SPEED MANAGEMENT PROJECT SUMMARY



Introduction

In 2018, the Palm Beach Transportation Planning Agency (TPA) adopted a Vision Zero goal to eliminate traffic-related fatalities and serious injuries. High vehicle speeds are often a root cause for fatal and life altering crashes, particularly for those at greater risk on the road such as pedestrians and bicyclists. Reducing speeds, even by a few miles per hour, is proven to save lives and reduce the severity of injuries.

This study takes a proactive approach to speed management and identifies preliminary Target Speeds for roadways in Palm Beach County. Target Speed is the highest speed at which vehicles should travel, consistent with the level of multi-modal activity generated by adjacent land uses. The preliminary Target Speed serves as a starting point for conversations regarding segment specific speed management and safety countermeasures. The Speed Management Technical Report and supporting documents are provided in Appendix A.

Why does speed matter?

WHEN A PERSON IS HIT BY A DRIVER, THEIR CHANCE OF SURVIVAL DEPENDS ON SPEED.



CHANCE OF SURVIVAL



CHANCE OF SURVIVAL



CHANCE OF SURVIVAL

Palm Beach County Fatal and Serious Injury Crashes

From 2019 through 2023, a total of 935 fatal crashes and 3,541 serious injury crashes occurred in Palm Beach County. Pedestrians and bicyclists are at much greater risk of a fatal or serious crash outcome. One in five (20.9%) pedestrian crashes resulted in a fatality or serious injury, and one in eight (12.3%) bicyclist crashes resulted in a fatality or serious injury. Compared to vehicle crashes, one in fifty-nine (1.7%) resulted in a fatality or serious injury. Pedestrians and bicyclists are at much greater risk than vehicles to have a serious or fatal crash outcome, and speed is a major contributing factor.







Context Sensitive Design and Target Speed

In 2018, the Florida Department of Transportation (FDOT) published the Florida Design Manual (FDM) that incorporated context-based design criteria. A roadway's use and purpose depends on the surrounding land uses. For state roadways, the Context Classification defines the design criteria, including the allowable design speed range, lane width, and speed management features, amongst other criteria. FDOT has eight Context Classifications ranging from C1-Natural to C6-Urban Core, which are depicted in the image below and were used for the Target Speed analysis.





Target Speed

Highest speed vehicles should operate to provide a supportive environment for all users.

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Design Speed Selected speed to determine geometric design criteria.



Posted Speed

Established based on the Florida Speed Zoning Manual. Generally associated with the 85th percentile speed.



Operating Speed Speed that vehicles travel during free flow conditions.

Why Target Speed?

Speed is a major contributing cause to fatal and serious injury crashes. Determining the appropriate speed for a road considering non-motorist activity and adjacent land uses allows for prioritization and countermeasure identification. Identifying and achieving the Target Speed impacts fatal and severe crashes.

Target Speed Methodology & Assignments

The Palm Beach TPA Target Speed Methodology used a data-driven, points-based approach to assign a preliminary Target Speed to the roadway network. The flowchart below depicts the data used to determine the Target Speed. The detailed methodology is in **Appendix A**.

Methodology Inputs



Key Takeways

The Target Speed methodology was applied to the study network. The figure on the following page depicts the preliminary Target Speeds. The preliminary Target Speed intent is to identify locations where the current operating and posted speed are not consistent with the multimodal context to safely operate for all roadway users. Final Target Speeds will need to be determined through collaboration with the roadway owners.

Roadways in more urbanized areas generally have Target Speeds of 30 mph or less due to higher non-motorist activity and transit ridership. Generally, the 6-lane facilities require further evaluation with an emphasis on separating roadway users.

Definitions

- 1. <u>Non-Motorist Activity</u>: Using Replica data, the non-motorist traffic was divided into three categories based on percentile: high, moderate, and low. Higher nonmotorist activity resulted in lower Target Speed assignments.
- 2. Level of Traffic Stress (LTS): Reflects how comfortable a street is for bicyclists and pedestrians. A higher LTS score (more stressful roadway) resulted in lower Target Speeds.
- 3. <u>Transit Ridership</u>: High transit ridership suggests high levels of pedestrian and bicycle activity in addition to those users needing to cross the street. Roadway with high transit activity have lower Target Speeds.
- 4. <u>Number of Lanes by Context Classification</u>: Points were assigned understanding larger facilities are inherently designed to provide mobility which often corresponds with higher speeds.
- 5. High Injury Network: Roadways in the TPA's High Injury Network were assigned the lowest end of the Target Speed Range.



Preliminary Target Speed Assignments



Miles

Speed Management Corridor Prioritization

Ten (10) priority speed management corridors were identified from the HIN using the preliminary Target Speed points, comparative speed analysis, and the TPA's Historically Disadvantaged Communities. The priority speed management corridors reflect multiple contexts (C3C, C3R, and C4) and geometric conditions (2-lane undivided to 6-lane divided) throughout Palm Beach County. The process chart below depicts the data used to identify the priority speed management corridors.

Corridor Prioritization Inputs



Key Takeaways

The identified corridors provide an opportunity to work with local partners and identify potential funding to program and implement countermeasures to reduce fatal and serious injury crashes. The priority speed management corridors are distributed throughout Palm Beach County on a variety of facilities. For five priority corridors, the following pages identify potential countermeasures to achieve the Target Speed. Each page depicts a spot location with potential countermeasures identified, which could be applied to the larger segment.

Definitions

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- 1. <u>Target Speed Points</u>: Segments with a greater number of Target Speed points were prioritized, with a minimum of 5 points required to be on the priority corridor list.
- 2. Historically Disadvantage Community: Disadvantaged communities may be more likely to walk and bicycle, segments within those areas were prioritized.
- 3. <u>Comparative Speed Analysis</u>: Segments where the 85th percentile speed exceeded the operating speed were prioritized.
- 4. Roadway Characteristics: Consideration were given to include a variety of roadway typical sections in C3R, C3C, and C4 context classifications.



Priority Speed Management Corridors





President Barack Obama Highway

The current typical is five-lanes undivided with a two-way left-turn lane. The existing space provides opportunity to narrow lanes, install a median, and protected bicycle lanes. These improvements could be completed in a resurfacing project.



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Lake Ida Road/NE 4 Street

The current typical section is four 12-foot lanes. To provide bicycle lanes, the lane widths would need to be narrowed along with the median. These improvements would likely require a reconstruction.



Evaluate midblock crosswalk



Evaluate raised intersection



Automated speed enforcement in school zones



Narrow travel lanes and median -







Forest Hill Boulevard

Forest Hill Boulevard is six-lanes divided. The depicted countermeasures include both geometric and operational countermeasures, such as leading pedestrian interval (LPI) or reduced cycle lengths. Through narrowing lanes, space is available for a protected bicycle lane. The improvements could likely be completed in a resurfacing project.



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Canal Street

Currently, no bicycle or pedestrian facilities are present along Canal Street. The countermeasures provide bicycle and pedestrian facilities along with provided centerline rumble strips to reduce head-on crashes for the two-lane undivided roadway. Depending on drainage constraints, these improvements could be completed in a resurfacing or may require a reconstruction.





Dr. Martin Luther King Boulevard East

The current typical section is four lanes undivided. This segment is on the TPA's Candidate Lane Repurposing list. By modifying the typical section, protected bicycle lanes and on-street parking could be installed. The improvements could likely be included in a resurfacing project.



Existing Typical Section

Potential Alternative

Conclusion

Vehicle speed is a major contributing cause to fatal and serious injury crashes in Palm Beach County, especially for bicyclists and pedestrians. Achieving the Palm Beach TPA's Vision Zero goal requires collaboration and participation from everyone. Drivers, pedestrians, bicyclists, transit users, transportation planners and engineers, law enforcement, and partner agencies all play a role in eliminating fatalities and serious injury crashes.

The Palm Beach TPA's Speed Management Study uses a data driven approach to assign preliminary Target Speeds to the roadway network. The Target Speed is the highest speed vehicles should operate to provide mobility for vehicles and a supportive environment for pedestrians, bicyclists, and transit users. Proactively identifying a Target Speed is consistent with the Safe Systems Approach and 5E's approach.

Using local, state, and national guidance and best practices, the analysis identified priority speed management corridors and potential countermeasures to implement the preliminary Target Speed. Implementing the preliminary Target Speed will require collaboration and input from partner agencies, and may require multiple projects.

The Speed Management Technical Report in **Appendix A** provides additional details regarding the analysis and methodology along with a Countermeasure Toolkit.



