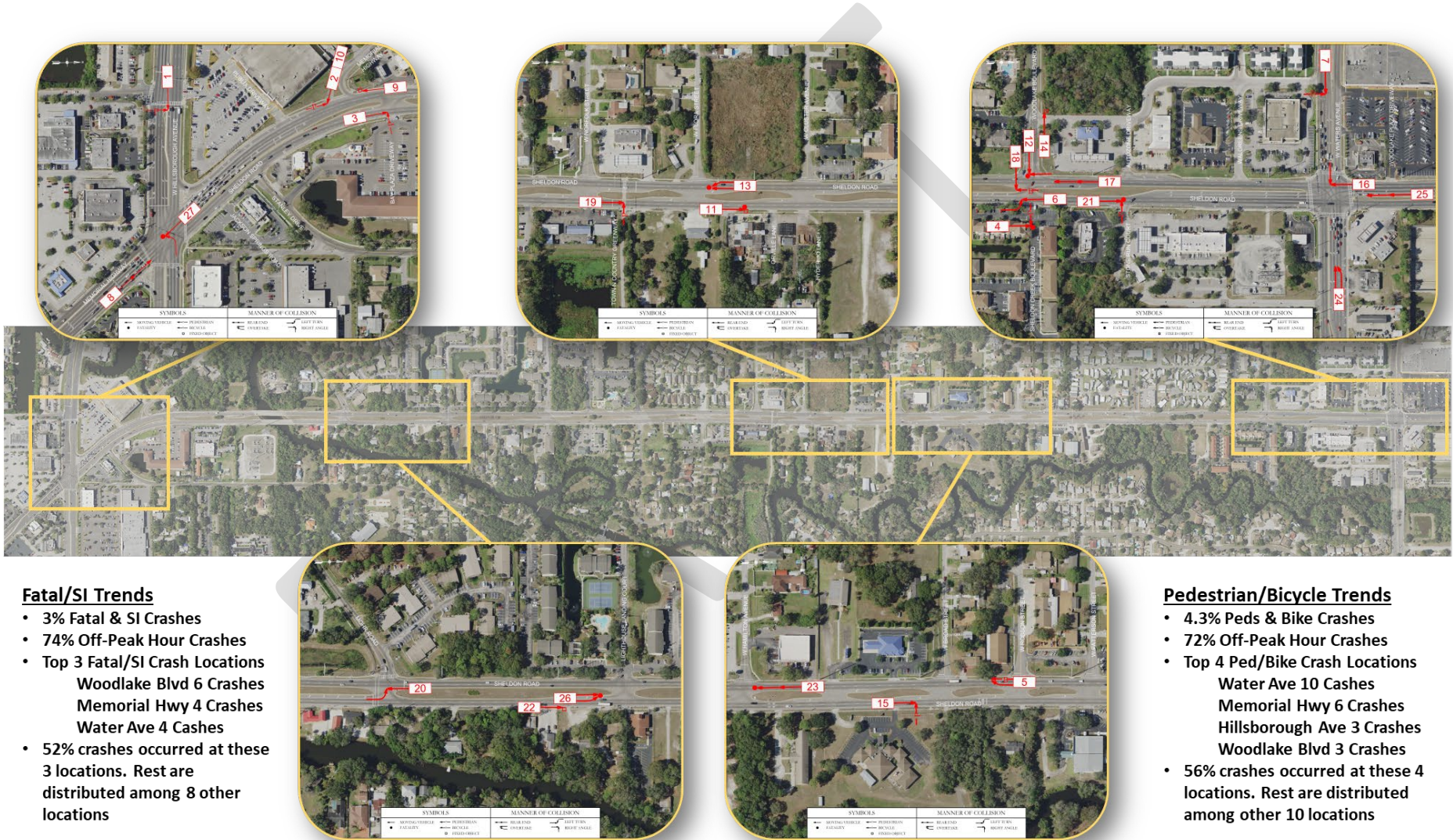
This is of notable concern for this corridor. Sheldon Road has 28 intersections, with only marked crossings at four (14%) locations including the signalized intersections and trail crossing. Having the preponderance of the vulnerable user crashes occurring at these legal crossings begs for an aggressive education campaign for motorists on this corridor. This is symptomatic of motorists not yielding to vulnerable users or not seeing them in advance of a collision.

The next page shows Fatal and Serious Injury collision diagrams along the corridor. The collision diagrams show location, direction, crash type and severity of the crash.



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SHELDON ROAD CORRIDOR



Fatal/SI Trends

- 3% Fatal & SI Crashes
- 74% Off-Peak Hour Crashes
- Top 3 Fatal/SI Crash Locations
Woodlake Blvd 6 Crashes
Memorial Hwy 4 Crashes
Water Ave 4 Crashes
- 52% crashes occurred at these 3 locations. Rest are distributed among 8 other locations

Pedestrian/Bicycle Trends

- 4.3% Peds & Bike Crashes
- 72% Off-Peak Hour Crashes
- Top 4 Ped/Bike Crash Locations
Water Ave 10 Crashes
Memorial Hwy 6 Crashes
Hillsborough Ave 3 Crashes
Woodlake Blvd 3 Crashes
- 56% crashes occurred at these 4 locations. Rest are distributed among other 10 locations

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SHELDON ROAD CORRIDOR

Field Review and Observations

A handlebar (bicycle) corridor survey was completed on Saturday, May 1, 2020. As COVID-19 has altered travel volumes and patterns, the observations made are intended to document infrastructure and experiential pedestrian and bicycle observations along the corridor. A full field review report is attached to this technical report. Observations and pictures were taken at most of the major intersections in the corridor, other minor side streets had similar geometric features and challenges. The following are major observations throughout the corridor were noted:

- Speed – vehicular movement in the corridor was fast, even with the lower volumes due to COVID-19, causing notable noise pollution. Speed radar feedback signs are present and excessive speeding above the posted limit was observed.
- Street lighting – is available only at the signalized intersections. This is a concern for visibility and security at all intersections and especially at bus stop locations.
- Sidewalks – 4-foot in width on west side of Sheldon (typical), which is too narrow.
- Pedestrian Crossings – typically un-marked at all minor intersections. There are no painted crosswalks on Sheldon Rd with exception at signal-controlled intersections.
- Median – wide center medians with no provision for pedestrians crossing, mostly no trees for traffic calming.
- Bike lanes - 5-foot in width including the drainage gutter pan. This width is substandard per current guidelines.
- School Zone –reduced speed zone is too short and there are no pedestrian crossings in the school zone.
- Trail Head – traffic signal timing and pedestrian detection adjustments needed.
- Street trees – de void of any comfort or shade for pedestrian traffic or for traffic calming purposes.
- Waters Ave Intersection – concerns noted with vehicular conflicts and crossing pedestrians.
- Hillsborough Ave Intersection – concerns noted on accessibility for vulnerable users.
- Geometric features: Wide turning radius, non-compliant ADA ramps;
- Transit Stops – concerns with ADA compliance, no facilities or amenities or crossings
- Maintenance – several areas of dis-repair were noted either related to the surface condition of the sidewalk, overgrown shrubs and trees restricting the pedestrian paths, or drainage issues.



DRIVE
SAFELY
IN MEMORY OF
JOHN A. EYES

Sheldon Road

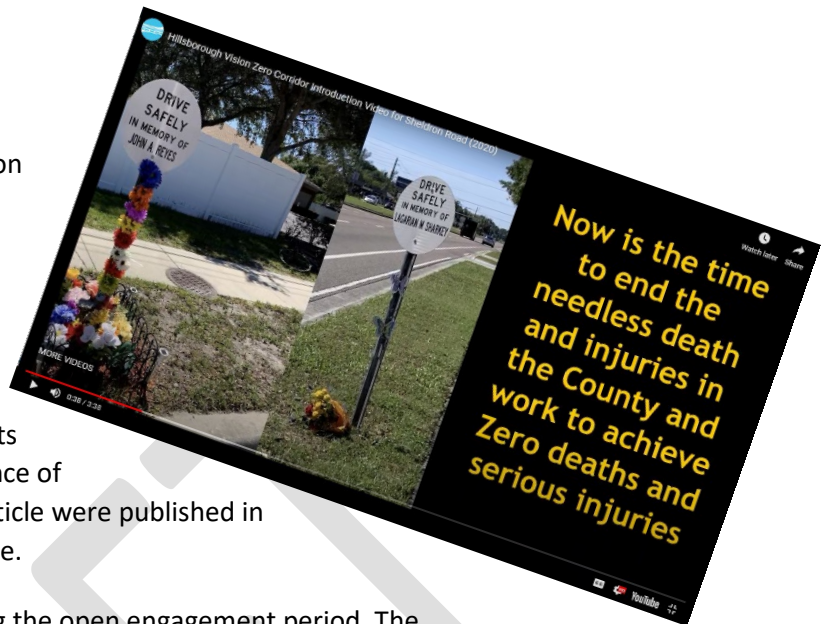
Hillsborough Ave to Waters Ave

Community Engagement

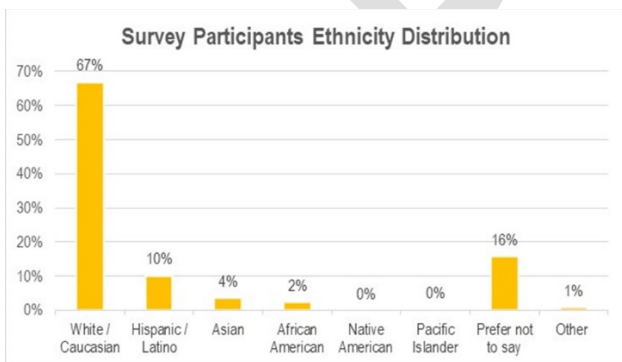
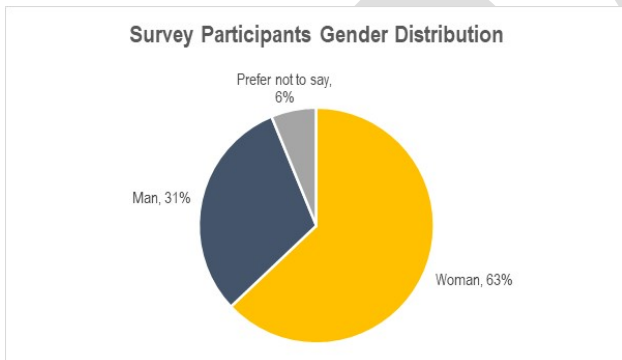
Community Engagement

The community engagement process for the Sheldon Road corridor consisted of the preparation of flyer, video of crash trends, survey targeting users in the corridor. Each of the documents were posted on the Hillsborough MPO's Vision Zero Corridor Studies website at

planhillsborough.org/VZcorridors. Information on the study was circulated by the MPO via email blasts and social media to draw attention to the importance of providing feedback. In addition, the flyer and an article were published in the Westchase community monthly WOW magazine.



In total, 395 survey responses were received during the open engagement period. The following graphics show some of the demographics related to the respondents and the feedback received to each of the questions on the survey. In summary, users of Sheldon Road do not feel safe walking, riding a bike with major concerns noted related to speeding, reckless driving, dangerous behaviors, and physical road concerns. The detailed response is provided in the Appendix.



Do you feel safe on Sheldon Road?

This road has so many fatal crashes that it is considered part of the High Injury Network in Hillsborough County. Over 900 crashes were reported along Sheldon Road from 2014 to 2018, resulting in 8 fatalities and 19 serious injuries.

Vision Zero is based on the belief that traffic deaths and injuries are preventable – that these are not “accidents,” but the result of poor behaviors combined with unforgiving roadway designs. Sheldon Road, from Waters Avenue to Hillsborough Avenue, is one of the Vision Zero Corridors being studied for safety quick fixes with the goal of recommending short-term and immediately implementable countermeasures.

Hillsborough MPO
Metropolitan Planning
for Transportation

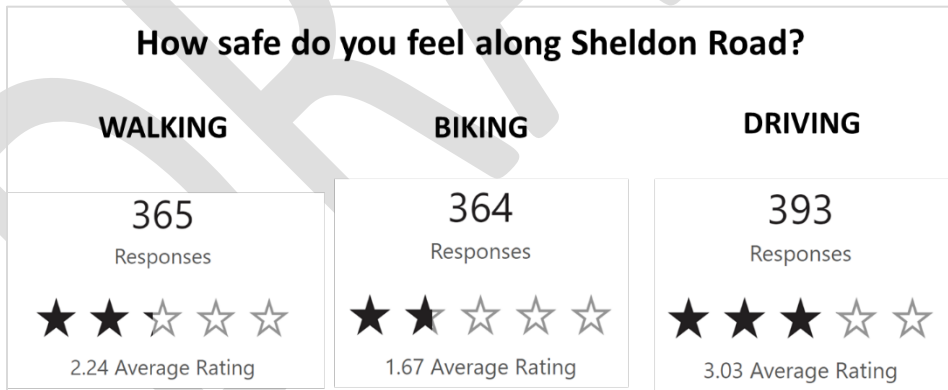
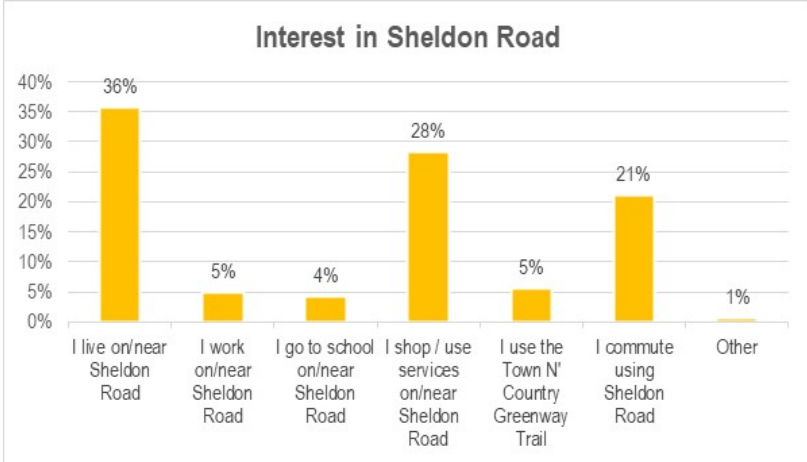
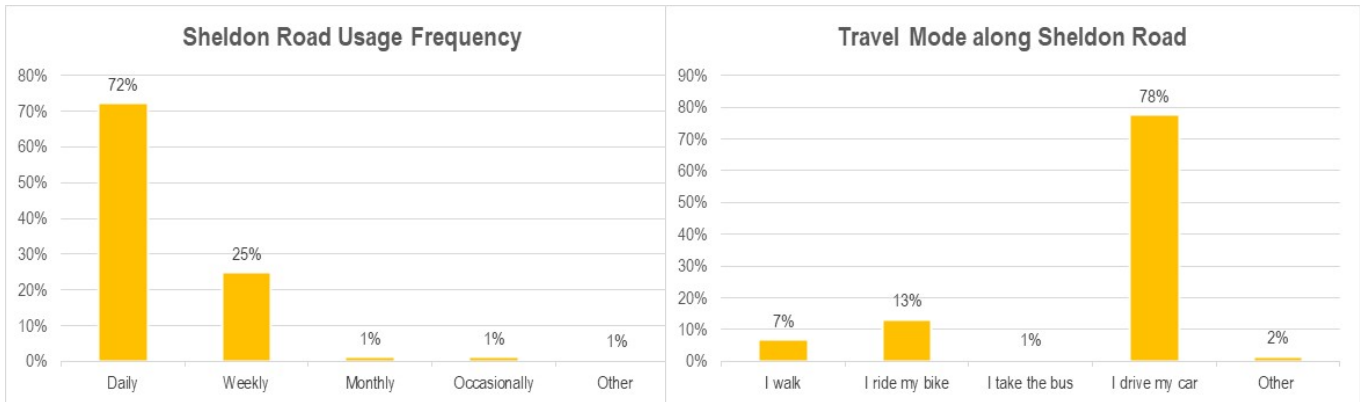
VISIONZERO
ONE TRAFFIC DEATH IS TOO MANY

Please take a few minutes to fill out a quick survey at planhillsborough.org/VZcorridors to tell us the issues that are important to you, as we continue to improve safety on Sheldon Road as part of our Vision Zero mission.

If you have questions, or would like to submit your responses by phone, please contact Lisa Silva at (813) 273-3774 ext 329 or silval@plancom.org

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SHELDON ROAD CORRIDOR



Sheldon Road

Hillsborough Ave to Waters Ave

Recommendations for Consideration

Recommendations for Consideration

This section outlines various countermeasures recommended along Sheldon Road corridor to address crash trends, field review of physical and operational conditions in the corridor, and community feedback. Some of these recommendations are considered Short Term which may be accomplished within the next 1-2 years, others are considered Mid Term, within the next 2-5 years, that may require further assessment, design, and funding allocations. It is imperative to note that Sheldon Road is on the Top 20 deadliest corridors in Hillsborough County, hence, the urgency in the application of as many of these countermeasures is high, as lives are at stake each and every day. The table below outlines the recommendations for consideration, their anticipated time frame and how they relate to the provision of Safe People, Safe Streets and Safe Operations per the approved Hillsborough MPO Speed Management Action Plan.

HC Vision Zero Corridors - Sheldon Road			
Recommended Countermeasures			
Safe People		Safe Streets	Safe Operations
Short Term (1-2 years)			
High visibility crossings on all legs of intersections	Refuge islands (paint/bollards) at all new crossings	Additional Radar Feedback Signs (overhead mounting)	
Additional crossing locations at HART bus stops w/ RRFB's or PHB's	Advanced stop bar at signal or crossing	Town n'Country Greenway - modify signal timing	
Wider bicycles lanes	Harden center lines (paint)	Automatic Ped-recall at Waters (parallel phases to be displayed)	
Shade trees near HART bus stops	Shade trees in median for traffic calming	LPI's at all signal controlled intersections	
Pedestrian crossing w/RRFB/PHB at Patterson St (School Zone)	Reduce corner radii (paint/bollards) on side streets	APS at all signals and RRFB's	
Enhance trail connection to Upper Tampa Bay trail (wider bike lane, wayfinding)	Memorial Hwy/Gas Station - restrict opening to Left turns only	Lighting at all crossings /intersections	
Lighting at all crossings /intersections	Lighting at all crossings /intersections	Target Speed = 35MPH	
Bike Lane - Waters Avenue	Target Speed = 35MPH	Maintenance (drainage, signs, condition, landscaping)	
Educational PSA's	Extend and Update School Zone		
Mid Term (2-5 yrs)			
Wider sidewalks (8' preferred)	Reconstruct ADA ramps	Automated Red Light Cameras	
Wider protected/buffered Bike Lanes (reduce median)	Reduce corner radii at all side streets		
HART bus shelters at stops	Permanent hardening of center lines		
Gateway features			
New Traffic Signals:			
- Woodlake Blvd - 5 Fatal crashes			
- Hamilton Ave			
- Patterson St			

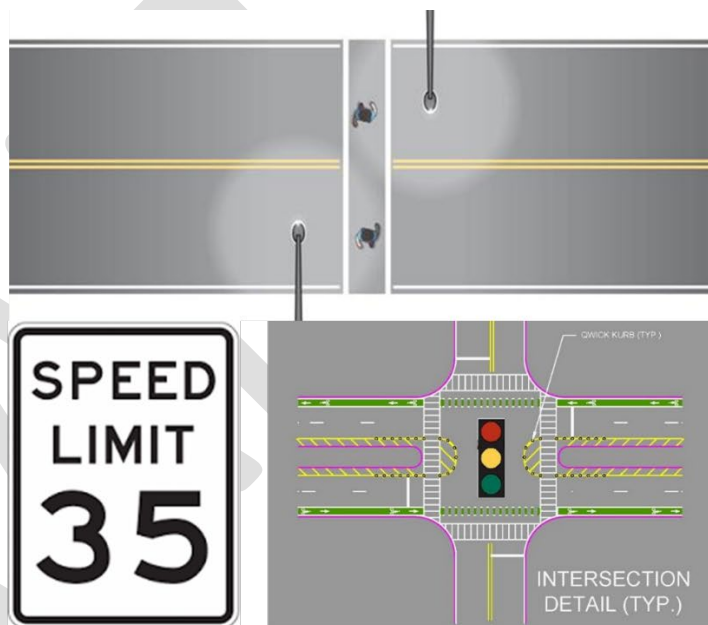
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SHELDON ROAD CORRIDOR

The next step in the process was to conceptually identify how to apply these countermeasures to the corridor. Concept plans were developed for the entire two-mile segment of Sheldon Road and provided in the Appendix. The following will highlight various treatments along the corridor. There are several of the recommendations on the general table above that should be applied systemically along the entire corridor, regardless of the number of serious injury crashes that have occurred. Systemic improvements are proven and tried countermeasures that not just address crash types, but more importantly are considered preventative measures to reduce the occurrence of serious injury crashes. These countermeasures are also normally considered tools used to calm traffic within a corridor. By calming traffic, you manage speed along a given corridor. These measures also tend to create self-enforcing streets that provide more positive guidance to all users including automatically calming traffic without the use of police enforcement.

Systemic Improvements

- High Visibility Crossings
- Curb Radius Reduction
- Bike Lanes (5-6 feet width)
- Traffic Lanes (10 feet width)
- Green Bike Lane Conflict Zone Markings
- Pedestrian / Street Lighting
- ADA Compliance
- Transit Stop Enhancements (shelter, lighting, shade)
- Target Speed = 35MPH



In terms of the Target Speed recommendation, it is important to refer to the MPO Speed Management Action Plan recommendations on the importance of evaluating speed limits in areas of growth and increased land use changes. Sheldon Road corridor is a perfect example that is classified as a C-3 Suburban Residential/Commercial corridor according to the States Context Classification with a posted speed limit of 45MPH. However, national best practices including ITE/CNU recommends speeds in the range of 25-35MPH maximum in this classification in order to acknowledge of mixed users in such a district and the need to keep travel speeds at reasonable levels to minimize serious injury crashes. This is based on the premise that the higher the speeds, the higher the exposure and risk of death. Since this study has been completed during COVID-19, actual travel speeds in the corridor have not been measured. It is important to obtain actual travel speeds in the corridor in order to establish the appropriate levels of speed management in the corridor.



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The following examples highlight how to apply various countermeasures along the corridor. See Appendix for concept level plans for the entire corridor. These concepts are for illustration purposes only and still need to be further vetted with Hillsborough County.

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Sheldon Road

Recommendation Summary

MATCH LINE - SEE DWG. NO. CP-02 (A-A) | MATCH LINE - SEE DWG. NO. CP-04 (B-B)

Sheldon Road	Mohr Road	Lighthouse Landing Ct
	<ul style="list-style-type: none"> • 3-Crossings at Mohr Rd • Ped Crossing Warning Signs • Traffic Signal Ahead • Narrowing of Median Opening 	<ul style="list-style-type: none"> • NEW Midblock Crossing • RRFB's and Advanced Signs • Narrowing of Median Opening

VISIONZERO
Sheldon Road

Recommendation Summary

MATCH LINE - SEE DWG. NO. CP-04 (A-A) | MATCH LINE - SEE DWG. NO. CP-06 (A-A)

Sheldon Road Norfolk St – Hamilton Ave Segment	General	Town N Country Greenway Trail
	<ul style="list-style-type: none"> • Traffic Calming Trees in Median • Narrowing of Median Openings • Speed Radar Feedback Signs 	<ul style="list-style-type: none"> • Modify Trail Signal Phase Timing • Trail Connectivity Directional Signs • Advancing Trail Crossing Signs

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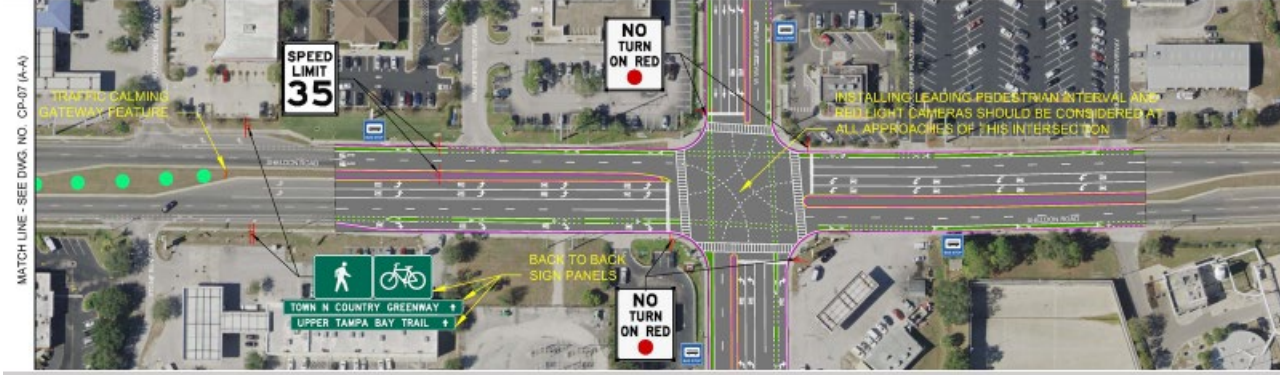
SHELDON ROAD CORRIDOR

VISIONZERO Sheldon Road Recommendation Summary



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|---|---|---|
| <p>Sheldon Road
Crown Blvd – Woodlake Blvd Segment</p> | <p>Crown Blvd</p> <ul style="list-style-type: none"> NEW Traffic Signal w/LPI's Narrowing of Median Openings Speed Radar Feedback Signs End Extended School Zone | <p>Woodlake Blvd</p> <ul style="list-style-type: none"> NEW Traffic Signal w/ LPI's Yield to Pedestrian Signs Traffic Calming Trees in Median |
|---|---|---|

VISIONZERO Sheldon Road Recommendation Summary



- | | | |
|--|---|--|
| <p>Sheldon Road
Watters Avenue Intersection</p> | <p>General</p> <ul style="list-style-type: none"> Leading Pedestrian Interval Speed Limit Signs Trail Connectivity Directional Signs No Turn On Red Signs Waters Ave Westbound Bike Lane Bike Lane Conflict Zone Markings Traffic Calming Trees in Median | |
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Sheldon Road

Hillsborough Ave to Waters Ave

Hillsborough MPO
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APPENDIX

Draft November 2020



APPENDIX

- Field Review Document
- Fatal and Serious Injury Collision Diagrams
- Survey Responses
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