

MEMORANDUM

TO: St. Lucie TPO Board

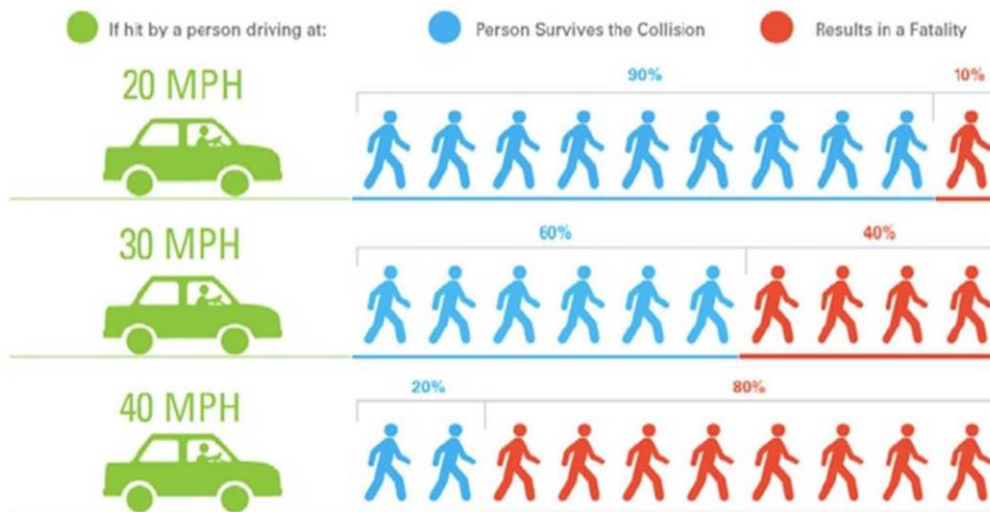
FROM: Yi Ding, Transportation Systems Manager
 and
 Peter Buchwald, Executive Director

DATE: November 23, 2021

SUBJECT: **Speed Kills Analysis**

BACKGROUND

According to the National Highway Traffic Safety Administration (NHTSA), one of the top reasons for traffic accidents and fatalities is driving too fast for the road conditions. High speeds make crashes more likely and increase the risk of fatal injuries at an alarming rate according to NHTSA. According to the U.S. Department of Transportation and as depicted in the following graphic, a pedestrian who is hit by a car moving at 20 miles per hour has a 90 percent chance of survival, while that person only has a 20 percent chance of survival if hit by a car moving at 40 miles per hour:



The St. Lucie TPO supports the national and Statewide “Vision Zero” efforts to eliminate all traffic fatalities and serious injuries on the transportation

network. Managing travel speeds is an effective strategy and a critical tenet of Vision Zero.

Therefore, Task 3.7, *Safety and Security Planning*, of the St. Lucie TPO FY 2020/21 – 2021/22 Unified Planning Work Program (UPWP) includes a Speed Kills Analysis to examine the link between vehicle speed and crash risk and severity on the roadway network in the TPO area.

ANALYSIS

For this analysis, the fatal crashes and the speed limits on the roadway network in the TPO area were reviewed to identify any consistencies. Crash data was obtained from the Signal Four Analytics database for the years 2011 through 2021.

The attached St. Lucie TPO Fatal Crash Fact Sheet and Maps summarize the findings and illustrate the distribution of the fatal crashes for vehicles, pedestrians, and bicyclists in the St. Lucie TPO area. In addition, vehicle and bicycle-pedestrian high crash locations are summarized as follows:

Vehicle High Crash Locations						
Street Name	From	To	Segment Length (miles)	Crash Number	Speed Limit (MPH)	State Highway System
U.S. Highway 1	Edward Rd	Dixieland Dr	0.74	7	40	Yes
U.S. Highway 1	Brazilian Cir	Prima Vista Blvd	0.8	6	45	Yes
Airoso Blvd	Lakehurst Dr	Prima Vista Blvd	0.66	5	40	No
Port St. Lucie Blvd	Cameo Blvd	Dalton Ave	0.89	5	45	No
St. Lucie West Blvd	Peacock Blvd	California Blvd	0.45	5	45	No

Bicycle-Pedestrian High Crash Locations						
Street Name	From	To	Segment Length (miles)	Crash Number	Speed Limit (MPH)	State Highway System
25th St	Ave G	Nebraska Ave	1.6	8	40	Yes
U.S. Highway 1	Tennessee Ave	Southland Dr	1.8	7	40	Yes

After examining the fatal crashes at the high crash locations, TPO staff did not find any consistencies between the crashes and the specific, identified causes of the crashes. The only consistency identified beyond the specific, identified causes is that these high crash locations are on roadways with posted speeds

of 40 miles per hour or higher. In fact, 75 percent of all fatal crashes in the TPO area occur on roadways with posted speeds of 40 miles per hour or higher.

Serious injuries and fatal crashes in the TPO area may be reduced most significantly on these roadways with high crash locations by reducing the speed limits, also known as setting “target speeds”, on these roadways. The Florida Department of Transportation (FDOT) is responsible for setting the target speeds on the roadways of the State Highway System, and the local jurisdictions are responsible for setting the target speeds on the local roadways.

To better support their Vision Zero efforts, FDOT now is implementing a “Safe Systems” approach to setting target speeds. Rather than expecting perfect behavior from drivers, pedestrians, and bicyclists, this approach recognizes that people will make mistakes, and systems will fail with the goal that target speeds should be established so that when someone does err, the penalty is not death. Meanwhile, to improve traffic safety and address speeding issues, the City of Port St. Lucie has initiated a program to reduce the speed limit on all ungated, residential neighborhood roads to 25 miles per hour.

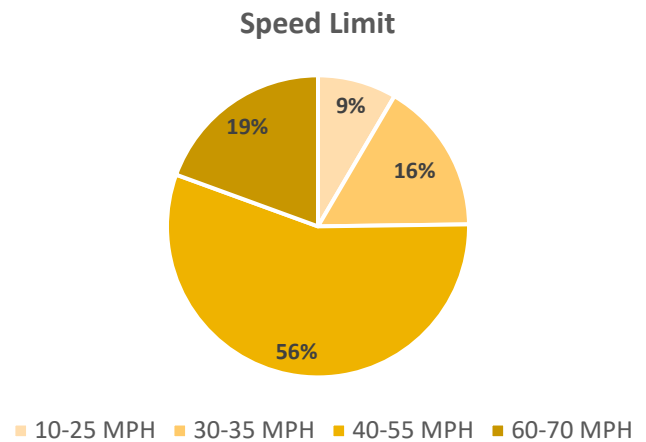
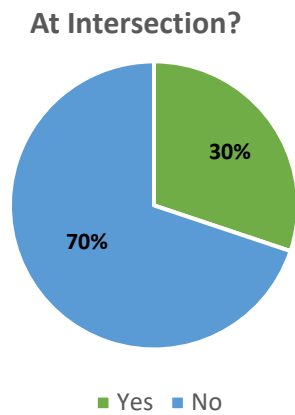
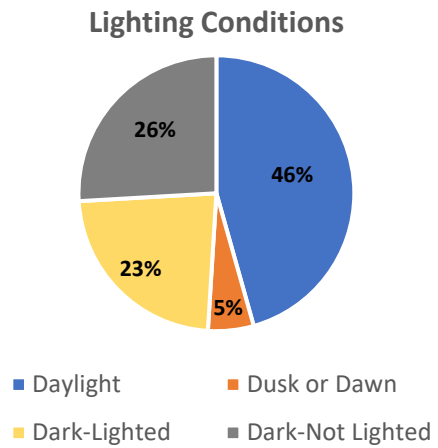
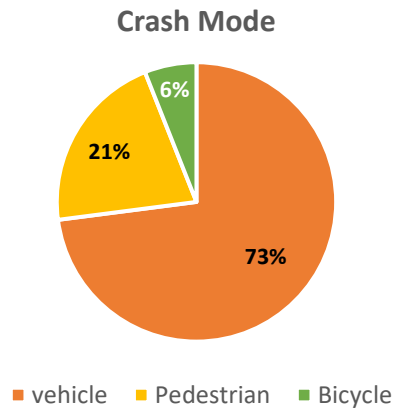
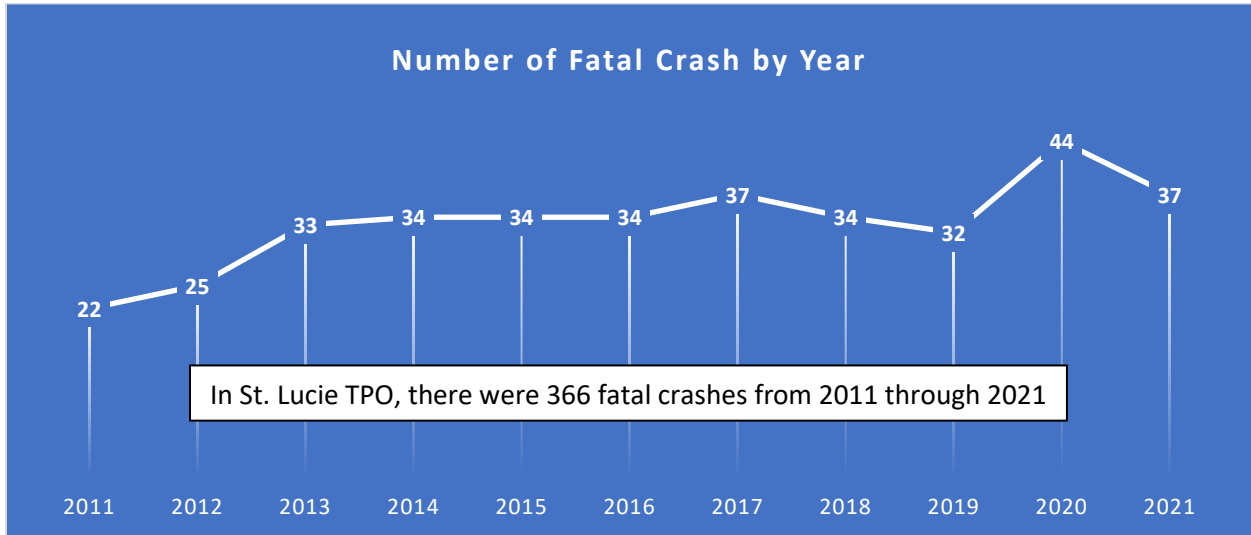
While the effect of reducing travel speeds on traffic congestion is the subject of much debate in the latest literature, physical improvements to the roadways, known as deflection, engagement, and enclosure, may be needed to most effectively implement the target speeds. In addition, coordination with local law enforcement agencies and education of the general public will be necessary to ensure commitment to the target speeds.

At their meetings during the week of November 15th, the TPO Advisory Committees discussed the results of the Speed Kills Analysis with the Citizens Advisory Committee recommending the implementation of automated speed enforcement, the Technical Advisory Committee discussing the reduction of speed limits by the City of Port St. Lucie, and the Bicycle-Pedestrian Advisory Committee recommending the on-demand improvement for Traffic Incident Management.

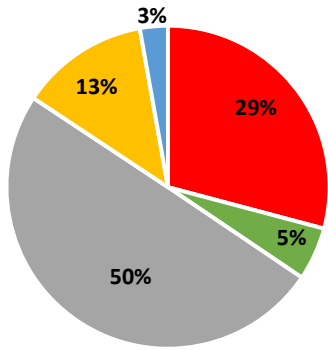
RECOMMENDATION

It is recommended that the Speed Kills Analysis is discussed and comments are provided to Staff.

St. Lucie TPO Fatal Crash Fact Sheet

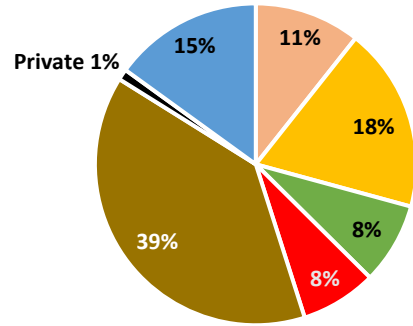


Vehicle Type



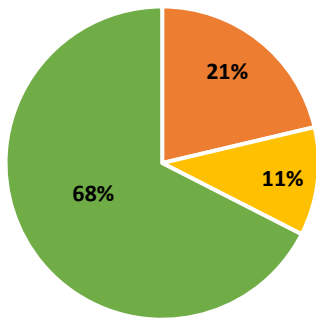
- SUV or Pickup
- Commercial Vehicle
- Passenger Car
- Motorcycle
- Others

Roadway Type



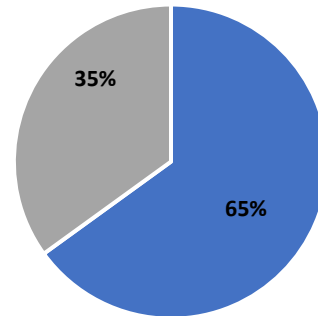
- Interstate
- State
- Turnpike
- U.S.
- Local
- Private
- County

Driver's Age



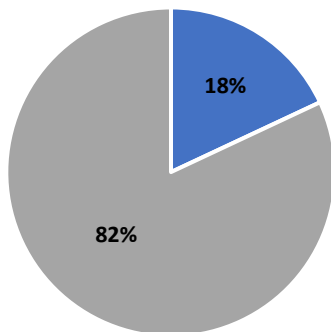
- Senior
- Teenager
- Others

Distracted/Speeding/Aggressive/Impaired Driving?



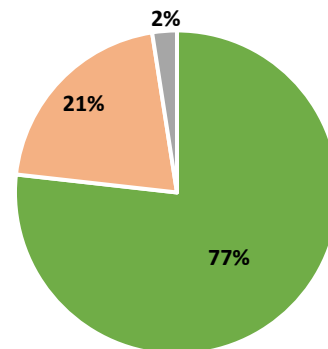
- Yes
- No

Violation Issued



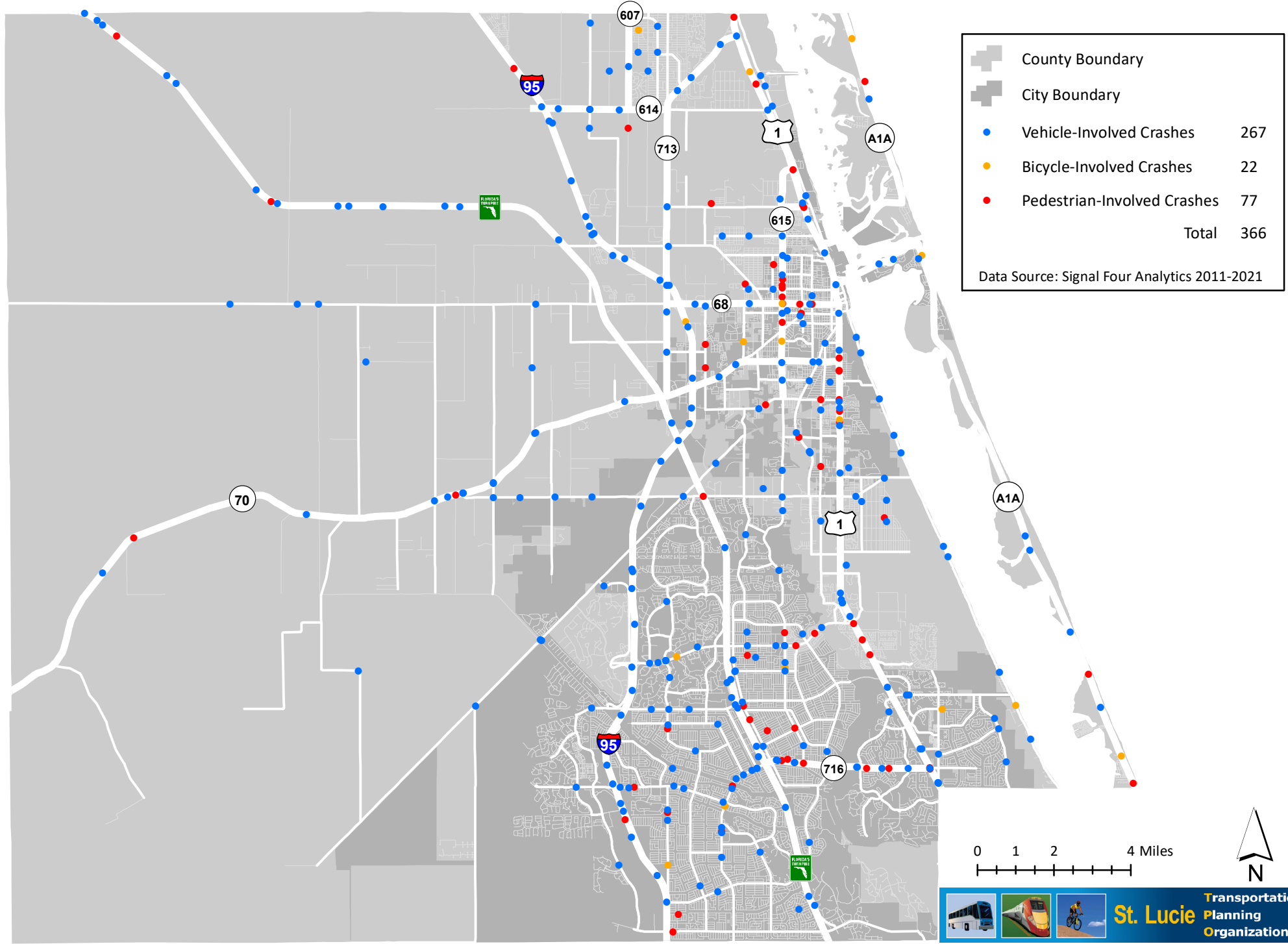
- Yes
- No

Seat Belt in Use?

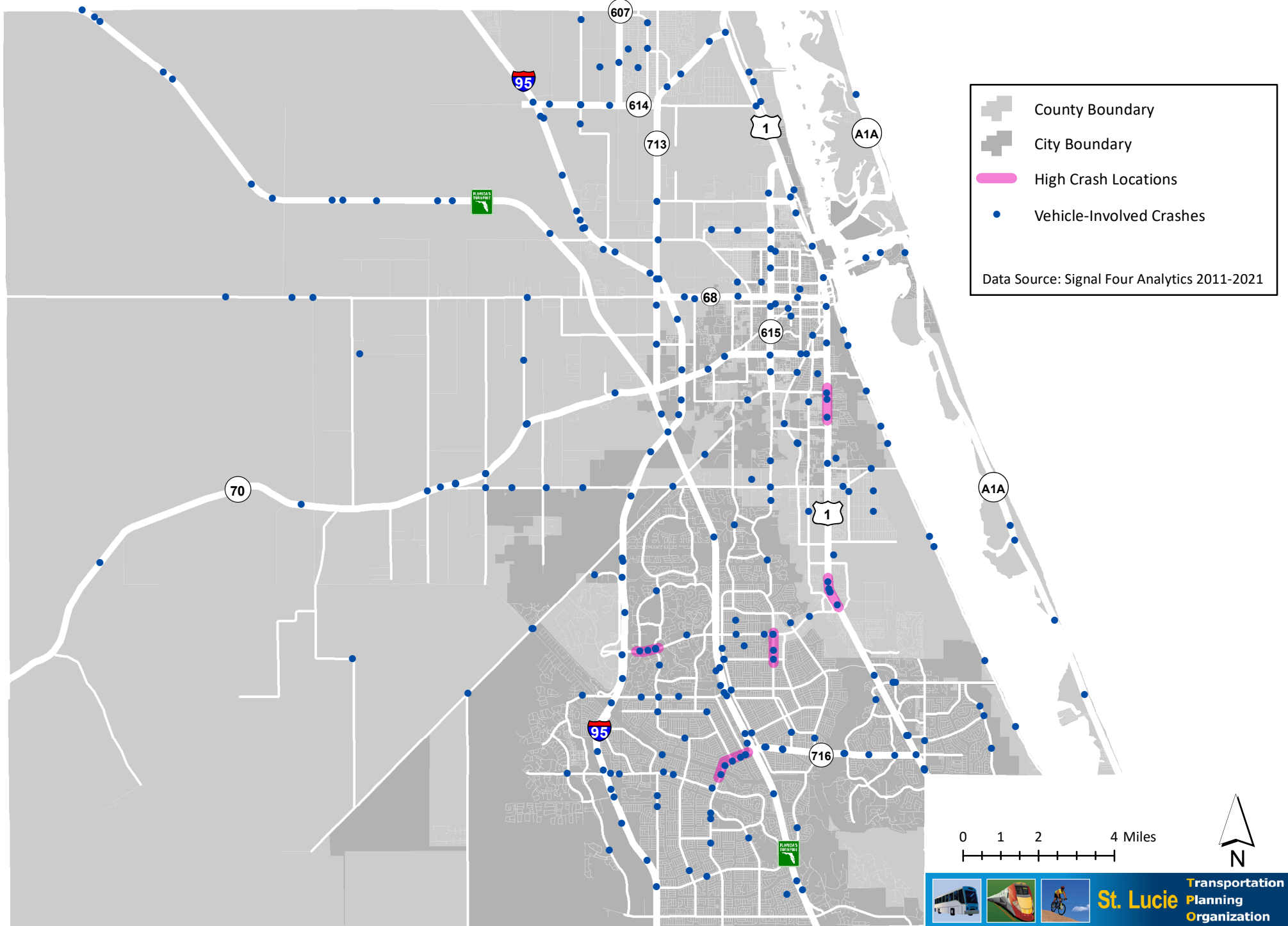


- Yes
- No
- Data N/A

St. Lucie TPO Fatal Crashes by Mode



Vehicle-Only Fatal Crashes



Bicycle and Pedestrian Involved Fatal Crashes

