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Managing Speed on Hillsborough's High Injury Network



Hillsborough MPO
Metropolitan Planning
for Transportation



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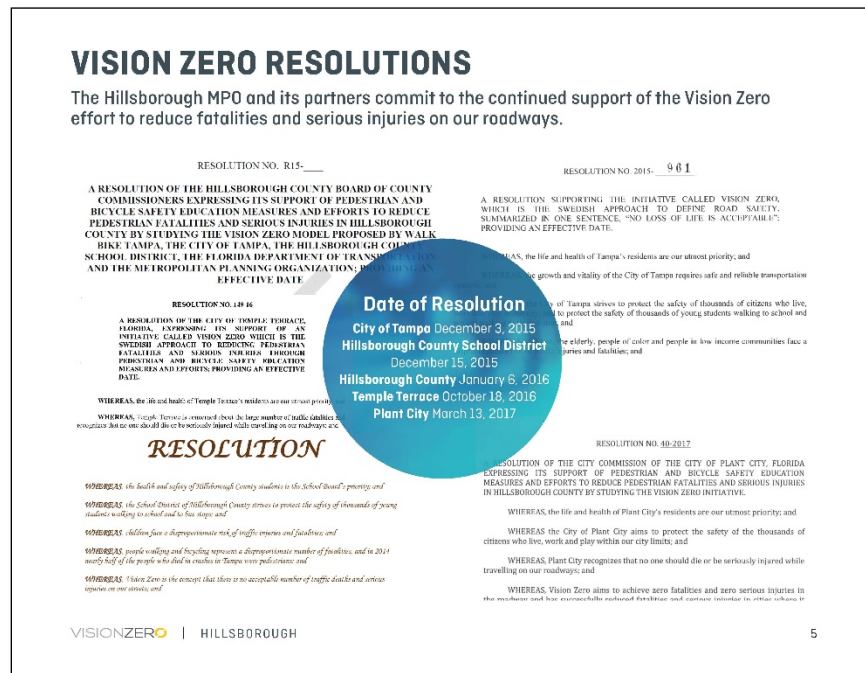
SPEED MANAGEMENT ACTION PLAN



I. OVERVIEW OF THE PLAN

A. Plan Purpose and Description

The Hillsborough MPO and its partners are committed to the continued support of the Vision Zero effort to reduce fatalities and serious injuries on Hillsborough roadways. Vision Zero resolutions were passed by Hillsborough MPO and its partners.



In addition, Complete Streets Policies have also been adopted including at the Florida Department of Transportation. This plan is related and a furtherance of these prior efforts to address safety.

According to the statistical evaluation performed for the Safe Streets Now Vision Zero Hillsborough Action Plan,

“We have a crisis in Hillsborough County. Our streets are some of the deadliest in the country. Each day, Hillsborough County residents travel roads with the highest traffic fatality rate per capita among large counties in the United States.”

The MPO could not deny that the alarmingly high injury and fatality rates in Hillsborough County were leading the country and the good work being done locally was not effective enough at reducing the number of lives lost. It was time to elevate the issue. The Vision Zero Action Plan identifies four action tracks with a goal of identifying low cost, quickly implemented strategies. The speed management action plan resulted from one of the long term goal.

The safety crisis being faced has social and economic implications for our community, our residents, and our visitors. According to the CDC, fatal crashes cost Floridians an annual \$32 million in medical costs and \$2.99 billion in work loss costs. FDOT estimates that each fatal crash costs society a total of \$10.1 million.

There are various leading causes of road fatalities and severe injuries. Factors that contribute to severe crashes and fatalities include, but not limited to, unsafe behaviors such as speeding, aggressive driving, distracted driving/walking/biking, and impaired driving. System users must take responsibility for their actions and understand the potential impact of their behaviors on others using the same roadway system. But the proper street design can also encourage safer behavior by all users.



Per Vision Zero tenets, speed matters most. High speeds make crashes more likely and more likely to be deadly. Effective Vision Zero programs manage speed in order to reduce severe and fatal traffic injuries. Speed increases the risk of severe and fatal injuries at an alarming rate. For example, the likelihood of a pedestrian being killed at 20MPH is 5%; however, it increases to 80% at 40MPH. One of the startling statistics in Hillsborough County is that 75% of all fatal crashes occur on roads with posted speeds of +40MPH. Understanding this correlation is critical to understanding that not all crashes can be eliminated, but severe injury and fatal crashes are preventable.

Traditional safety programs have been reactive and address only hot spots where crashes occur. It is important to look at historical crash trends but also be proactive in identifying systemic improvements to prevent future crashes even in locations where there is no crash history. This is often referred to as taking a systems approach to road safety instead of just addressing the hot spots. It should be noted that efforts to influence individual behavior (educating one user at a time) primarily with education and enforcement campaigns have fallen short. Addressing speed requires changing organizational practices and reforming policies. Existing practices, such as designing roads for inappropriately high speeds and setting speed limits too high, often prioritize moving more cars over the safety of all road users (driver, pedestrian, bicyclist, or transit user).

The USDOT has provided significant resources to develop a Speed Management Program Plan. Basic plan attributes include:

- Data-driven – crash, roadway, user, land use data
- Applying road design, traffic operations, & safety measures
- Setting “appropriate/rational/desirable/safe” speed limits

- Institutionalize good practices
- Supportive enforcement efforts
- Effective outreach & public engagement
- Cooperation by traffic safety stakeholders

Related Speed Management Initiatives

- **Complete Streets:** designing a roadway to enable safe travel by all users of all abilities ([Refer to USDOT Complete Street Webpage](#))
- **Context Sensitive Solutions:** accommodating all street users, making decisions that reflect a shared stakeholder vision ([Refer to Designing Walkable Urban Thoroughfares: A Context Sensitive Approach](#))
- **Shared Streets:** giving all modes of travel are equal priority; people walking, bicycling, and driving share the right-of-way and manage conflicts through person-to-person negotiation ([Refer to NACTO white paper on Shared Streets](#))
- **Traffic Calming:** improvements in non-motorist safety, mobility, and comfort by reducing vehicle speeds or volumes ([Refer to Traffic Calming e-primer](#))

Source: ITE and Vision Zero Network National Speed Management Workshop

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Source: USDOT, SPEED MANAGEMENT PROGRAM PLAN, MAY 2014

B. Safety Goals of the Plan

Current guidance on managing speed indicates the purpose is to improve public health and safety by reducing speeding-related crashes and the resulting injuries and fatalities. However, it is one of Vision Zero tenets that managing speed reduces all types of crash types that result in fatalities and severe injuries, not just speed-related crashes.

The effort is comprehensive in its approach to look to reduce all fatality and severe injury crashes, not just speeding related crashes. The plan identifies specific actions to be taken by the various

jurisdictional agencies in Hillsborough County to effectively address managing speed and reducing the crash risk on the identified Top20

and Next30 High Injury Network corridors and ways to institutionalize a safe systems approach to safety and design of streets and roads. To accomplish the actions identified, a coordinated effort is needed to address the fundamental engineering, enforcement, education, and communication challenges being faced.

The plan goal is simple:

Improve public health and safety by reducing road fatalities and serious injuries.

The plan desired outcomes are comprehensive. Outcomes include improving the safety experience, increase awareness, institutionalize good practices, identify supportive policies, programs and infrastructure and obtain the cooperation and support needed to succeed.

DESIRED OUTCOMES

- ***Improved safety experience*** for all road users - pedestrians, bicyclists, and motorists.
- ***Increase awareness*** of the dangers of speeding.
- ***Institutionalize good practices*** in road design, traffic operations, engagement, enforcement and safety.
- Identify ***supportive policies, programs and infrastructure*** improvements to meet safety goal.
- Obtain ***cooperation and support*** of stakeholders.



C. Stakeholder Engagement

The success of any speed management program or plan is enhanced by coordination and cooperation among the various agencies, engineering, enforcement, health and educational disciplines. A thoughtful list of stakeholders was developed, and invitations issued to be part of this fundamental journey to learn how to change the safety culture in Hillsborough County.

The Stakeholder Group met three times throughout the plan development process including at the kick-off stage, upon preliminary safety findings and when the preliminary recommendations were developed.

The first meeting centered on plan goals and desired outcomes, identification of collaborative roles, responsibility and data needs. In addition, preliminary prioritization metrics and potential safety countermeasures currently in use and others to be considered.

The second meeting focused on review of the detailed safety evaluation of the Top20 HIN networks and conversation around current efforts on some of the corridors and what are the next list of corridors each jurisdictional agency can start to address. This led to the Next30 HIN corridor identification process.

The third meeting presented the preliminary countermeasure tool kits on Safe People, Safe Streets, Safe Interchanges, Safe Operations, Targeted Enforcement, Education and Public Service Announcements. In addition, the Implementation Plan Actions on these same areas of focus plus policy and legislative considerations were reviewed. A fourth call was then scheduled to wrap up comments on the draft plan.

The Stakeholder Group, especially some of the agencies, engaged in several teleconferences to coordinate on current safety projects

and corridors, to provide supplemental data and information related to the formation of the plan. The Stakeholder Group also provided feedback on the final plan. The meeting presentations and are provided in the appendix.

Partners & Stakeholders

- Hillsborough County MPO
- Hillsborough County
- Hillsborough County School District
- City of Tampa
- City of Temple Terrace
- Plant City
- Law Enforcement
- Florida Department of Transportation
- Hillsborough Area Regional Transit
- Tampa Hillsborough Expressway Authority
- Florida Health Department

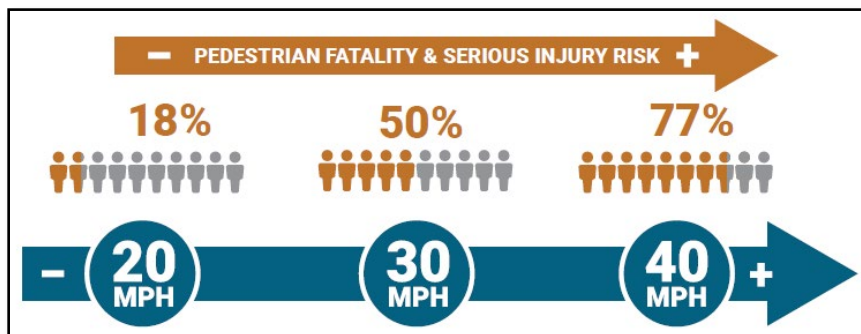




D. Why Speed Matters

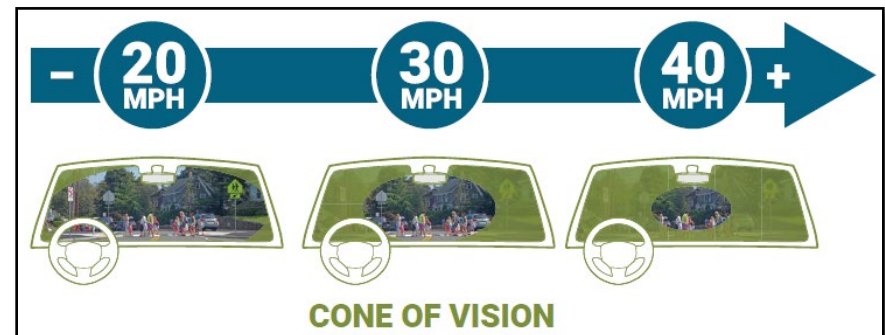
As vehicle speeds increase, two outcomes also increase: the likelihood of crashing and the severity of injuries resulting from the crash.

Higher speeds increase both reaction time and braking distance required to come to a complete stop. If a crash occurs that involves a vulnerable user, the speed differential between the two opposing bodies are more likely to result in severe injuries and even death. Safety increases when speed differential is minimized. For example, freeways are safer because motorists move at similar speeds, access is limited, less friction, and transitions to slower speed roads are handled via ramps to surface streets (where slower users on foot and bicycle are kept on a different network). Low-speed streets (due to low volumes or congestion) can be similarly safe because all users, from motorists to bicyclist to walkers, are traveling at similar speeds. A crash between a vehicle driven at a low speed and a fixed object will typically result in minimal damage because of the lower speed impact¹.



Source: FHWA Achieving Multimodal Networks

Another major contributor to the dangers of speeding is peripheral vision. As motorist speed increases, the cone of vision narrows so that the motorist can focus on items farther away. When stationary, the cone of vision approaches 180 degrees. When moving, the cone of vision decreases with increasing speeds. Given the limits of the vision cone, it is unrealistic to expect motorists to be able to be aware of all their surroundings when traveling at higher speeds. Design objectives that prioritize lower speeds for motorists on streets where pedestrians and bicyclists are present may enhance visibility.



Source: FHWA Achieving Multimodal Networks

Motorist make decisions on how fast to drive based partially on posted speed limit signs and partially based on physical cues in the environment (trees, parked cars, etc.). If higher speeds feel natural and instinctive, people are likely to drive at those speeds, due to the intuitive nature of such designs.

Currently policy allows speed limits to be adjusted based on operating speed, gathered by observing actual speeds and selecting the 85th percentile. The road's design speed is based on 100th

¹ ITE "Implementing Context Sensitive Design on Multimodal Thoroughfares" A Practitioner's Handbook, 2017

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percentile speeds and is higher than the posted speed. There is no evidence that the 85th percentile speed corresponds to a speed with low crash rates².

A 2017 National Traffic Safety Board study concluded that using the 85th percentile speed setting method has led to unintended consequences of higher operating speed and an undesirable cycle of speed escalation and reduced safety. The 85th percentile speed setting methodology is not the only method. The USDOT has the USLIMITS2 method that considers road, traffic, crash data, access, density and pedestrian and bicycle activity. The USLIMITS2 more directly resembles Median or 50th percentile speed setting limit. Another method of setting speed limit is the Safe Systems Approach which relates to the premise of setting Target Speeds.

Using street design as a language for communicating desired operating speed means designing toward a designated target speed, or the speed at which the community desires motorists to travel. In fact, AASHTO recommends target speed be used on urban arterial streets of 20-45 MPH³.

Operating speeds on roadways are successfully managed when design speed, target speed, speed limits and inferred speed converge. This means not just the speed limits but also the design of the roadways must convey the same travel speed, the target speed.

Vision Zero Cities across the US have embraced the importance of managing speed and have taken a proactive approach to reduce posted speeds to the ideal 20-25MPH across neighborhoods and citywide to minimize the risk of crashes leading to fatal and serious injuries.



² National Transportation Safety Board “Reducing Speeding-Related Crashes Involving Passenger Vehicles: Safety Study NTSB/SS-17/01” 2017

³ American Association of State Highway Transportation Officials, A Policy on Geometric Design of Highways and Streets, 6th ed, 2011



SPEED LIMIT REDUCTION RESULTS

Seattle

- 40% in crashes
- 30% in injury crashes

NYC

- 14% in crashes
- 49% in pedestrian crashes
- 42% in bicyclist crashes

Mexico City

- 18% in crashes

Boston

- 30% in speeds over 35 MPH

Other Cities

- Washington, DC
- Portland, OR
- Cambridge, MA
- Albuquerque, NM
- Nashville, TN
- Minneapolis
- St. Paul
- Boulder, CO

SEATTLE

SPEED LIMITS
ARTERIAL 25
NON-ARTERIAL 20
UNLESS OTHERWISE POSTED

FOR A SAFER BOSTON

SPEED LIMIT 25

Boston has a new default speed limit.

IF YOU DON'T SEE A SIGN, THE SPEED LIMIT IS 25 MPH.

HELP SPREAD THE WORD.
Talk with your family, neighbors, and friends about the speed limit change.

SHOW YOUR SUPPORT.
Visit boston.gov/25mph to learn how to show your support and get engaged.

BE AWARE OF YOUR SPEED.
Drive at or below the 25 mph speed limit. You can help save lives. If you crash, you're less likely to cause serious injury or death.

WHY THE CHANGE?
Reducing driving speeds from 30 mph to 25 mph will help make Boston safer for people of all ages and abilities walking, driving, and bicycling on our streets.

17% 30% 47%
LIKELIHOOD OF SEVERE OR FATAL INJURY

WHICH STREETS ARE AFFECTED?
The default speed limit applies to all streets without speed limit signs. Some streets will have signs with higher or lower speed limits.

EFFECTIVE 01.09.17

BOSTON.GOV/25MPH // VISIONZEROBOSTON.ORG



II. SPEEDING-RELATED SAFETY CHALLENGES

A. Problem Identification

In nations around the world speeding is a major driver of fatal crashes. In 2018 in the US alone, 9,378 lives were lost in speeding-related crashes⁴. Speeding endangers everyone on the road. We all know the frustrations of modern life and juggling a busy schedule, but speed limits are put in place to protect all road users.

For more than two decades, speeding has been involved in approximately one-third of all vehicle fatalities. Speed also affects your safety even when you are driving at the speed limit but too fast for road conditions, such as during bad weather, when a road is under repair, or in an area at night that isn't well lit. Another example is if the speed limit is too high for the context.

Speeding endangers not only the life of the speeder, but all the people on the road around them, including law enforcement officers. It is a problem we all need to help solve. But it is not just about the number of crashes identified as a result of speeding but much greater than that, it's about aggressive driver behavior.

Speeding is more than just breaking the law. The consequences are:

- Greater potential for loss of vehicle control.
- Reduced effectiveness of occupant protection equipment.
- Increased stopping sight distance after the driver perceives a danger.
- Increased degree of crash severity leading to more severe injuries.
- Economic implications of a speed-related crash; and

- Increased fuel consumption / cost.

According to the NHTSA, several factors have contributed to an overall rise in aggressive driving:

- Traffic – traffic congestion is one of the most frequently mentioned contributing factors to aggressive driving.
- Running late – some people drive aggressively because they have too much to do and are running late to work, school, their next meeting or appointment.
- Anonymity – a motor vehicle insulates the driver from the world. A driver can develop a sense of detachment from their surroundings.
- Disregard for Others and for the Law – Most motorists rarely drive aggressively, and some never do. For others, episodes of aggressive driving are frequent, and for a small proportion it is their usual driving behavior.

In the US, 83% of speeding-related fatalities occurred on roads other than freeways that is arterials, collectors, and local roads⁵. On urban roads, speeding is particularly dangerous due to increased activity and higher levels of land use density leading to the prevalence of vulnerable pedestrians and cyclists. Effectively managing speeds on urban arterials poses unique challenges. Under the banner of Vision Zero, many US cities are increasingly focusing on speed management to improve traffic safety.

National best practices on speed management and using a safe systems approach to combat the safety crisis on our streets are looking to set new guidelines on speed setting that results in a context sensitive approach to design of roads. National educational organizations such as the Institute of Transportation Engineers and

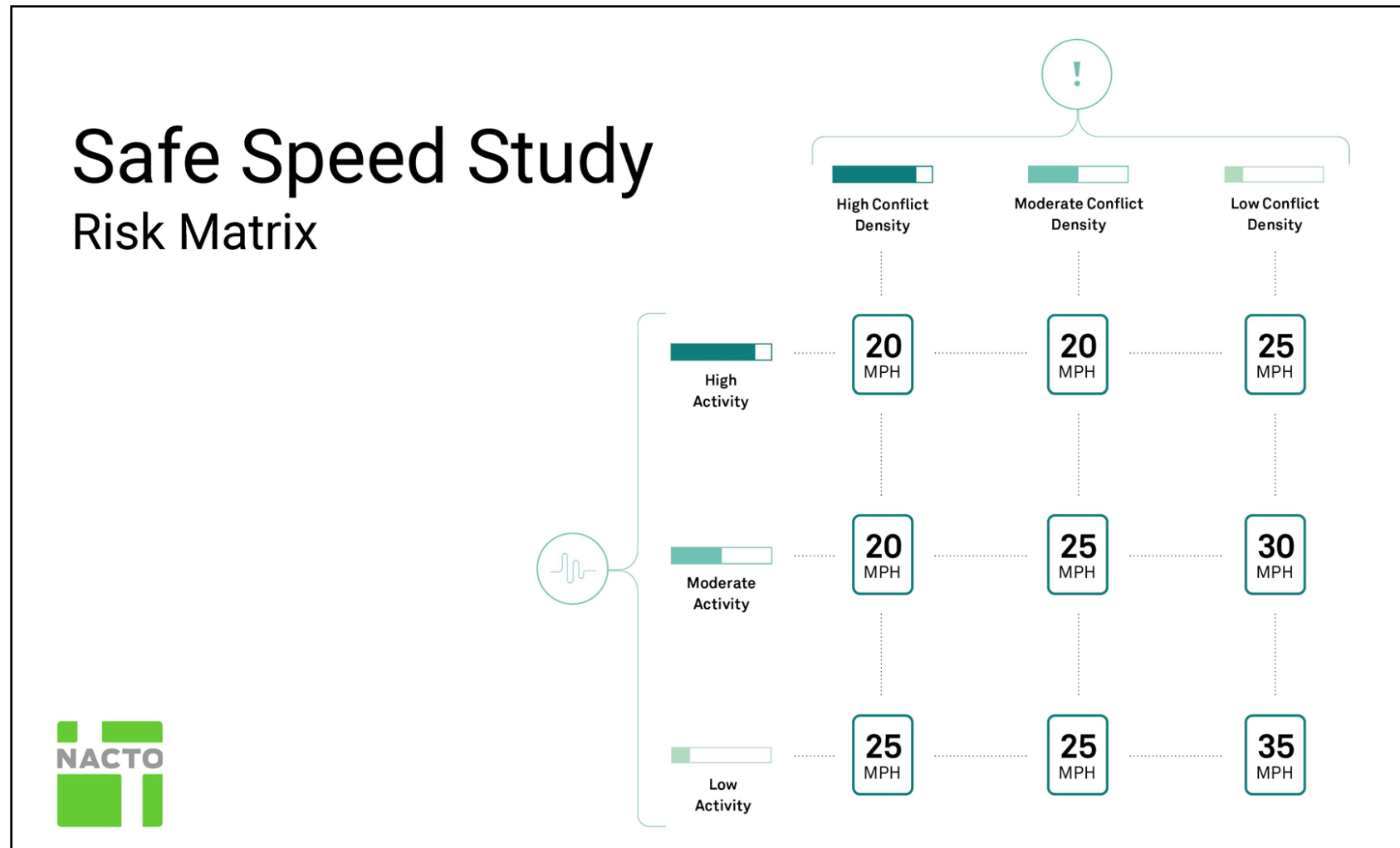
⁴ USDOT, National Highway Traffic Safety Association (NHTSA), [nhtsa.gov/risky-driving/speeding](https://www.nhtsa.gov/risky-driving/speeding)

⁵ National Center for Statistics and Analysis, National Highway Traffic Safety Administration, 2016



the National Association of City Transportation Officials (NACTO) are leading the practice by identifying the need to establish new direction for speed setting leading to better design standards of streets to prevent fatalities and serious injuries. Setting speeds based on safety and context of the community, should outweigh past practices that were simply based on driver behavior. Below is a

recent diagram by NACTO articulating the need to consider conflict density and levels of street activity.





B. Hillsborough County Challenge

In 2017, Hillsborough MPO Vision Zero Action Plan⁶ was completed documenting the state of safety conditions and necessary actions to be taken to address traffic safety in Hillsborough County. The plan identified startling statistics in relationship to having the highest traffic fatality rate per capita of all large counties in the country. Identifying that on average, at least one-person walking, and one-person biking are involved in a crash every day, resulting in serious injury or death. Some of the Hillsborough crash statistics that emerged included:

- For every fatal crash, there are eight incapacitating injury crashes.
- A third of our roads account for ¾ of the county's severe crashes.
- Aggressive driving accounted for 33 percent of all fatal crashes, and 42 percent of vehicle crashes on our roads.
- Electronic distraction was cited as a factor in 19 percent of severe vehicle crashes.
- Intoxication is a factor in 23 percent of all fatal crashes and is a factor in 19 percent of fatal pedestrian crashes.
- Dark, unlit roads were a factor in 39 percent of fatal and incapacitating injury crashes.
- 75 percent of fatal crashes occur on roads with posted speeds of 40+MPH

Engineers, planners, law enforcement officials and educators have launched programs and projects across the county to provide safe, comfortable travel conditions for residents and visitors. The action plan built on the many state and local agency safety programs, projects and initiatives underway. Vision Zero Hillsborough provides

an umbrella under which these efforts are organized, connected and promoted.

It is worthy to note a few examples of partner initiatives to address safety, including the Hillsborough County and Florida Department of Transportation District 7's recent publication of the significant noteworthy positive results on safety related to various implemented improvements on Fletcher Avenue. This is a great example where a combination of various traffic calming and example speed management countermeasures were installed in addition to dropping the speed limit from 45MPH to 35MPH. This is the prototypical application that has to become the norm in existing retrofitting efforts and future street design. Similar treatments are now being applied to 50th Street and similar results are anticipated.

FLETCHER AVENUE COMPLETE STREETS PROJECT BEFORE / AFTER Analysis

- Fatal crashes reduced by ~60%
- Serious injury crashes reduced by ~46%
- Average vehicle speeds reduced
- Over 83% of compliance by pedestrians and 97% compliance by motorists at midblock crossings
- Traffic volumes increased
- Average travel times either decreased, remained the same, or increased at the most by 87 seconds



⁶ Hillsborough MPO, Safe Streets Now, Vision Zero Action Plan, December 2017

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Hillsborough County Engineering is also taking steps to update design standards to reflect context and addressing all users and should be available in late 2020. Hillsborough County is also in the process of completing their street context classification process and has dedicated funding for assessments of the County corridors in the TOP20.

City of Tampa has been coordinating traffic signals in downtown Tampa according to the posted speed limit. This is an easy, quick fix countermeasure to ensure that traffic is moving at or below the speed limit in a dense urban environment. Conversations on a citywide reduction of posted speeds has also been noted. The city has been a trend setter at looking at new tools that both attract and engage the community with their painted Crosswalks to Classrooms and their Art on the Block program that has resulted in five intersection murals that also have a positive traffic calming effect.

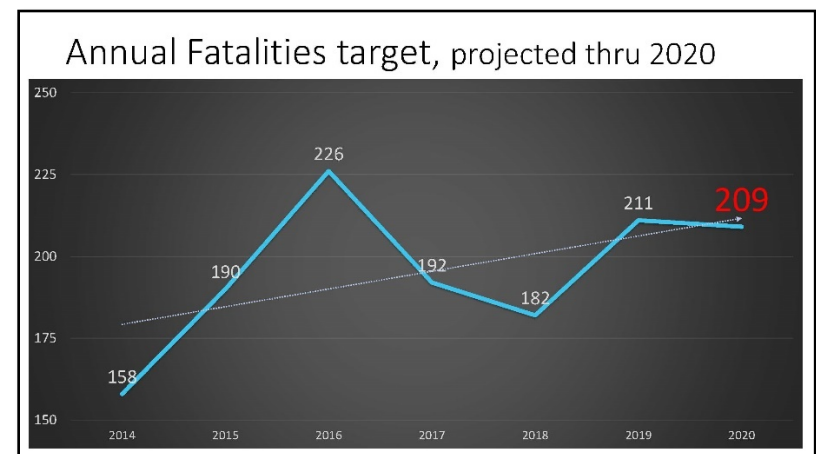


City of Tampa – Crosswalks to Classrooms

City of Tampa – Intersection Murals, Franklin Street and Twiggs



While great strides are being made to start creating safe streets and change the culture around how we design roads and street, there is still much work to do. Recent reports on crash statistics show that annual fatal crashes continue to rise in Hillsborough County. In fact, safety targets projected through 2020 for fatal crashes is anticipated to rise.





C. High Injury Network - Update

The Vision Zero Action Plan identified the Top20 deadliest corridors in Hillsborough County based on the most severe crashes per mile. These corridors form the initial High Injury Network in Hillsborough County. The plan dived into notable common elements of these corridors including characteristics involving vulnerable users, aggressive driving and lighting conditions. Considering the Top20 High Injury Network (HIN) corridors are the deadliest corridors in the county, it makes sense to develop the Speed Management Action Plan around these priority corridors.

The first step taken was to obtain the latest information from the FDOT – Crash Data Management System for the HIN corridors over a five-year period, January 2014 through December 2018. The data was downloaded and scrubbed for: correct location, proximity to corridor limits, correct street name. In addition, crashes on crossing corridors that are grade separated were eliminated. The scrubbing resulted in a reduction of 7-10% of the total crash records.

In summary, there were several changes in the total crashes on the Top20 HIN corridors since the original Vision Zero Action Plan. Crash occurrences and location changes are expected from year to year. In addition, as the agency partners continue to address these corridors, it is anticipated the severity rate of crashes will decrease to a point that other corridors will become a higher priority.

- Total crashes have increased by **+13%** since the original Vision Zero Action Plan
- Fatalities have decreased by -4%
- Serious Injuries have decreased by -30%
- Motorcycle crashes decreased by -10%
- Pedestrian crashes increased by **+10%**, however,
- Pedestrian fatality crashes increased by **+41%**
- Pedestrian serious injuries reduced by -22%
- Bicycle crashes reduced by -5%
- Bicycle fatality/serious injuries reduced by - 20-30%, respectively.

While fluctuations have occurred in this new 5-year period, pedestrian crashes have resulted in a disproportionately higher fatality rate. The following graphic shows the trends for the fatal crashes for the Top20 HIN corridors.





HIN Crash Statistics (2014-2018)

Fatal Crash Characteristics



67%

92%



59%



Non-Intersections

Aggressive Driving/Speeding

Erratic Reckless, Aggravated maneuvers, ran off road, exceeded speed limit, ran red light, careless or negligent

71%

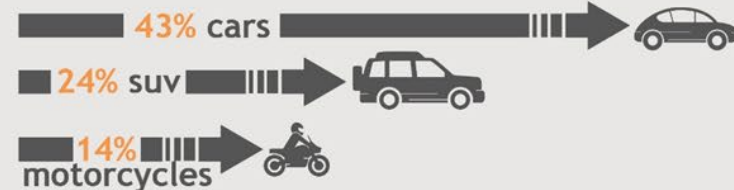


Non-Peak Hours

83%



4 or more travel lanes



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Of the total Fatal crashes, 83% occurred during non-peak commute hours. During peak commute hours, these corridors may be operating at congested levels and travel speeds may be controlled. During non-peak hours, these corridors have less traffic, still the same number of travel lanes that can lead to higher opportunity for aggressive driving behaviors.

Of the total Fatal crashes, 71% of the contributing factors involved some type of aggressive driving or speeding relation action such as erratic reckless, aggravated maneuvers, ran off the road, exceeded speed limit, ran red light, careless or negligence behavior. This is where this plan differs from strictly focusing only on the “speeding” crashes.

Of the total Fatal crashes, 67% of the people involved were younger than 35 years of age. Not only are our younger residents involved, but they are also dying. Aggressive driving campaigns should be targeted at this younger demographic.

Of the total Fatal crashes, 59% occurred at mid-block locations on the network. Normally the exposure rates for fatal crashes are at the intersections where the number of conflict points are greatest; however, the trends in these corridors indicate differently. The mid-block locations need to be carefully be evaluated to address potential deficiencies for all users.

Of the total Fatal crashes, 59% occurred on corridors with four or more travel lanes. That is expected as the higher the number of lanes, the higher the speeds, the higher exposure for a crash.

Of the total Fatal crashes, 53% during evening hours on corridors identified as being lighted. This fact is suspect considering the limited lighting available in most Hillsborough County corridors. Each Corridor needs to be carefully evaluated and validated to

identify if lighting or no lighting is a factor including at mid-block locations.

D. High Injury Network – Prioritization

Considering the significant number of crashes and especially life altering fatal and serious injury crashes in Hillsborough County, one of the primary outcomes of this plan is to identify a way to prioritize top injury corridors so attention and fiscal investment can be allocated by the respective jurisdictional agencies.

During one of the stakeholder meetings, breakout group conversations lead to a series of prioritization factors to be evaluated based on knowledge of the Top20 HIN corridors, the communities they serve. The feedback received on prioritization was summarized based on the most mentioned in the breakout group conversations and is shown below.

The prioritization factors are multifaceted. Based on readily available data, various prioritization factors were evaluated for relevance to the Top20 HIN corridors. Crash history and pedestrian/bicycle crash data is readily available, hence, the crash occurrence per mile was calculated. This simple calculation is consistent with the Vision Zero Action Plan calculations for consistency purposes. The other factors required further evaluation and identification. The next sections expand on how and why they were incorporated.



Stakeholder Feedback

Prioritization Factors:

(Ranked by order of most mentioned in breakout groups)

- Posted speed vs. context Class
- Regional equity (low income, Commissioner districts)
- Crash history
- Proximity to schools
- Ped/bike injuries
- Absence of lighting
- Ped/Bike level of stress
- Planned projects in Work Program / CIP
- Low hanging fruit - ease of implementation
- Transit service route
- Geometric features (volumes, lanes, intersection spacing)



E. Context Classification and Posted Speed Range

The posted speed, design speed and target speed of corridor, combined with the geometric design considerations can have a significant implication on safety of a corridor. The travel speed of motorists also has an impact on a streets ability to attract non-motorized users. It is well known that people walking or riding a bicycle next to high-speed motorists is not comfortable nor safe. However, we must keep in mind that 1/3 of residents in the US do not drive and rely on non-motorized ways to move, to access services, education, jobs and health care.

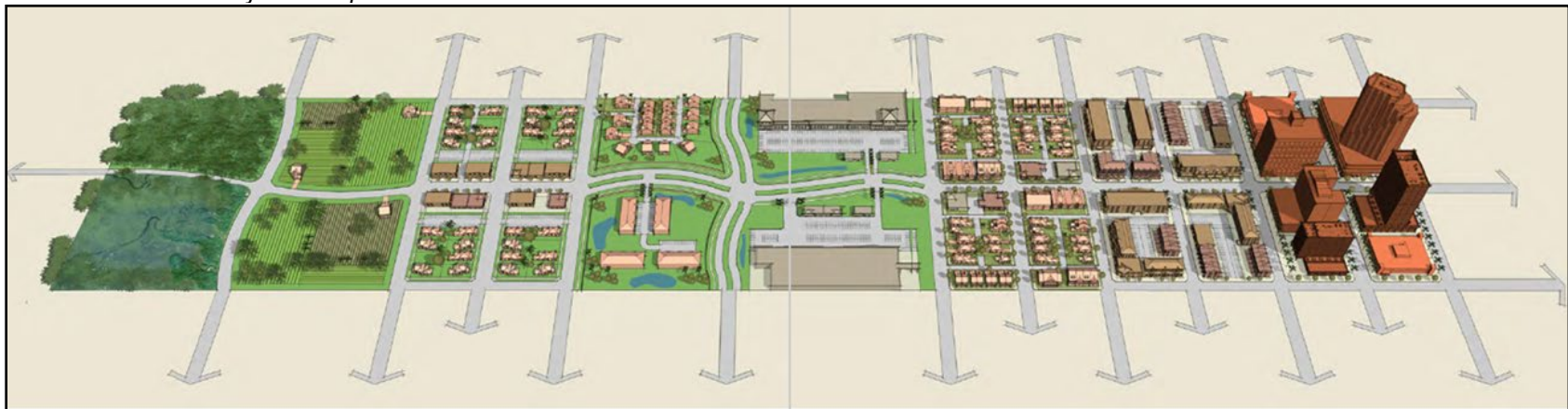
The Florida Department of Transportation (FDOT) context classification system was used as a basis of an assessment to determine if the posted speeds on the Top20 HIN corridors are appropriate and rationale. Context classification broadly identifies various built environments including the urban core, urban center, urban general, suburban commercial, suburban residential, rural town, rural and natural environment. The use of context classification acknowledges that design criteria should be different in each of the classifications. This is important as how a street is

designed in a high density urban core is different from a street designed in a rural setting. The theory behind developing context classification is to clearly provide guidance on design characteristics. While traditional road classifications (i.e., arterials, collector, local streets) has driven design criteria based on simply corridor function and posted speed.

National best practices were consulted to validate if the posted speed limits on the Top20 HIN corridors were appropriate and rationale for their context. The Institute of Transportation Engineers' and Center for New Urbanism publication published in 2010 called *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach – An ITE Recommended Practice* was used for comparison.

Considering the limitations of this study, actual travel speed information was not available for the Top20 HIN corridors. So an evaluation was conducted to compare the posted speed to national best practices according to the general context classifications that each of the corridors traverse.

FDOT Context Classification Spectrum





The Context Classifications for each corridor were estimated based on visual assessment of land use patterns, density and various other factors. Both Hillsborough County and FDOT District 7 are currently developing context classifications for all of their roadway network. It is recommended that both the FDOT and Hillsborough County classifications be updated to reflect future land use conditions for the region. As this is used to determine design considerations to accommodate future traffic conditions on the network, the land use projections and plans should also be consistently applied. With the rapidly changing conditions in the county due to economic growth, routine evaluation and update is appropriate.

The table below shows the Top20 HIN corridors with their respective road classification, the estimated Context Classification, Posted Speed, national recommendation for the appropriate context. The resulting Conflict Range is the difference between the posted speed limit on the corridors and what national best practice recommends.

Overall, 70% of the Top20 HIN corridors have posted speed limits that are 5-10MPH over national practice. An additional 15% of the corridors have posted speed limits that are 15-20MPH over national practice for their context. It is critically important to note that the high posted speed limits on the Top20 HIN corridors, are facilitating high risk exposure that result in fatal and serious injuries for all users (motor vehicles, pedestrians and bicyclists).

It should be noted that it is well known that travel speeds are normally at least 5-10MPH above posted speed limits; hence, the severity of the disconnect in the posted speeds versus the context of the corridors is greater than reported. Considering Speed Limit/design speed is one of the highest-ranking factors for determining design parameters for a given street, it is important to

address a new method on how posted speed limits are set.

It is also recommended that partner agencies developing Context Classification categories and speed ranges for each should consult with national best practices. The design parameters that are greatly affected by a roadway's speed limit/design speed include: lane width, acceleration/deceleration lanes, left turn lanes, sight distance, sign placement, traffic signal operations, provision of bicycle facilities, super elevation and so many other geometric characteristics. Starting with the wrong posted/design speed has consequential impacts on the safety of all users.



Example Assessment -Posted Speed & Context Class

Overall

- 70% are 5-10MPH over National Practice
- 15% are 15-20MPH over National Practice

Corridor	Road Classification	Context Classification	ITE/CNU Class Speed Range*	Posted Speed (MPH)	Conflict Range (MPH)
Brandon Blvd from Falkenburg Rd to Dover Rd	Principal Arterial	C3 (35-55)	25-35 Max	45, 50, 55	10-20
Gibsonston Dr/Boyette Rd from I-75 to Balm Riverview Rd	Arterial	C3 (35-55)	25-35 Max	45	10
Hillsborough Ave from Longboat Blvd to Florida Ave	Principal Arterial	C3 (35-55)	25-35 Max	45, 50	10-15
Fletcher Ave from Armenia Ave to 50th St	Principal Arterial	C3 (35-55)	25-35 Max	35, 40, 45	5-10
Dale Mabry from Hillsborough Ave to Bearss Ave	Principal Arterial	C3-C4 (30-45)	25-35 Max	45	10
Lynn Turner from Gunn Hwy to Ehrlich Rd	Arterial	C3 (35-55)	25-35 Max	45	10
Meridian Ave from Channelside Dr to Twiggs St	Arterial	C6 (25-30)	25-30 Max	40	10
Bruce B Downs from Fowler Ave to Bearss Ave	Arterial	C3 (35-55)	25-35 Max	45	10
50th/56th St from MLK Blvd to Hillsborough Ave	Principal Arterial	C3 (35-55)	25-35 Max	45	10
15th St from Fowler Ave to Fletcher Ave	Collector	C4 (30-45)	25-35 Max	30	0
Big Bend Road from US41 to I75	Arterial	C3 (35-55)	25-35 Max	45	10
US301 from I75 to Adamo Dr	Principal Arterial	C3 (35-55)	25-35 Max	50	15
Sheldon Rd from Hillsborough Ave to Water Ave	Arterial	C3 (35-55)	25-35 Max	45	10
I4 from I275 to 22nd St	Freeway	Urban (50-70)	50-70	55	0
56th St from Sligh Ave to Busch Blvd	Principal Arterial	C4 (30-45)	25-35 Max	35, 45	10
I275 from Howard Frankland Bridge to Busch Blvd	Freeway	Urban (50-70)	50-70	55, 60	0
Kennedy Blvd from Dale Mabry to Ashley Dr	Principal Arterial	C4 (30-45)	25-35 Max	40, 45	5-10
78th St from Causeway Blvd to Palm River Rd	Arterial	C4 (30-45)	25-35 Max	45	10
CR579/Mango Rd from MLK Blvd to US92	Arterial	C4 (30-45)	25-35 Max	45	10
Florida Ave from Waters Ave to Linebaugh Ave	Arterial	C4 (30-45)	25-35 Max	40, 45	5-10

*Designing Walkable Urban Thoroughfares: A Context Sensitive Approach- An ITE Recommended Practice, ITE, CNU, 2010

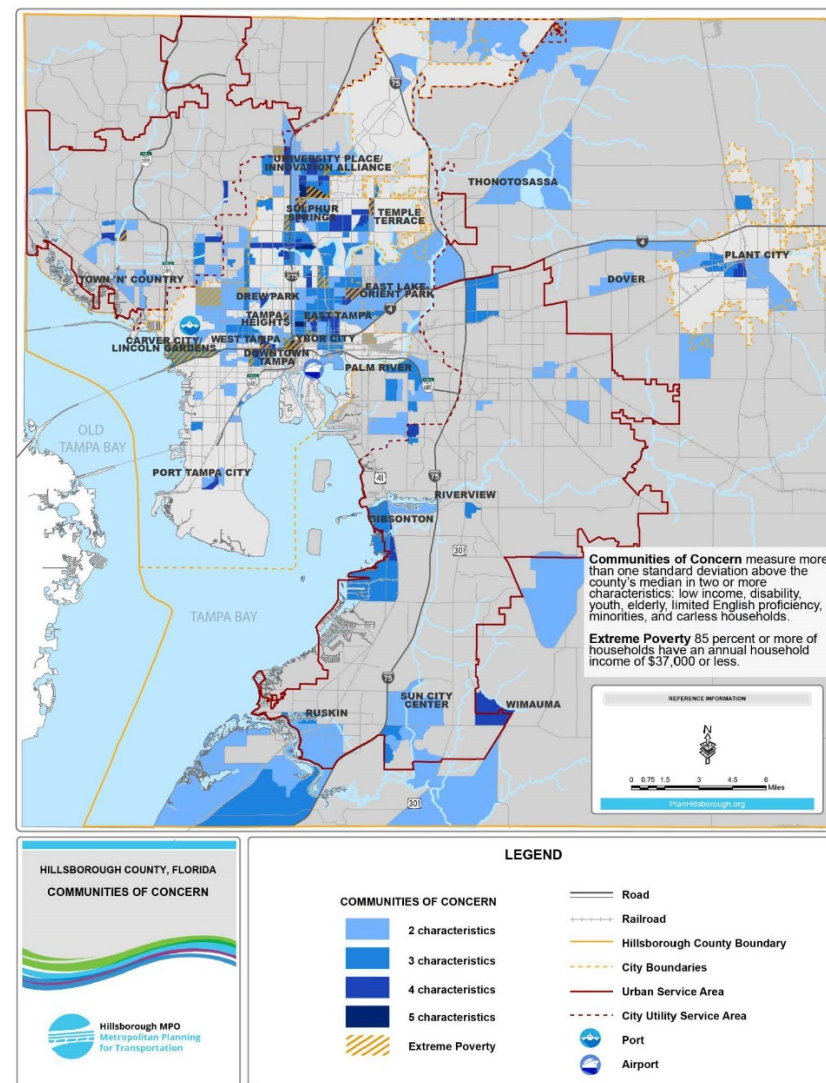


F. Mobility Equity

Transportation affects the every-day life activities of every-day life. Transportation's ability to provide effective, timely and safety access to our residents disproportionately affects the most vulnerable. Considering one third of the US population (kids, elderly, poor, disadvantaged) does not drive and are heavily reliant on public transportation, and mostly rely on walking and bicycle to get to their destinations. Transportation is a key player that helps lift someone out of poverty. Transportation is how we get to the doctor, to our job and our family and friends. Transportation is a hot button issue in Hillsborough County and ranked 29th out of 30 of the biggest metro areas in the US for transportation.

As part of the prioritization process, equitable access to jobs, education, services and health care must be a priority. As such, the Hillsborough County Communities of Concern (COC) were factored into this corridor safety prioritization. Communities of Concern measure more than one standard deviation above the county's median in two or more characteristics such as low income, disability, youth, elderly, limited English proficiency, minorities and carless households. The Top20 HIN corridors were overlaid on the COC map, the estimated distance of the corridor frontage for each COC category was tabulated. A point system for each COC category on the corridor was assigned, with the higher number of deviations getting higher points including extreme poverty. The higher the points assigned indicates a higher probability of vulnerable users present and hence a higher exposure for fatal and serious injuries should crashes occur on the corridor. To summarize, a Risk Performance Level was developed that indicates the higher the deviations, the higher the point, the higher the risk.

PART I: Title VI Components





G. Transit Service Routes and Exposure

Like Mobility Equity, the importance of access to public transportation is critical. Considering the Top20 HIN corridors are predominantly high-level arterials serving regional travel and access to services, having public transit routes is normal but also can introduce safety concerns if the proper support infrastructure to get users to and from transit stops are not readily available. There is a distinct difference in providing transit service versus the proper support infrastructures such as sidewalks, crossings, bike lanes to and from the transit stops. It is felt that if a transit corridor exists on a corridor, the exposure rate for fatal and serious injuries increase.

The Top20HIN corridors were overlaid on the Hillsborough Area Regional Transit system map to identify how many service routes traverse the corridor, how many routes cross the corridor, identify if transfer centers and park and ride lots exists, and identify how many key destinations (grocery, health care, schools, etc.) exist with transit access.

A point system was assigned to each of these categories and a risk Performance Level was developed that indicated the higher the services provided, the higher the points assigned because of the

Why Measure Exposure? Exposure to collisions is one of the most significant predictors in crash frequency. It is commonly measured by how many pedestrians, bicyclists, and motorists pass through a given intersection. Without knowing this information, we may conclude that certain well-used facilities are higher risk than they really are, and vice-versa.

higher probability of pedestrian and bicycle and increasing exposure rates.

H. Top20 High Injury Network Prioritization

The evaluation process for the Top20 HIN corridors was completed and includes prioritization factors such as:

- Crash Severity per Mile
- Pedestrian / Bicycles Crash Rate per Mile
- Number of Schools per Mile
- Equity – COC Coverage
- Posted Speed-Context Class Conflict
- Transit Route Exposure
- High Traffic Volumes

Each of the factors were then aggregated and a total weighted average score developed for each corridor. Each of the corridors where also ranked in order of priority. The higher the weighted average score the higher the priority. A High, Median and Low priority ranking for each of the corridors was established. The next table shows the final Top20 HIN corridor and their priority.

I. Next30 High Injury Network Corridors and Prioritization

As some of the jurisdictional agencies have initiated assessments and projects on the Top20 HIN corridors. There was a need expressed to identify the Next30 HIN corridors. Similar to how the Top20 HIN corridors were identified on a crash severity per mile factor, the next 30 HIN corridors were determined.

Each of the Next30 HIN corridors were also preliminarily prioritized on a more limited set of prioritization factors. The next graphic displays the corridors and limits followed by the prioritization table.



Top 20 - Priority Matrix

Corridor and Extent

		Crash Severity / Mile	Ped/Bike Crash Rate/ Mile	Schools / Mile	Equity CoC Coverage	Posted Speed – Context Class Conflict	Transit Routes	High Volumes	
Brandon Blvd	Falkenburg Rd to Dover Rd								5.3
Gibsonston Dr/Boyette Rd	I-75 to Balm Riverview Rd								4.7
Hillsborough Ave	Longboat Blvd to Florida Ave								5.7
Fletcher Ave	Armenia Ave to 50th St								5.3
Dale Mabry	Hillsborough Ave to Bearss Ave								5.7
Lynn Turner	Gunn Hwy to Ehrlich Rd								3.3
Meridian Ave	Channelside Dr to Twiggs St								4.7
Bruce B Downs	Fowler Ave to Bearss Ave								6.0
50th/56th St	MLK Blvd to Hillsborough Ave								5.0
15th St	Fowler Ave to Fletcher Ave								4.3
Big Bend Road	US41 to I75								4.0
US301	I75 to Adamo Dr								3.7
Sheldon Rd	Hillsborough Ave to Water Ave								5.3
I4	I275 to 22nd St								3.7
56th St	Sligh Ave to Busch Blvd								5.0
I275	Howard Frankland Bridge to Busch Blvd								4.0
Kennedy Blvd	Dale Mabry to Ashley Dr								5.3
78th St	Causeway Blvd to Palm River Rd								4.3
CR579/Mango Rd	from MLK Blvd to US92								4.0
Florida Ave	Waters Ave to Linebaugh Ave								5.7

Priority Scoring

High
Medium
Low

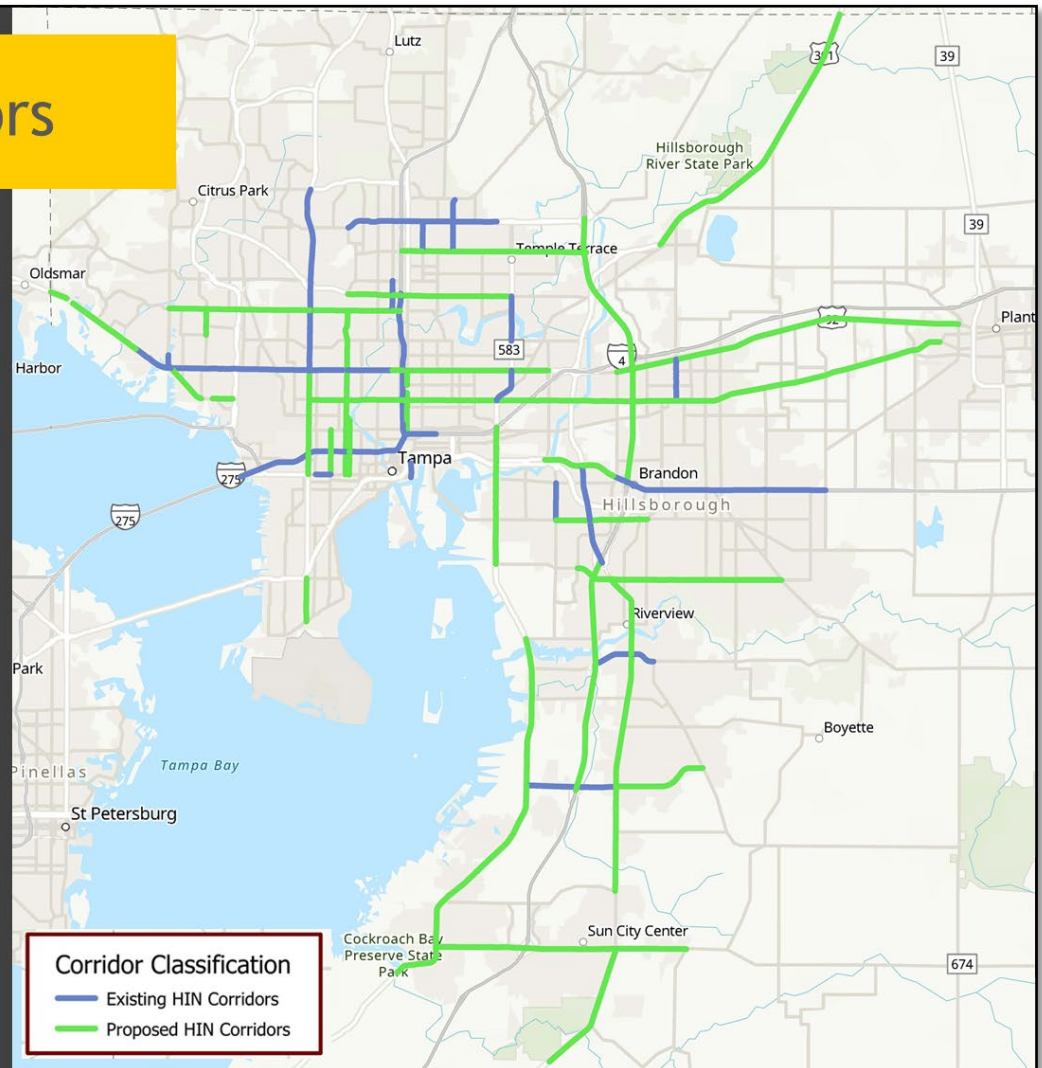
Performance Level

	High
	Medium
	Low



Next30 High Injury Corridors

Bloomingdale Ave - US Hwy 301 to Lithia Pinecrest Rd
US Hwy 41 - Gulf City Rd to Riverview Dr
US Hwy 301 - 19th Ave to Bloomingdale Ave
M L King Blvd - Dale Mabry Hwy to Parson Ave
US Hwy 41 - Madison Ave to I4
Big Bend Rd - I75 to Balm Riverview Rd
Busch Blvd - Armenia Ave to 56th Street
SR 674 (Sun City Ctr Blvd) - US Hwy 41 to CR579
I-75 - SR 60 to Fletcher Ave
Hillsborough Ave - Florida Ave to Orient Rd
Waters Ave - Sheldon Road to Dale Mabry Hwy
Fowler Ave - I275 to I75
US Hwy 301 - SR 674 to Lightfoot Rd
I-75 - Big Bend Rd to US Hwy 301
SR 60 /Adamo Dr - Orient Rd to Falkenburg Rd
Causeway Blvd - 78th St to Providence Rd
Waters Ave - Dale Mabry Hwy to Nebraska Ave
Progress Blvd - Falkenburg Rd to US Hwy 301
Hillsborough Ave - Race Track Rd to Longboat Blvd
Memorial Hwy - Hillsborough Ave to Veterans Expwy
Hanley Rd - Woodbridge Blvd to Waters Ave
Dale Mabry Hwy - Interbay Blvd to Gandy Blvd
Howard Ave - Kennedy Blvd to Tampa Bay Blvd
Dale Mabry Hwy - Kennedy Blvd to Hillsborough Ave
US Hwy 92 - Falkenburg Rd to Thonotosassa Rd
Nebraska Ave - Columbus Ave to Hillsborough Ave
US Hwy 301 - Stacy Rd to County Line
Armenia Ave - Tampa Bay Blvd to Waters Ave
MacDill Ave - Kennedy Blvd to Columbus Dr
M L King Blvd - McIntosh Rd to Sammonds Rd



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Next 30 - High Injury Corridors Priority Matrix

Corridor and Extent		Crash Severity / Mile	Schools / Mile	Equity CoC Coverage	Posted Speed - Context Class Conflict	High Volumes	
Bloomingtondale Ave	US Hwy 301 to Lithia Pinecrest Rd	High	High	Low	High	Medium	4.0
US Hwy 41	Gulf City Rd to Riverview Dr	Low	Medium	Medium	High	Low	1.3
US Hwy 301	19th Ave to Bloomingtondale Ave	Low	High	Low	High	Medium	3.3
M L King Blvd	Dale Mabry Hwy to Parson Ave	Low	High	High	High	Low	2.7
US Hwy 41	Madison Ave to I4	Medium	Low	Medium	High	Medium	3.0
Big Bend Rd	I75 to Balm Riverview Rd	High	High	Low	High	Low	3.7
Busch Blvd	Armenia Ave to 56th Street	Medium	High	High	High	Low	4.3
SR 674 (Sun City Ctr Blvd)	US Hwy 41 to CR579	High	Medium	Medium	High	Low	3.7
I-75	SR 60 to Fletcher Ave	Low	Low	Medium	Low	High	2.3
Hillsborough Ave	Florida Ave to Orient Rd	Medium	Medium	Medium	Medium	Medium	2.7
Waters Ave	Sheldon Road to Dale Mabry Hwy	Medium	Medium	High	High	Medium	4.0
Fowler Ave	I275 to I75	Low	High	High	High	Medium	4.0
US Hwy 301	SR 674 to Lightfoot Rd	Medium	Medium	Low	High	Low	3.0
I-75	Big Bend Rd to US Hwy 301	Low	Medium	Low	Low	High	2.3
SR 60 / Adamo Dr	Orient Rd to Falkenburg Rd	Medium	Low	Low	High	Medium	3.0

Corridor and Extent		Crash Severity / Mile	Schools / Mile	Equity CoC Coverage	Posted Speed - Context Class Conflict	High Volumes	
Causeway Blvd	78th St to Providence Rd	Medium	Medium	Medium	High	Medium	3.7
Waters Ave	Dale Mabry Hwy to Nebraska Ave	Medium	Medium	Medium	High	Low	3.3
Progress Blvd	Falkenburg Rd to US Hwy 301	Medium	High	Low	High	Low	3.3
Hillsborough Ave	Race Track Rd to Longboat Blvd	Low	Medium	Low	High	Medium	3.0
Memorial Hwy	Hillsborough Ave to Veterans Expwy	Low	High	Low	High	Medium	3.3
Hanley Rd	Woodbridge Blvd to Waters Ave	Medium	High	Low	Medium	Low	3.0
Dale Mabry Hwy	Interbay Blvd to Gandy Blvd	Medium	High	Low	High	Medium	3.7
Howard Ave	Kennedy Blvd to Tampa Bay Blvd	Medium	High	High	Medium	Low	3.7
Dale Mabry Hwy	Kennedy Blvd to Hillsborough Ave	Low	High	Medium	Medium	Medium	3.3
US Hwy 92	Falkenburg Rd to Thonotosassa Rd	Low	Low	Medium	Medium	Low	2.3
Nebraska Ave	Columbus Ave to Hillsborough Ave	Low	High	High	Medium	Low	3.3
US Hwy 301	Stacy Rd to County Line	Low	Low	Low	High	Low	2.3
Armenia Ave	Tampa Bay Blvd to Waters Ave	Medium	High	High	Medium	Low	3.7
MacDill Ave	Kennedy Blvd to Columbus Dr	Medium	High	Low	Medium	Low	3.0
M L King Blvd	McIntosh Rd to Sammonds Rd	Low	Low	Low	Medium	Low	3.0

Priority Scoring

High
Medium
Low

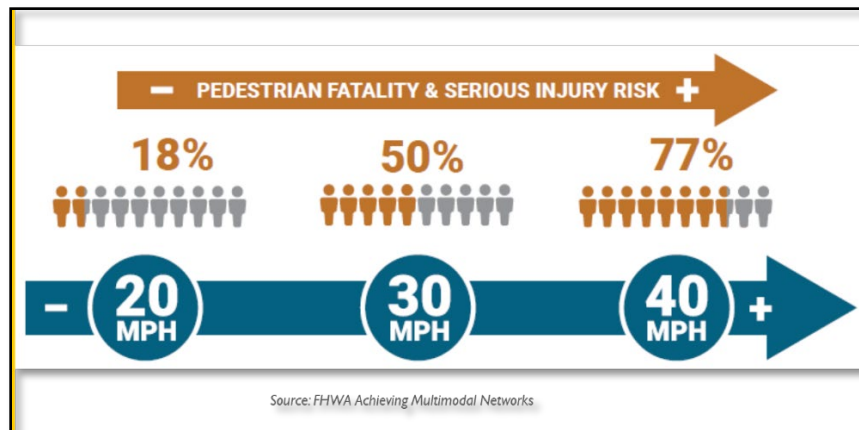
Performance Level

High
Medium
Low



III. STRATEGIES AND COUNTERMEASURES

Managing dangerous travel speeds is not just an effective strategy but is a critical tenet of Vision Zero. Given the vulnerability of the human body, it is the force of a crash related to speed and weight that most determines the severity. Someone walking who is hit by a car moving at 20 MPH has an 80% chance of survival, while that person only has closer to a 20% chance of survival if hit by a car moving at 40 MPH.



The FDOT, Hillsborough MPO, Hillsborough County and the City of Tampa have committed to Vision Zero, if serious about curtailing fatal and serious injuries, active management of speeds should be a top engineering, policy and legislative priority. It is time to reflect on the Vision Zero Principles:

- **Human life and health** are priorities in our community.
- Traffic deaths and severe injuries are **preventable**.

- **We are human and make mistakes.** The roadway system should be designed to protect us.
- **Speed is a critical factor** in crash severity, the most effective approach is to systematically prioritize safety over speed.
- **Responsibility is shared** between system designers and road users.

According to the Vision Zero Network, there are three major ways to do this:

First, designing self-enforcing roadways that physically encourage safe speeds through traffic calming and geometric design (examples include narrower travel lanes, roundabouts, and speed humps). The physical design of a roadway is the first and most impactful way to encourage speeds at safe levels.

Second, setting and communicating safe speed limits. In a complicated, multimodal environment, this means setting default speed limits at levels where severe injuries are unlikely when a car collides with a pedestrian, ideally 20 MPH or less. This may require change to some of the most established traffic engineering practices, such as setting speed limits at the 85th percentile of a car movements, as well as legislative action. The time is long overdue to change outdated, detrimental policies such as this.

And Third, enforce safe speed limits. Automated speed enforcement is a well-tested and proven strategy to encourage safe speeds. Cities such as Washington D.C., Chicago, NYC and many others across the world have effectively discourage speeding via the use of safety cameras. A particularly timely benefit is that this technology can lessen the degree of police officer discretion required in making traffic stops, important at a time when concerns about equitable law enforcement is at a particularly high and troubling level.

There are important considerations in utilizing automated speed enforcement technology, most around privacy and equity (for instance,

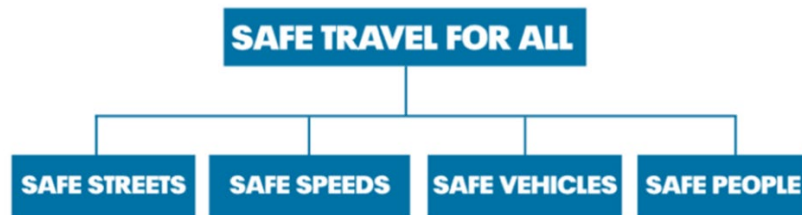
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fines present a disproportionate impact on low-income populations). These are valid concerns and can and should be addressed in any safety camera program, but the value of automated enforcement in protecting lives is high enough that it should be integrated into Vision Zero strategies.

Simply put, communities will not significantly advance Vision Zero goals if they do not directly and assertively manage speed on their roads. Vision Zero work that ignores speed management is merely playing in the margins of effectiveness.



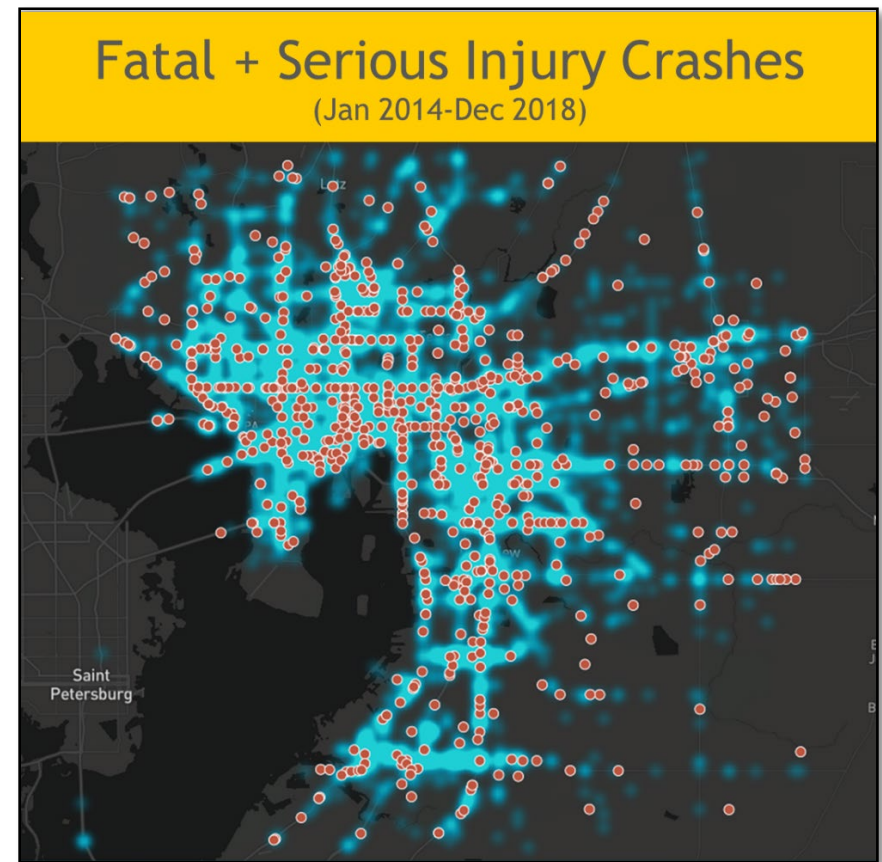
Source: Vision Zero Network

In order to provide guidance on how to design self-enforcing streets, the following tables of Speed Management tools have been created based on national best practices. The tool kit is divided into the following categories for easy access and reference. The tool kits also describe where the tools may be appropriate by Area and Location Type:

- Safe People Walking or Bicycling
- Safe Streets
- Safe Freeway Interchanges
- Safe Traffic Operations
- Education / Public Service Announcements

Details on these tools, their effectiveness and crash reduction effectiveness can be found via:

- Federal Highway Administration / US Department of Transportation
- Institute of Transportation Engineers
- National Association of City Transportation Officials
- Various Vision Zero Cities





Safe People Walking or Bicycling – Tool Kit

Countermeasure	Area Type			Location Type			Effects		
	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Safe People Walking or Bicycling:									
Pedestrian Crossing - High Visibility	✓	✓	✓	✓	✓	✓	✓	✓	✓
Raised Pedestrian Crossing	✓	✓		✓	✓	✓		✓	✓
Sidewalks Required on both sides	✓	✓		✓	✓	✓	✓		✓
Sidewalks (8 foot min standard)	✓	✓		✓	✓	✓	✓		✓
Sidewalk Separation (from travel lanes)	✓	✓	✓	✓	✓	✓	✓		✓
Mid-Block Pedestrian Crossing/Short Blocks	✓	✓			✓	✓	✓	✓	✓
Refuge Islands (raised/painted)	✓	✓		✓	✓	✓	✓	✓	✓
Painted Intersections / Crosswalks	✓	✓		✓	✓	✓		✓	✓
Protected Intersections	✓	✓		✓	✓	✓	✓	✓	✓
Bike Lanes (separated)	✓	✓		✓	✓		✓	✓	✓
Bike Lanes (protected)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shade Trees / Landscaping	✓	✓	✓	✓	✓	✓	✓	✓	✓
ADA Curb Ramps	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expand Radius of Safe Routes to School	✓	✓	✓	✓	✓	✓	✓	✓	✓
Work Zone Temporary Facilities	✓	✓		✓	✓	✓	✓	✓	✓
Create Shared / Slow Streets	✓			✓	✓		✓	✓	✓
Re-evaluate Context Class	✓	✓	✓		✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Safe Streets – Tool Kit

Countermeasure	Area Type			Location Type			Effects		
	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Safe Streets:									
Chicanes / Lateral Shifts	✓	✓		✓	✓	✓		✓	✓
Full / Half Closure	✓			✓	✓	✓	✓	✓	✓
Lane Width (10 foot standard)	✓	✓		✓	✓	✓	✓	✓	✓
Road Diet (repurpose space)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gateway Treatement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundabout	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mini Traffic Circle	✓	✓	✓	✓	✓		✓	✓	✓
Speed Tables/Raised Intersections	✓	✓		✓	✓	✓		✓	✓
Bulb Outs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Corner Radii / Radius Reduction	✓	✓	✓	✓	✓	✓		✓	✓
Centerline Hardening	✓	✓		✓	✓	✓	✓	✓	✓
Eliminate Acceleration Lanes	✓	✓		✓	✓	✓	✓	✓	✓
Eliminate Deceleration Lanes	✓	✓		✓	✓	✓		✓	✓
Eliminate Right Turn Channelization	✓	✓		✓	✓	✓	✓	✓	✓
On-Street Parking	✓	✓			✓	✓		✓	✓
Tactical Urbanism-Quick Fixes	✓	✓	✓	✓	✓	✓	✓	✓	✓
Provide Street / Pedestrian Lighting	✓	✓		✓	✓	✓	✓	✓	✓
Convert to Two-Way Streets	✓	✓	✓		✓	✓		✓	✓
Enhanced Curve Delineation	✓	✓	✓		✓	✓	✓	✓	✓
Optical Speed Bars/ Converging Chevrons	✓	✓	✓			✓	✓	✓	✓
Re-evaluate Context Class	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓		✓	✓	✓	✓	✓



Safe Freeways and Traffic Operations – Tool Kit

Countermeasure	Area Type			Location Type			Effects		
	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Safe Freeway Interchanges:									
Eliminate Acceleration Lanes	✓	✓	✓		✓	✓	✓	✓	✓
Redesign High Speed Exit Ramps	✓	✓	✓		✓	✓	✓	✓	✓
Redesign High Speed On-Ramps	✓	✓	✓		✓	✓	✓	✓	✓
Transverse(in lane) Rumble Strips	✓	✓	✓		✓	✓	✓	✓	✓
Provide Safe Continuous Bike Lanes	✓	✓			✓	✓	✓	✓	✓
Provide Safe Pedestrian Crossings	✓	✓			✓	✓	✓	✓	✓
Re-evaluate Context Class	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓		✓	✓	✓	✓	✓
Safe Traffic Operations:									
Lower Speed Limits	✓	✓	✓		✓	✓	✓	✓	✓
Add New Signals / Improve Connectivity	✓	✓	✓	✓	✓	✓		✓	✓
Protected-only Left Turn Signal Phasing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Signal Coordination-Target Speed	✓	✓		✓	✓	✓	✓	✓	✓
Variable Speed Limits (Expressways)	✓	✓						✓	✓
Driver Feedback Signs - Speed	✓	✓	✓		✓	✓	✓	✓	✓
Leading Pedestrian Interval	✓			✓	✓	✓	✓	✓	✓
Rectangular Rapid Flashing Beacon	✓	✓		✓	✓	✓	✓	✓	✓
Hybrid Ped Beacon / HAWK	✓	✓		✓	✓	✓	✓	✓	✓
Rest in Red Signal Operation	✓	✓	✓	✓	✓	✓	✓	✓	✓
Advanced Speed Detection Signals	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shorter Signal Cycle Lengths	✓	✓	✓	✓	✓	✓	✓	✓	✓
Traffic Signal- Demand Responsive off-peak	✓	✓	✓	✓	✓	✓	✓	✓	✓
Street Lighting / Pedestrian Level Lighting	✓	✓	✓	✓	✓	✓	✓	✓	✓
Update Pedestrian Countdown Timers	✓	✓	✓	✓	✓	✓	✓	✓	✓
Automated Section Speed Enforcement	✓	✓	✓		✓	✓	✓	✓	✓
Mobile Speed Camera Enforcement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red Light Cameras	✓	✓	✓	✓	✓	✓		✓	✓
Re-evaluate Context Class	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓		✓	✓	✓	✓	✓



Education – Tool Kit

Countermeasure	Area Type			Location Type			Effects		
	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Education / Public Service Announcement:									
Aggressive Driving	✓	✓	✓				✓	✓	✓
Respect for All Users w/Emphasis on Vulnerable	✓	✓	✓				✓	✓	✓
Motorcycle Safety	✓	✓	✓				✓	✓	✓
RRFB's / Hawk Operations	✓	✓	✓				✓	✓	✓
Automated Speed Enforcement	✓	✓	✓				✓	✓	✓
New Pavement Markings/Signs	✓	✓	✓				✓	✓	✓
New Conflict Zone Markings	✓	✓	✓				✓	✓	✓
Target Speed/Coordinated Signals	✓	✓	✓				✓	✓	✓
New Traffic Technology	✓	✓	✓				✓	✓	✓



IV. ACTIONS AND IMPLEMENTATION STRATEGY

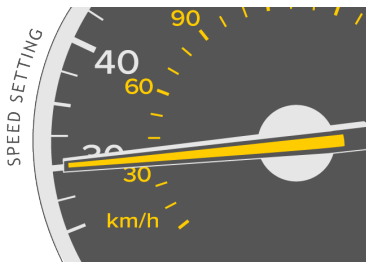
This study one and only goal is to improve public health and safety by reducing road fatalities and serious injuries. The desired outcomes agreed to include:

- **Improved safety experience** for all road users - pedestrians, bicyclists, and motorists.
- **Increase awareness** of the dangers of speeding.
- **Institutionalize good practices** in road design, traffic operations, engagement, education and safety.
- Identify **supportive policies, programs and infrastructure** improvements to meet safety goal.
- Obtain **cooperation and support** of stakeholders.

The actions and strategies developed to meet the desired outcomes have been categorized into five elements. These areas represent Speed Setting, Engineering & Operations, Education, Policy & Legislation, and finally, Plan Evaluation. Each element has various actions that are prioritized as short, mid or long-term actions.

It is important to recognize that managing speed to saves lives requires a systems approach to safety. It means each of the elements have to be addressed, tried, and possible adjusted with time. No one item or recommendation in this plan is the silver bullet to eliminating fatal and serious injury crashes. It is the persistent application of best practices in speed management, complete streets and the Vision Zero approach by all stakeholders responsible for use, planning, designing, constructing, and operating that will ultimately save lives.





SPEED SETTING ACTIONS

Action 1 – Regional Context Classification (Short Term)

- ✓ Agencies should update and publish Context Classification for every street in the county per ITE/CNU speed range guidance.
- ✓ Encourage FDOT Context Classification to define design criteria to be used within each classification and in conformance with ITE/CNU best practices.
- ✓ Identify and target corridors with egregious speed limits related to Context Classification.
- ✓ Review and update Context Classifications regularly per local growth and development plans. Classifications should mirror adopted future land use plans.

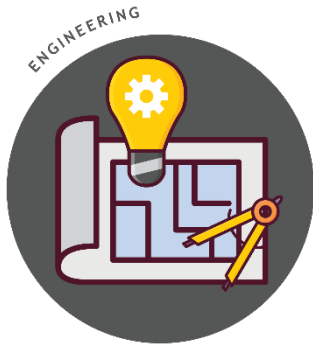
Action 2 –Evaluate All Projects (Short Term)

- ✓ Evaluate all ongoing projects at State, County and City levels per new Context Classifications and Speed Management best practices.
- ✓ All projects include: new roads, reconstruction projects, resurfacing projects, operations projects (ITS, signal progression).

- ✓ Incorporate the Safe Systems Approach (Safe Speeds, Safe People, Safe Streets).
- ✓ Ensure countermeasures comply with Safety Tool Kit.
- ✓ Review New Development and access plans for conformance with best practices.

Action 3 - Initiate a HC safety task force to engage on speed limit setting, improve consistency of outcomes, and restore credibility of speed limits. Desired task force outcomes: (Mid Term)

- ✓ Improve the methodology for determining operating speed per national best practices.
- ✓ Adopt a Safe Systems Approach – Target Speed
- ✓ Discourage the use of the 85th percentile method as the only criteria to set speed limits in urban, suburban and rural town centers.
- ✓ Encourage agencies to seek legislation to establish max speed limits. There will be exceptions, and those need to be justified. With exception of highways and freeways, max speeds per national best practices should be:
 - 20MPH in residential districts and streets
 - 25-35MPH on all other streets
- ✓ Provide guidance that address liability and tort barriers



ENGINEERING & OPERATION ACTIONS

Action 1 - Develop preliminary recommendations for Top50 High Injury Network corridors. (Short Term)

- ✓ Establish standard scope for all Vision Zero corridor evaluations to ensure consistency.
- ✓ Obtain travel speed data for Top50 High Injury Network corridors.
- ✓ Identify feasible countermeasures from the Speed Management resource table.
- ✓ Identify immediate quick fix (Tactical Urbanism) recommendations.
- ✓ Identify longer term recommendations, program and fund.

Action 2 – Update Design Manuals and Design Standards for roadway construction, operations and maintenance. (Short Term)

- ✓ Ensure the speed management concepts and countermeasures reflected.
- ✓ Incorporate more flexibility for multimodal design needs.
- ✓ Discourage overdesigning for future motor vehicle capacity where such design would encourage higher operating speeds and volumes.

- ✓ Include design guidance that is more protective of vulnerable users where variable speeds (transition areas) and where land use destinations suggest current or latent demand for walking and bicycling.

Action 3 – Incorporate design flexibility to reflect national best practices. (Short Term)

- ✓ Agencies should be encouraged to adopt and require national best practices on safety, vision zero and speed management (ITE, NACTO, Vision Zero Network, etc.)
- ✓ Update FDOT Street Design Standards - Replace “warrant” requirements with “guidelines” per FHWA principals. Especially in justification for pedestrian crossings and signals in high pedestrian areas, and school zones.
- ✓ Update Access Management design standards to ensure increased intersection density with traffic signal control, shorter blocks and improved neighborhood connectivity.

Action 4 – Establish Local Street Design Guidelines (Mid Term)

- ✓ Encourage local agencies City and County to establish context sensitive design guidelines to reflect local needs, community character and vision.
- ✓ Ensure prioritization of transportation modes for vulnerable users. Use a “People” first design approach.
- ✓ Ensure close coordination and refinement of land use / zoning / and development regulations.
- ✓ Ensure adoption of local agency ordinances/policies that would require developers to meet safety, speed management, and complete streets principles in new street design.



Action 5 – Traffic Operations Recommendations (Mid Term)

- ✓ Where operating speeds exceed the context classification ranges, identify and install the appropriate traffic control countermeasures to manage speed.
- ✓ Expand the use of automated traffic safety cameras in school zones, at intersections, and other locations that maybe approved under statute.
- ✓ Use traffic signal timing to manage traffic flow for compliance with target speeds on a corridor.
- ✓ Use radar feedback signs and messaging to help public understand that the speed limit is the maximum speed.
- ✓ Consider other technological applications, such as rest on red, to manage speeds.

Action 6 – Professional Development and Training (Mid Term)

- ✓ Provide educational opportunities for professionals, public officials on speed management principles, and the importance of vehicle speed and injury severity.
- ✓ Provide training on relationship between 85th percentile operating speed and the effect of increasing speed limits on fatal and serious injury crashes, versus less severe crashes.
- ✓ Provide training on speed management principals and how it affects land use, zoning ordinances, and development decisions.
- ✓ Provide educational opportunities on how to determine which streets need traffic calming techniques.

Action 7 – Fund Improvements to Achieve Speed Management Goals (Mid Term)

- ✓ Inventory current and future sources of funding for safety, speed management, mobility equity and sustainable transportation.
- ✓ Reprioritize increased funding for safety and speed management projects.
- ✓ Encourage competitive grant programs (safety programs, SRTS and Ped/Bicycle Safety Programs) to make speed management practices eligible for funding.
- ✓ Add speed management consideration in selection criteria to receive funding.
- ✓ Identify and pursue opportunities to incorporate speed management treatments with other projects.

Action 8 – Collaborate with law enforcement, firefighting and other emergency response professionals to generate support for Safety and Speed Management goals and implementation. (Long Term)

- ✓ Potential conversation topics may include:
 - ✓ Enforcement preference for multiple lanes so they have a lane to work in
 - ✓ Grid verses cul-de-sac issues
 - ✓ Lane width
 - ✓ On-Street parking value as friction for speed management
 - ✓ Travel time versus response time



EDUCATION ACTIONS

Action 1 – Educate the Public and Elected Officials (Short Term)

- ✓ Encourage public health and traffic safety partners to educate the public and elected officials about the importance of speed management and injury minimization.
- ✓ Create a one-page injury minimization and speed management that is easy to read and understand for decision makers (one for city and one for county).
- ✓ Apply principles of multicultural communication means to prepare and share traffic safety educational materials.
- ✓ Educate drivers by using advertising, updates to school curriculum and driver's education programs.

Action 2 – Encourage Elected officials to adopt Speed Management Policy (Short Term)

- ✓ Replicate steps used to encourage adoption of Complete Streets Policies, in a way that will inform the community and get support from elected officials.

- ✓ Create a one-page concise page that shows how injury minimization efforts support Complete Streets principles for staff and elected officials to use in response to public concerns.
- ✓ Integrate speed management in Complete Streets policies.

Action 3 – Develop Education Messages (Short Term)

- ✓ Encourage proper behavior by all road users.
- ✓ Obtain public understanding and support to prevent or reduce road rage and support positive traffic safety culture in communities.
- ✓ Inform the general public about the importance of using appropriate lower speed limits to save lives and achieve Vision Zero goals.

Action 3 – Draw on local resources and partners to develop community-based public awareness and education. (Short Term)

- ✓ Ensure that speed limits, including statutory maximums, are well-communicated to drivers.
- ✓ Improve and increase communications about the safety reasons for effective policies and strategies.
- ✓ Increase publicity and visibility of enforcement to enhance deterrent effects.
- ✓ Target education and outreach when speed limit or street design changes occur.



POLICY & LEGISLATIVE ACTIONS

Action 1 – Support Laws and Regulations necessary to ensure people are protected to the greatest extent possible. (Short Term)

- ✓ Encourage partner agencies to consider national best practices on setting speed limits and its implications.
- ✓ Discourage the use of the 85th percentile speed setting method as the only criteria used in urban, suburban and rural town centers.
- ✓ Develop and adopt a Speed Management Policy.
- ✓ Integrate speed management goals in Complete Streets policies.
- ✓ Encourage the use of automated traffic safety cameras for speed management in HIN corridors and school zones.

Action 2 - Set a firm Vision Zero fatal crash reduction goal (Short Term)

- ✓ Establish parameters for a 50% reduction in fatal and serious injury crashes by 2030.
- ✓ Redefine funding objectives to prioritize safety projects that comply with Vision Zero safety goals.
- ✓ Prioritize retrofitting existing corridors for all road users.

- ✓ Prioritize safety projects in LRTP and UWP to achieve Vision Zero fatal crash reduction goal.

Action 3 - Develop an inter-agency speed and safety review process to assess land use and transportation plans, designs, and implemented projects. That will: (Mid Term)

- ✓ Leverage parallel programs and initiatives where there are shared objectives and priorities.
- ✓ Coordinate land use and transportation plans in setting speed limits and street design characteristics.
- ✓ Set or revise speed limits early in project planning process.
- ✓ Conduct road safety audits of all new, pending and maintenance and operations projects.

Action 4 – Review and update Land Use Policies to ensure walkable, safe, and healthy communities. (Mid Term)

- ✓ Ensure mixed-use development patterns
- ✓ Ensure grid street system to improve connectivity
- ✓ Ensure multi-modal infrastructure on all developments
- ✓ Maximize the number of entry points to subdivisions
- ✓ Ensure self-enforcing street design
- ✓ Create slow streets in neighborhood settings
- ✓ Integrate neighborhood schools with safe access

Action 5 – Review and Initiate Traffic Safety Legislation (Mid Term)

- ✓ Pull on local partnerships and elected political officials to formulate a plan of action to address current and future traffic safety legislative needs, including but not limited to:
 - ✓ Update statutory speed setting legislation
 - ✓ State authority to utilize Automated Speed Enforcement
 - ✓ Initiate the need for a state Motorcycle Helmet Law
 - ✓ Identify other critical safety legislation needs



PLAN EVALUATION ACTIONS

Action 1 – Develop evaluation metrics and timeframes for plan updates.

- ✓ Establish quarterly updates of the Speed Management Action Plan.
- ✓ Establish post-project evaluation measures with qualitative and quantitative approaches, including:
 - ✓ Quantitative measures: speed reduction, crash reduction, serious injury/fatality reduction, and impact on travel time.
 - ✓ Qualitative measures: user observations, surveys



Appendix – Supporting Materials

Submitted by:



Engineering | Design | Planning | Construction Management



April 2020

Managing Speed on Hillsborough's High Injury Network



Hillsborough MPO
Metropolitan Planning
for Transportation



Appendix – Supporting Materials

Annotated Bibliography of Key Speed Management Resources

Table 1. Speed Management Resources - Annotated Bibliography.

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
Highway Safety Manual, 1st edition. American Association of State Highway and Transportation Officials: Washington, D.C., 2010. Available at: highwaysafetymanual.org .	<p><i>"The first edition of the [Highway Safety Manual] HSM provides the best factual information and tools in a useful form to facilitate roadway planning, design, operations, and maintenance decisions based on precise consideration of their safety consequences. The primary focus of the HSM is the introduction and development of analytical tools for predicting the impact of transportation project and program decisions on road safety.</i></p> <p><i>AASHTO's Highway Safety Manual webpage serves as the official HSM website where you can find the most up to date information and new developments on the HSM."</i></p>	-Engineers -Program Managers
Crash Modification Factors Clearinghouse. Interactive website resource. U.S. Department of Transportation, Federal Highway Administration web page. Available at: http://www.cmfclearinghouse.org/ .	<p><i>"This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center. This site is continually updated with the latest information on safety or crash effects of countermeasures. "A crash modification factor (CMF) is a multiplicative factor used to compute the expected number of crashes after implementing a given countermeasure at a specific site. The Crash Modification Factors Clearinghouse houses a Web-based database of CMFs along with supporting documentation to help transportation engineers identify the most appropriate countermeasure for their safety needs. Using this site, you can search to find CMFs" to treat identified problems.</i></p>	-Engineers -Program Managers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
CMFs in Practice. U.S. DOT, Federal Highway Administration web page Available at: http://safety.fhwa.dot.gov/tools/crf/resources/cmfs/ .	<i>“Crash modification factors (CMFs) support a number of safety-related activities in the project development process. The CMFs in Practice Series includes five separate guides that identify opportunities to consider and quantify safety in specific activities, including roadway safety management processes, road safety audits, design decisions and exceptions, development and analysis of alternatives and value engineering. The series also includes reference documents that provide background information on crash modification factors and safety performance functions.”</i>	-Engineers
Speed Concepts: Informational Guide. Washington, D.C.: Office of Safety, Federal Highway Administration, 2009. Available at: http://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa10001/ .	<i>“The objectives of this guide are to:</i> <ul style="list-style-type: none"> -Define common speed-related terminology so that the guide’s contents can be clearly conveyed. - Explain the differences between designated design speed, inferred design speed, operating speed, and posted speed limits. - Illustrate perceptions and research conclusions related to the effects of speed. -Document speed-based technical processes. - Summarize State and local government agency roles and actions related to traffic speed. - Highlight speed management and mitigation measures.” 	-Engineers -Enforcement -Others
Automated Enforcement for Speeding and Red Light Running. NCHRP Report 729, Washington, D.C.: Transportation Research Board, 2012. Available at: http://www.trb.org/main/blurbs/167757.aspx .	<i>“TRB’s [Transportation Research Board] National Cooperative Highway Research Program (NCHRP) Report 729: Automated Enforcement for Speeding and Red Light Running includes guidelines designed to help transportation agencies start-up and operate automated enforcement programs to improve highway safety by reducing speeding and red light running.”</i>	-Enforcement -Program Managers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
Engineering Countermeasures for Reducing Speeds: A Desktop Reference of Potential Effectiveness in Reducing Speed. FHWA Office of Safety website tool, 2014. Available at: http://safety.fhwa.dot.gov/speedmgt/ref_mats/engineering_countermeasures/2014/reducing_speed.cfm .	<i>"This chart summarizes studies about engineering countermeasures used to manage speeds. Studies where an increase in speed were reported are also shown since this information is also relevant in selection of countermeasures."</i>	-Engineers -Others
Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Crashes. FHWA Office of Safety website tool, 2014. Available at: http://safety.fhwa.dot.gov/speedmgt/ref_mats/engineering_countermeasures/2014/engineering_countermeasures_for_reducing_crashes.pdf	<i>"This chart summarizes studies about the effectiveness of engineering countermeasures. Studies where an increase in crashes were reported are also shown since this information is also relevant in selection of countermeasures."</i>	-Engineers -Others

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<i>Traffic Calming: State of the Practice.</i> Prepared for the U.S. Department of Transportation, Federal Highway Administration, by Institute of Transportation Engineers, 1999. Available at: http://www.ite.org/traffic/tcstate.asp - tcsop .	<i>"Traffic Calming: State of the Practice is an Informational Report of the Institute of Transportation Engineers (ITE) and the Federal Highway Administration (FHWA). The information in this document has been obtained from the research and experiences of transportation engineering and planning professionals. The report was prepared by ITE on behalf of FHWA for informational purposes only and does not include recommendations on the best course of action or the preferred application of the data."</i>	-Engineers
FHWA Guidance Memorandum on Consideration and Implementation of Proven Safety Countermeasures. Date: July 10, 2008 Available at: http://safety.fhwa.dot.gov/policy/memo071008/ .	Considerations and Implementation of Proven Safety Countermeasures.	-All
FHWA. Speed Management Safety. Available at: http://safety.fhwa.dot.gov/speedmgt/ .	FHWA Speed Management webpages and resources.	-Engineers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<p>Methods and Practices for Setting Speed Limits: An Informational Report. Washington, D.C.: Federal Highway Administration, Report no. FHWA-SA-12-004. Available at: http://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa12004/.</p>	<p><i>"This informational report describes four primary practices and methodologies that are used in establishing speed limits (engineering approach, expert systems, optimization, and injury minimization). It also reviews the basic legalities of speed limits and presents several case studies for setting speed limits on a variety of roads."</i></p>	<ul style="list-style-type: none"> -Engineers -Program Managers -Policy-Makers
<p>Community Speed Reduction and Public Health. Informational resources and case studies. Available at: http://hria.org/resources/reports/community-speed-reduction/2013-resources-speed-reduction.html.</p>	<p><i>"Motor vehicle crashes are the leading cause of unintentional injury deaths in the United States each year. In 2011, vehicle speed played a role in nearly one in three crash deaths, about ninety percent of which took place on non-Interstate roads. High speeds are especially dangerous for pedestrians and cyclists, who are disproportionately threatened by even small increases in traffic speed, when collisions occur. Poor road design, lack of enforcement, and speed limits that are set too high can encourage high speeds. Community-wide speed reduction strategies intervene in the built environment to slow down motor vehicles and are systematically applied within a defined geographic area."</i></p> <p>- See more at: http://hria.org/resources/reports/community-speed-reduction/2013-resources-speed-reduction.html - sthash.EqjnT2WZ.dpuf.</p>	<ul style="list-style-type: none"> -Public Health / Injury Prevention -Policymakers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<p>Interactive Highway Safety Design Model (IHSDM). Website with description and link to the IHSDM modeling tool. Available at: http://www.fhwa.dot.gov/research/tfhrc/projects/safety/comprehensive/ihsdm/.</p>	<p><i>"IHSDM development is coordinated with two related initiatives: the Highway Safety Manual, developed by the Transportation Research Board and published by AASHTO; and the SafetyAnalyst, developed by FHWA and now available as AASHTOWare.</i></p> <p><i>The Interactive Highway Safety Design Model (IHSDM) is a suite of software analysis tools for evaluating safety and operational effects of geometric design decisions on highways. IHSDM is a decision-support tool. It provides estimates of a highway design's expected safety and operational performance and checks existing or proposed highway designs against relevant design policy values. IHSDM results support decision making in the highway design process. Intended users include highway project managers, designers, and traffic and safety reviewers in State and local highway agencies and engineering consulting firms.</i></p> <p><i>IHSDM currently includes six evaluation modules (Crash Prediction, Design Consistency, Intersection Review, Policy Review, Traffic Analysis, and Driver/Vehicle)."</i></p>	-Engineers
<p>Managing Speed: Review of current practice for setting and enforcing speed limits. Transportation Research Board, Special Report 254, National Research Council. Washington, D.C., National Academy Press, 1998. Available: http://www.trb.org/Main/Blurbs/152251.aspx.</p>	<p><i>"Managing Speed: Review of Current Practices for Setting and Enforcing Speed Limits reviews practices for setting and enforcing speed limits on all types of roads and provides guidance to state and local governments on appropriate methods of setting speed limits and related enforcement strategies. Following an executive summary, the report is presented in six chapters and five appendices."</i></p>	-Engineers -Program Managers -Enforcement

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<p><i>Adding Power to Our Voices: A Framing Guide for Communicating about Injury.</i> National Center for Injury Prevention and Control: Atlanta, GA: US Department of health and Human Services, Centers for Disease Control and Prevention; 2008 (revised March 2010). Available: http://www.cdc.gov/injury/framing.</p>	<p><i>"This guide is designed to help organizations involved in injury and violence prevention and response speak with a consistent voice. The framing guide is built on the belief that the collective voice of many injury and violence professionals across several disciplines is much louder than that of an individual or single organization.</i></p> <p><i>This guide incorporates framing theory, message development techniques and vehicles for explaining important public health statistics. The information and tools provided in this Guide can be used to build messages that can be included in press releases, speeches, annual reports, and research articles, to help health professionals better communicate with their audiences."</i></p>	-Communications Specialists
<p><i>Roundabouts: An informational guide, Second edition.</i> NCHRP Report 672, Transportation Research Board: Washington, D.C., 2010. Available: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_672.pdf.</p>	<p><i>"This report updates the FHWA's Roundabouts: An Informational Guide based on experience gained in the United States since that guide was published in 2000. The report addresses the planning, design, construction, maintenance, and operation of roundabouts. It also includes information that will be useful in explaining to the public the trade-offs associated with roundabouts."</i></p>	-Engineers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<i>Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 21: Safety Data and Analysis in Developing Emphasis Area Plans.</i> Washington, DC: NCHRP, Transportation Research Board, 2008. Available: onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_500v21.pdf .	<i>"This guide specifically addresses highway safety data, an emphasis area under the management category in AASHTO's SHAP, and was developed to aid highway safety analysts in using the other implementation guides to make decisions about how to appropriately allocate safety funds to get the best results. Section I introduces a three-stage process for identifying a target emphasis area, setting an appropriate injury (and fatality) reduction goal, and defining the treatments that will allow the jurisdiction to reach that goal." Section II describes the types of data necessary; Section III lays out the details of the three-stage process; and the remaining sections provide a detailed description of the specific applications of the process and procedures for roadway segments, junctions, special road users, illegal driver actions, unsafe driver actions, work zones, and EMS services."</i>	-Program Managers -Data Analysts
<i>Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 23: A Guide for Reducing Speeding-Related Crashes.</i> Washington, DC: NCHRP, Transportation Research Board, 2009. Available: onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_500v23.pdf .	<p>Note: This guide, one of a series of 23 such guides in the NCHRP Report 500 series, describes essential processes and a speed management program planning framework, as well as specific strategies and countermeasures, to assist with meeting Strategic Highway Safety Plan objectives.</p> <p><i>"One of the hallmarks of the AASHTO Strategic Highway Safety Plan process is to approach safety problems in a comprehensive manner. The range of strategies available in the guides cover various aspects of the road user, the highway, the vehicle, the environment, and the management system. The guides strongly encourage the user to develop a program to tackle a particular emphasis area from each of these perspectives in a coordinated manner."</i></p>	-All Road Safety Practitioners -Program Managers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
Countermeasures that Work, 7th ed. Department of Transportation, National Highway Traffic Safety Administration, 2013. Available at: www.nhtsa.gov/staticfiles/nti/pdf/811727.pdf .	<i>"The National Highway Traffic Safety Administration has released the latest edition of its report that explores major highway safety strategies and countermeasures that are relevant to State Highway Safety Offices; summarizes their use, effectiveness, costs, and implementation time; and provides references to safety research summaries and individual studies."</i>	-Enforcement -Educators -Communications Specialists
Uniform Guidelines for State Highway Safety Programs. Highway Safety Program Guidelines No. 19. National Highway Traffic Safety Administration, 2006. Available: http://www.nhtsa.gov/nhtsa/whatsup/tea21/tea21programs/402guide.html#g19 .	The Speed Control Guidelines (no. 19) is one of 21 sets of uniform program guidelines for state highway safety programs developed for TEA21. <i>"Introduction: Each State, in cooperation with its political subdivisions, should have, as part of a comprehensive highway safety program, an effective speed control program that encourages its citizens to voluntarily comply with speed limits. The program should stress systematic and rational establishment of speed limits, a law enforcement commitment to controlling speed on all public roads, a commitment to utilize both traditional methods and state-of-the art equipment in setting and enforcing speed limits, and a strong public information and education program aimed at increasing driver compliance with speed limits."</i>	-Program Managers -Enforcement -Communications Specialists

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<i>Effectiveness of Behavioral Highway Safety Countermeasures, NCHRP Report 622.</i> Washington, DC: Transportation Research Board, 2008. Available: http://www.nap.edu/openbook.php?record_id=14195 .	<i>"The goal of this project is to assist states in selecting programs, projects, and activities that have the greatest potential for the reduction of highway death and injury. The specific objectives are as follows: Produce a manual for application of behavioral highway safety countermeasures and develop a frame-work and guidance for estimating the costs and benefits of emerging, experimental, untried, or unproven behavioral highway safety countermeasures."</i>	-Enforcement -Communications Specialists -Program Managers

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<p>Road Safety Audit resources on FHWA website: http://safety.fhwa.dot.gov/r sa/.</p> <p>FHWA Road Safety Audit Guidelines. Available: http://safety.fhwa.dot.gov/r sa/guidelines/.</p> <p>Pedestrian Road Safety Audit Guidelines and Prompt Lists. Highway Administration. Available: http://safety.fhwa.dot.gov/p ed bike/tools solve/ped rsa /.</p> <p>Bicycle Road Safety Audit Guidelines and Prompt Lists. Available: http://safety.fhwa.dot.gov/p ed bike/tools solve/fhwas a 12018/.</p>	<p><i>"A Road Safety Audit (RSA) is the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users. The FHWA works with State and local jurisdictions and Tribal Governments to integrate RSAs into the project development process for new roads and intersections, and also encourages RSAs on existing roads and intersections...</i></p> <p><i>The aim of an RSA is to answer the following questions:</i></p> <ul style="list-style-type: none"> -What elements of the road may present a safety concern: to what extent, to which road users, and under what circumstances? -What opportunities exist to eliminate or mitigate identified safety concerns? <p><i>Public agencies with a desire to improve the overall safety performance of roadways under their jurisdiction should be excited about the concept of RSAs. Road safety audits can be used in any phase of project development from planning and preliminary engineering, design and construction. RSAs can also be used on any sized project from minor intersection and roadway retrofits to mega-projects."</i></p> <p>Note: The pedestrian and bicycle road safety audit guidelines provide supplemental information focusing on safety and roadway issues particularly affecting those users.</p>	<ul style="list-style-type: none"> -Engineers -Planners -Law Enforcement -Other Road Safety Stakeholders

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
Safety Analyst. AASHTOWare. Network screening analysis tool. Available at: http://www.safetyanalyst.org/ .	<i>"Synopsis: SafetyAnalyst incorporates state-of-the-art safety management approaches into computerized analytical tools for guiding the decision-making process to identify safety improvement needs and develop a system wide program of site-specific improvement projects. SafetyAnalyst has a strong basis in cost-effectiveness analysis; thus, SafetyAnalyst has an important role in ensuring that highway agencies get the greatest possible safety benefit from each dollar spent in the name of safety. SafetyAnalyst was developed as a cooperative effort by FHWA and participating state and local agencies. AASHTO manages distribution, technical support, maintenance, and enhancement of SafetyAnalyst as a licensed AASHTOWare product."</i>	-Engineers
Speed Management: Road Safety Manual for Decision-makers and Practitioners. Geneva: Global Road Safety Partnership, 2008. Available at: http://www.who.int/roadsafety/projects/manuals/speed_manual/en/ .	<i>"This speed management manual proposes simple, effective and low-cost solutions to excessive and inappropriate speed that can be implemented on a national or local level. It targets governments, non-governmental organizations and road safety practitioners, particularly those in low- and middle-income countries. The manual is based on a modular structure that provides evidence, examples, case studies and practical steps on how to manage vehicle speed."</i>	-All Safety Stakeholders -Program Managers -Policymakers
U.S. DOT, NHTSA Branding website. Accessible at: http://www.trafficsafetymarketing.gov/TOOLS/Branding .	General traffic safety marketing guidance.	-Communications Specialists

Speed Management Resources - Annotated Bibliography		
Resource	Description	Primary Audience
<i>Speed Enforcement Camera Systems: Operational Guidelines.</i> Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration and Federal Highway Administration, 2008. Available at: http://ntl.bts.gov/lib/30000/30100/30166/810916.pdf .	<i>"The ASE guidelines are intended to serve program managers, administrators, law enforcement, traffic engineers, program evaluators, and other individuals responsible for the strategic vision and daily operations of the program. The guidelines are written from a U.S. perspective and emphasize U.S. contexts and best practices. However, they are also drawn from the experiences of exemplary programs internationally. Though international differences in law, history, and culture might influence best practices for ASE, the majority of these guidelines are relevant to ASE programs worldwide."</i>	-Enforcement -Engineering -Program Managers
USLimits2. FHWA. A Tool to Aid Practitioners in Determining Appropriate Speed Limit Recommendations. Tool available at: http://safety.fhwa.dot.gov/uslimits/	<i>"USLIMITS is a web based tool designed to help practitioners set reasonable, safe, and consistent speed limits for specific segments of roads. USLIMITS is applicable to all types of roads ranging from rural local roads and residential streets to urban freeways.</i> <i>User-friendly, logical, and objective, USLIMITS2 is of particular benefit to local communities and agencies without ready access to engineers experienced in conducting speed studies for setting appropriate speed limits. For experienced engineers, USLIMITS2 can provide an objective second opinion and increase confidence in speed limit setting decisions."</i> A related report documenting research for USLimits, 1 st ed.: <i>Expert System for Recommending Speed Limits in Speed Zones: Final Report.</i> National Cooperative Highway Research Program, Transportation Research Board. Available at: onlinepubs.trb.org/onlinepubs/trbnet/acl/NCHRP%200367_FinalReport.pdf .	-Engineers -Others responsible for setting speed limits

MANAGING SPEED on Hillsborough's High Injury Network

*Stakeholder Kick-Off Meeting
May 24, 2019*

Presented by:

Gena Torres



Hillsborough MPO
Metropolitan Planning
for Transportation

Paula Flores



Alex Henry





Welcome & Introduction



Study Objectives



FDOT Speed Management - Pilot Projects



Examples & Best Practices



Stakeholder Input



Image Source: Tampa Bay Online

SAFE STREETS NOW



ONE TRAFFIC DEATH IS TOO MANY

Formed a coalition to develop the Action Plan



...and
growing

Vision Zero Action Plan

- Future is not like the past
- Consistent & Fair
- Paint Saves Lives
- One message, many voices



THE FUTURE WILL NOT BE LIKE THE PAST



Goal 1: Update policies, standards and procedures to foster a culture of safety in planning and design of the transportation system

Goal 2: Create a safe multimodal transportation system through good design, lighting, and connected facilities

GOAL 1 – Future will not be like the past

Short-term action

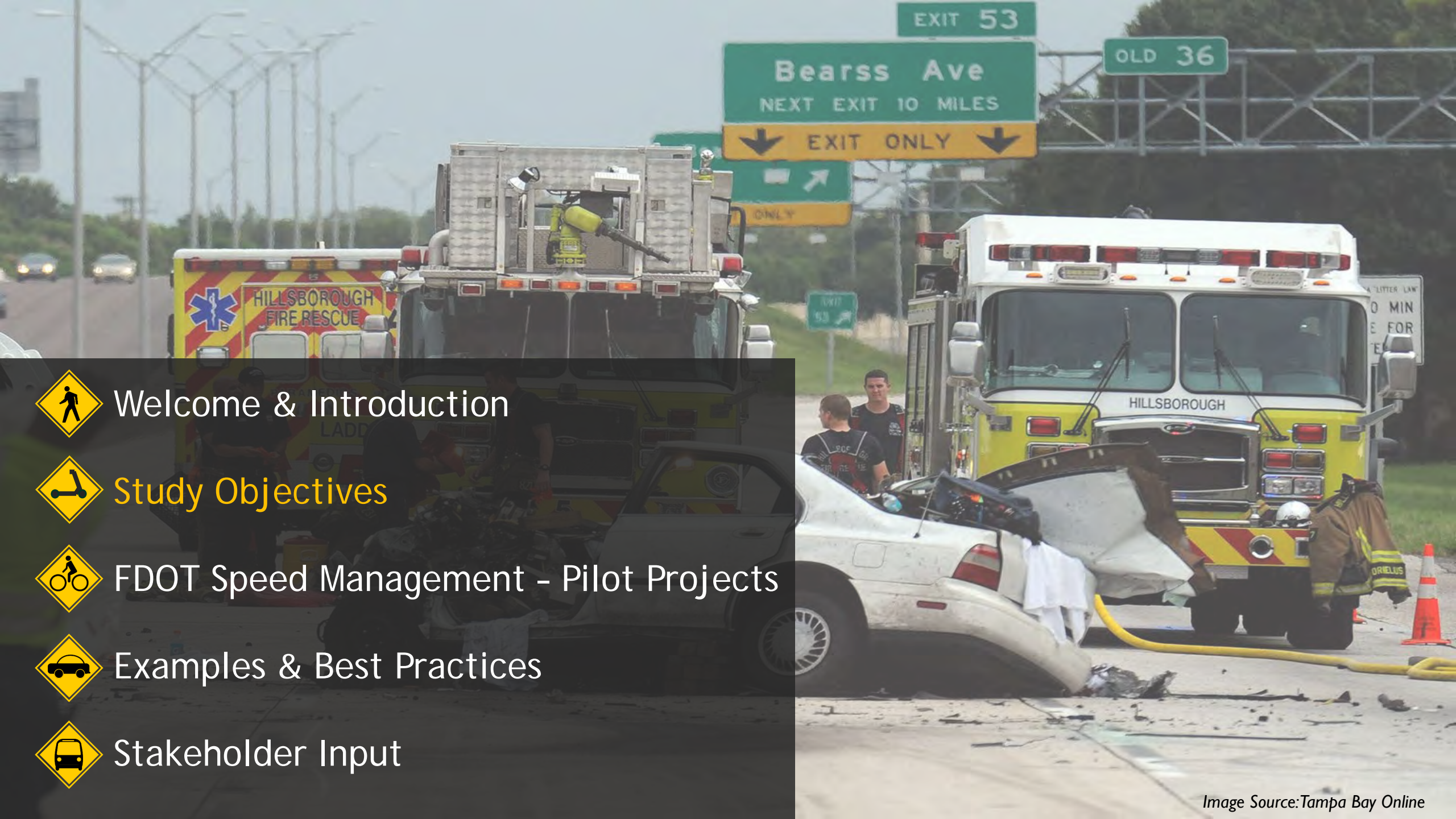
- Enhance requirements in local land development codes

Mid-term actions

- Enhance requirements in technical manuals
- Revisit and update maintenance of traffic policies
- Provide professional training opportunities

Long-term action

- Develop context classifications and target speeds within Vision Zero corridors, consistent with FDOT Complete Streets guidelines.



Welcome & Introduction



Study Objectives



FDOT Speed Management - Pilot Projects



Examples & Best Practices



Stakeholder Input

WHY IS IT IMPORTANT?

- Florida - most dangerous state for pedestrians and bicyclists in recent history
- Nations Top 10 metro areas with highest pedestrian fatalities
 - Cape Coral
 - Palm Bay
 - Orlando
 - Jacksonville
 - Daytona Beach
 - Lakeland
 - Tampa/St. Petersburg
 - Sarasota/Bradenton



On average, a person is dying on Hillsborough streets every other day!

BABY, 10 MONTHS, DIES IN I-75 CRASH

TBadmin | October 8, 2018



I-75 in the outside lane when she veered to the left to avoid debris in the roadway. Sailor lost control of the Hyundai, which traveled to the center median and collided with the guardrail, the car rotated and came to a final rest.

As it rotated, the baby and the 6 year old were thrown from the car and the 3 year old was injured.

Florida Highway Patrol | FHP | I-75 Crash | Tampa Bay News

#FloridaHighwayPatrol #FHP #I75Crash #TampabayNews

Two other children, ages 3 and 8, suffered no injuries in the single-vehicle crash. FHP troopers said the children were in car seats or wearing seat belts.

HILLSBOROUGH COUNTY – A 10-month-old baby died when thrown from a car during a crash on I-75, Highway Patrol said.

Two other children, ages 3 and 8, were taken to St. Joseph's Hospital with minor injuries. The genders of the children were not available. FHP troopers said none of the children were otherwise restrained.

The children's grandmother, Lorraine Sailor, 50, was driving the car, was not injured.

The crash happened about 3:11 p.m. on northbound I-75 at about the 266 mile marker in Hillsborough County.

Troopers said Sailor was driving a 2008 Hyundai.

RIVERVIEW MAN DIES IN I-75 CRASH

TBadmin | October 9, 2018



News

#FloridaHighwayPatrol #I75Crash #ThomasMillerIV #TampabayNews

The pickup truck he was driving was involved in the crash, FHP troopers said.

HILLSBOROUGH COUNTY – A man died in a single-vehicle crash on I-75 morning (Oct. 9) in a single-vehicle crash, Highway Patrol said.

Thomas Miller IV, 43, of Riverview, was taken to St. Joseph's Hospital with injuries.

The crash happened about 5:30 p.m. as Miller was approaching Fletcher Avenue.

Troopers said Mr. Miller was driving a 2014 Chevrolet Silverado pickup truck when, for unknown reasons, the truck traveled onto the shoulder and overturned, throwing Mr. Miller from the vehicle.

Florida Highway Patrol | I-75

ONE DEAD IN FIERY CRASH AT I-75 AND FOWLER AVENUE

TBadmin | October 3, 2018



Toyota, was also taken to St. Joseph's although he had no reported injuries emergent.

Angel Aldana Cablan, 63, of Port St. Lucie, another driver, suffered minor injuries but was not taken to a hospital.

Frank L. Harold, 62, and Jennie M. Harold, 63, of Bradenton, the driver and passenger in a Hyundai, were taken to Tampa General Hospital with minor injuries.

Patricia P. Folsom, 69, of Tampa, the driver of a Toyota SUV, was not injured.

The crash happened about 4:08 p.m. Tuesday (Oct. 2) at the I-75-Fowler Avenue interchange in Hillsborough County.

Troopers said Boynton, who was driving a 2004 Toyota Sequoia east on Fowler, turned onto the northbound entrance ramp to I-75. Boynton lost control of the Toyota and traveled across the

The first crash was on I-75. That collision caused the tractor-trailer to fall onto Fowler where a portion landed on a car, then caught fire, the Florida Highway Patrol said.

HILLSBOROUGH COUNTY – One man died in a two-vehicle crash that closed I-75 for several hours and was expected to close I-75 overnight, the Florida Highway Patrol said.

Daniel Lee Almond, 31, of Spring Hill, died at the scene.

Mr. Almond was an employee of the Florida Department of Transportation, Highway Safety and Motor Vehicles, which released this statement: "Through his work with the department, Daniel made tremendous impact helping to promote highway safety across the state of Florida, undoubtedly saving lives. We mourn his tragic loss and our prayers and support will remain with his family and friends during this time of grief."

Jennifer Louise Boynton, 40, of Belleview, one of the drivers in the two-vehicle crash, was taken to St. Joseph's Hospital with minor injuries. Scott Elving, 50, of Belleview, a passenger in Boynton's

BICYCLIST DIES IN HIT AND RUN CRASH

TBadmin | September 24, 2018



Alcohol is suspected as a factor in the crash, Hillsborough County Sheriff's Office said.

HILLSBOROUGH COUNTY – A Riverview man died in a hit-and-run crash (Sept. 23) when the bicyclist he was riding into the scene, the Hillsborough County Sheriff's Office said.

John Dilgard, 73, of Riverview, died at the scene. The crash happened about 12:42 a.m. on I-75 in Hillsborough County.

Mr. Dilgard was riding a yellow Duna moped on Kings Avenue when he was struck from behind by a vehicle. A person who called 911 to report a person down near the intersection of Cain Drive.

Deputies and paramedics from Hillsborough County responded to the crash and found Mr. Dilgard. Alcohol is suspected to have contributed to the crash, police said.

Deputies said a potential suspect was identified and charges are pending.

Hillsborough Sheriff | Hit and Run Crash | News

#HillsboroughSheriff #HitandRunCrash #TampabayNews

BRUCE B. DOWNS CRASH KILLS TWO

TBadmin | October 11, 2018



The six-vehicle crash closed the northbound lanes of Bruce B. Downs Boulevard for several hours.

TAMPA – Two people are dead and one is in critical condition after a six-vehicle crash Wednesday (Oct. 10) on Bruce B. Downs Boulevard, the Tampa Police Department said.

Mohamed Saad Hamdan Su Al Toobi, 34, of Tampa, was driving an Infiniti SUV, died at a local hospital after the crash. His front-seat passenger, a woman, died. The back-seat passenger's name was withheld pending an investigation. The back seat passenger was taken to the hospital with threatening injuries and was listed in stable condition.

The driver of one of the other vehicles was taken to the hospital with non-threatening injuries and is in stable condition. The other cars received minor injuries and are being investigated.

The crash happened about 5:27 p.m. at Bruce B. Downs Boulevard.

Police said the Infiniti was headed south on Bruce B. Downs from Amberly Drive. For reasons that are still under investigation, the Infiniti veered and struck the center divider, then rolled over the median into oncoming northbound traffic.

When the Infiniti entered the northbound lanes, it clipped the back end of another vehicle. The Infiniti continued into oncoming traffic where it collided with two other vehicles. Three other vehicles were also damaged because of secondary incidents caused by the crash. Six vehicles were involved, police said.

BRANDON MOTORCYCLIST DIES IN CRASH

TBadmin | October 2, 2018



Florida Highway Patrol | News

HILLSBOROUGH COUNTY – A crash on Monday (Oct. 1) in a crash on I-75, Highway Patrol said.

Ryan James Simpson, 31, of Tampa, was driving a 2014 Nissan pickup truck that was involved in the crash.

The crash happened about 4:08 p.m. Tuesday (Oct. 2) at the I-75-Fowler Avenue interchange in Hillsborough County.

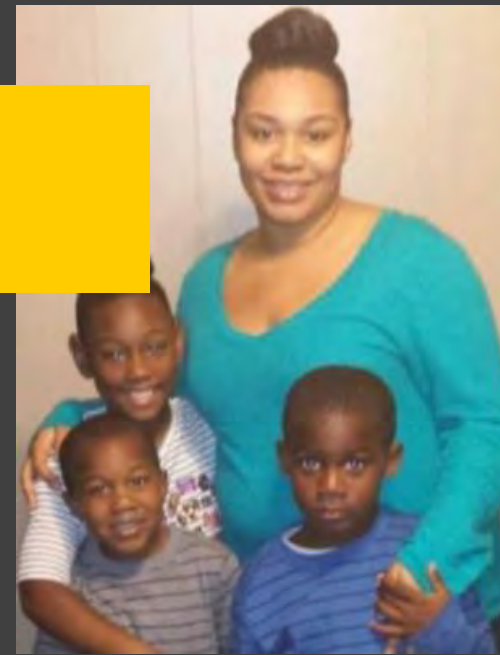
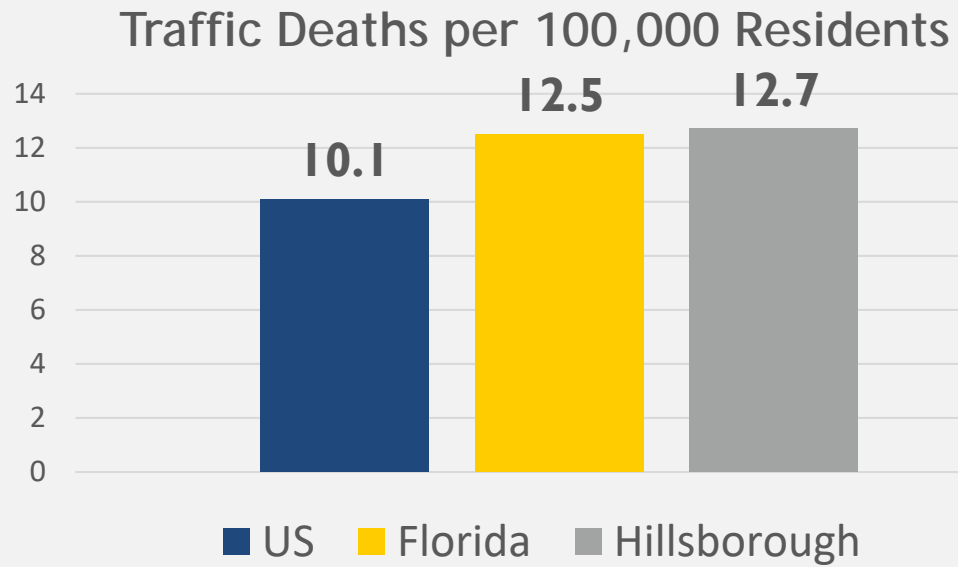
Troopers said Mr. Simpson was driving a 2014 Nissan pickup truck that was involved in the crash. The motorcycle ran into the side of the truck, causing it to flip over.

The motorcycle ran into the side of the truck, causing it to flip over. The driver of the truck was not injured. The motorcycle driver was taken to the hospital with injuries.

Florida Highway Patrol | News

#FloridaHighwayPatrol #RyanJamesSimpson #MotorcycleCrash #TampabayNews

TRAFFIC DEATHS



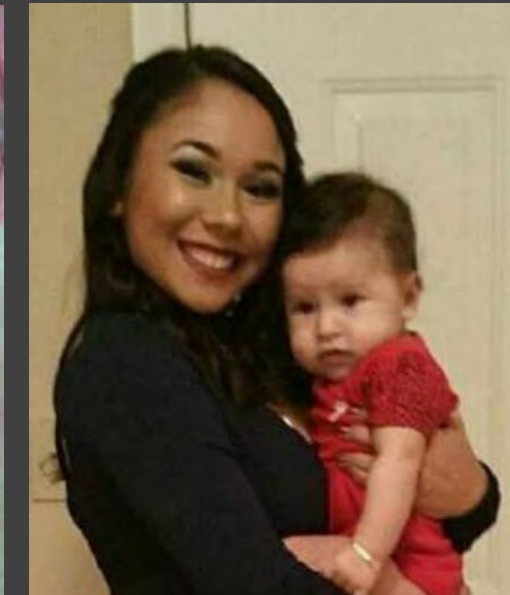
LaMour Welch, 29



Ernest Kelly, 12



Eugene Fischer, 65



Emily Lopez, 17

WHAT DOES THE DATA TELL US?



Image Source: Tampa Bay Online

For every 1 fatal crash...
8 incapacitating injury
crashes occur.

WHAT DOES THE DATA TELL US?

FATAL CRASHES

- 75% occur on roads with *posted speeds +40 mph*
- 75% of fatal & serious injury crashes occur on *one-third of our roads*
- 33% of fatal crashes involve *aggressive driving*
- Pedestrian crashes - one-third result in death or incapacitation

Tampa Bay Times

tampabay.com

SATURDAY, JANUARY 9, 2016

County traffic

Record fatal year: 51 pedestrians die



The 2015 deaths made Hillsborough County the most deadly place to walk in Tampa Bay.

PHOTO BY [unreadable]

A pedestrian crosses E Hillsborough Avenue at

292,000 new jobs keep U.S. perking

The hiring gains signal staying power, some analysts say

Associated Press
WASHINGTON — The economy is motoring despite slowing global growth, that caused upheaval in financial markets around the world.

Employers added 292,000 jobs last month, pushing the unemployment rate down to 5.1 percent, the Labor Department said Friday. Job gains in the October-December quarter averaged 284,000, the best three-month stretch since last January.

The strong hiring underscores the resilience of the United States at a time of global growth and financial turmoil. Healthy consumer spending, modest gains in construction and an upturn in government spending are offsetting a slowdown in private growth this year, economists said.

The report "immedi-ately" sent a lot of the recovery in the U.S. economy undone due to the in-ternational headwinds com-

1/3 OF ROADS ACCOUNT FOR 3/4

...of severe crashes

TOP 20 CORRIDORS

- 63 miles of roadway
- Comprise 4% of our roads
- 19% severe crashes in five years
- 36% of crashes - Aggressive driving
- 15% of crashes - Ped/Bike crashes

ROAD TO ZERO



"...incremental progress is no longer acceptable given the increasingly rapid advances in technology and the wealth of knowledge about how to prevent crashes..."

with the right *policies*, *technologies*, and *strategy*, we could *prevent all roadway deaths*"

USDOT, National Safety Council

MANAGING SPEED

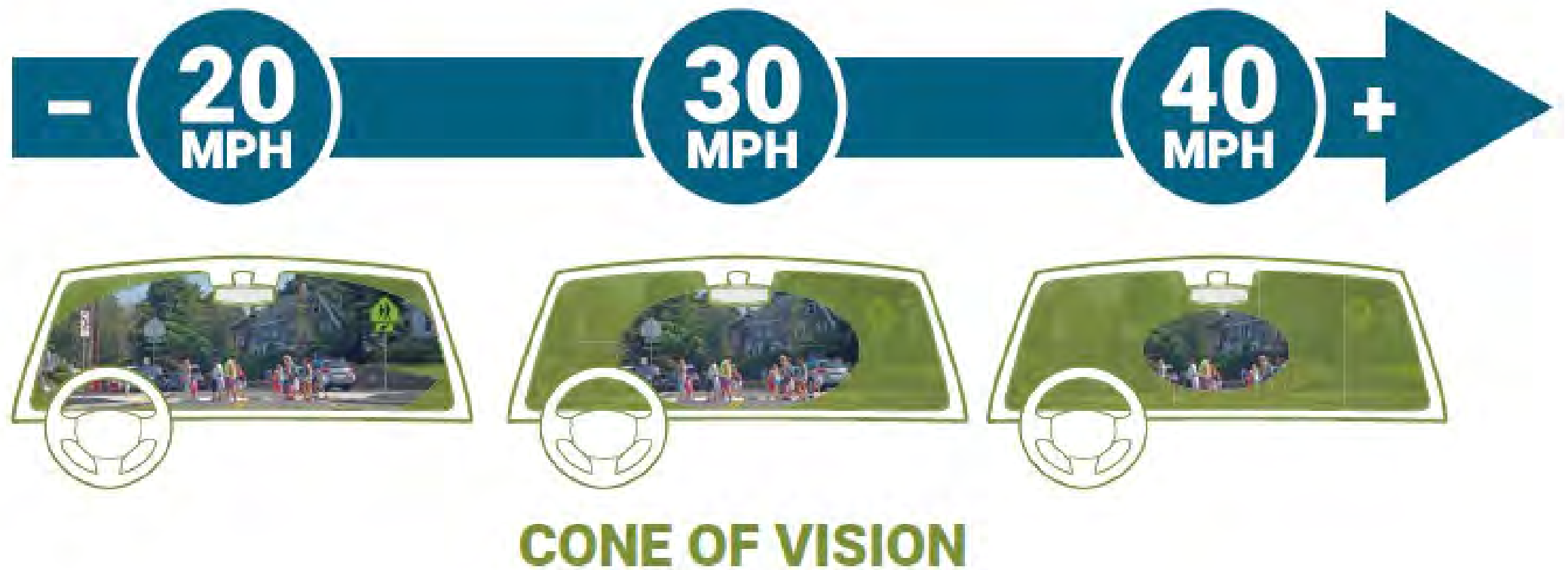
- Speeding kills more than 10,000/year
- On par with drunk driving
- Doesn't carry the same social consequences
- 30% of all fatal crashes nationwide
- Societal cost = \$40 Billion annually
- National problem, effective solutions must be applied locally



SPEED TAKES THE BACK SEAT



SPEED TAKES THE BACK SEAT



SPEED MATTERS MOST



SPEED LIMIT REDUCTION RESULTS

Seattle

- 40% in crashes
- 30% in injury crashes

NYC

- 14% in crashes
- 49% in pedestrian crashes
- 42% in bicyclist crashes

Mexico City

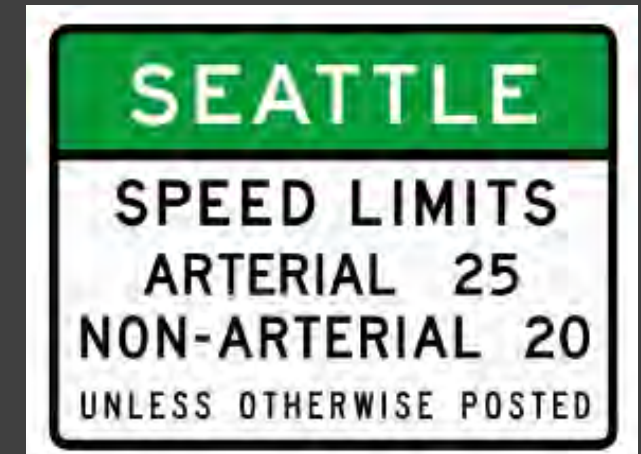
- 18% in crashes

Boston

- 30% in speeds over 35 MPH

Other Cities

- Portland, OR
- Cambridge, MA
- Albuquerque, NM
- Nashville, TN

A vertical poster for Boston's new 25 mph speed limit. It features a graphic of a speed limit sign on the left that reads "FOR A SAFER BOSTON" and "SPEED LIMIT 25". To the right of the sign, there is text explaining the change, including statistics on crashes and injuries, and a list of cities that have implemented similar limits. At the bottom, it states "EFFECTIVE 01.09.17" and provides the website "BOSTON.GOV/25MPH // VISIONZEROBOSTON.ORG".

Boston has a new default speed limit.

IF YOU DON'T SEE A SIGN, THE SPEED LIMIT IS 25 MPH.

HELP SPREAD THE WORD.
Talk with your family, neighbors, and friends about the speed limit change.

SHOW YOUR SUPPORT.
Visit boston.gov/25mph to learn how to show your support and get engaged.

BE AWARE OF YOUR SPEED.
Drive at or below the 25 mph speed limit. You can help save lives. If you crash, you're less likely to cause serious injury or death.

WHY THE CHANGE?
Reducing driving speeds from 30 mph to 25 mph will help make Boston safer for people of all ages and abilities walking, driving, and bicycling on our streets.

17% 30% 47%
LIKELIHOOD OF SEVERE OR FATAL INJURY

WHICH STREETS ARE AFFECTED?
The default speed limit applies to all streets without speed limit signs. Some streets will have signs with higher or lower speed limits.

EFFECTIVE 01.09.17
BOSTON.GOV/25MPH // VISIONZEROBOSTON.ORG

SPEED MANAGEMENT ACTION PLAN – Study Scope

- Stakeholder Involvement
- Speed Management Practices
- Corridor Prioritization
- Corridor Community Engagement
- Speed Management Action Plan



Study Objectives

GOAL

- Improve public health and safety by reducing road fatalities and serious injuries.

DESIRED OUTCOMES

- *Improved safety experience* for all road users - pedestrians, bicyclists, and motorists.
- *Increase awareness* of the dangers of speeding.
- *Institutionalize good practices* in road design, traffic operations, engagement, enforcement and safety.
- Identify *supportive policies, programs and infrastructure* improvements to meet safety goal.
- Obtain *cooperation and support* of stakeholders.

Task 1 – STAKEHOLDER ENGAGEMENT

Partners & Stakeholders

- Hillsborough County MPO
- Hillsborough County
- Hillsborough County School District
- City of Tampa
- City of Temple Terrace
- Plant City
- Law Enforcement
- FDOT
- HART
- THEA
- Florida Health Department

Engagement Rules

- Be engaged
- Be respectful of others
- Be creative, innovative
- Be positive
- Be a problem solver
- Be a motivator for change
- Be a Safety Warrior!

... people are dying and we can make a difference!

TASK 2 - SPEED MANAGEMENT PRACTICES

- Existing Speed Management Practices
- Industry Best Practices
 - Statewide & National



Education



Engineering



Enforcement



Equity



Evaluation

TASK 3 – CORRIDOR PRIORITIZATION

- Evaluate Top 20 HIN Corridors
- Develop Metrics for Prioritization
 - Severity
 - Equity
 - Focus on Pedestrian Crashes
 - Proximity to Schools
 - Ease of Implementation

**PROTECT
#EVERYSCHOOL
WITH SPEED SAFETY
CAMERAS**



Education



Engineering



Enforcement



Equity

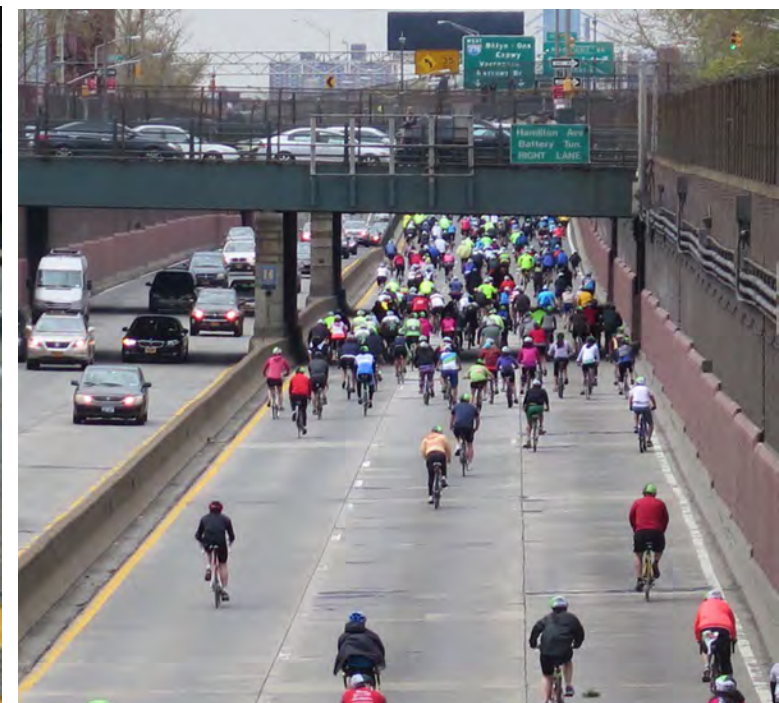


Evaluation



TASK 4 - CORRIDOR COMMUNITY ENGAGEMENT

- Community Event
- Select corridor
- Evaluate corridor needs - Baseline
- Identify and Install treatments & strategies



Task 5 -SPEED MANAGEMENT ACTION PLAN

Establish Enhanced Speed Management Practices

- In Conjunction with the Working Group
- Select Existing Speed Management Practices to Retain
- Select Statewide and National Best Practices to Adopt
- Generate Enhance Speed Management Practices





Welcome & Introduction



Study Objectives



FDOT Speed Management - Pilot Projects



Examples & Best Practices



Stakeholder Input



Image Source: Tampa Bay Online



Welcome & Introduction



Study Objectives



FDOT Speed Management - Pilot Projects



Examples & Best Practices



Stakeholder Input

WHAT IS SPEED MANAGEMENT?

SPEED MANAGEMENT PLAN ATTRIBUTES:

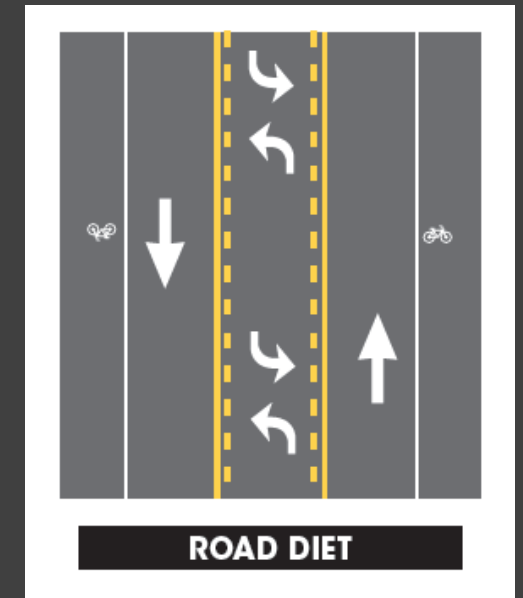
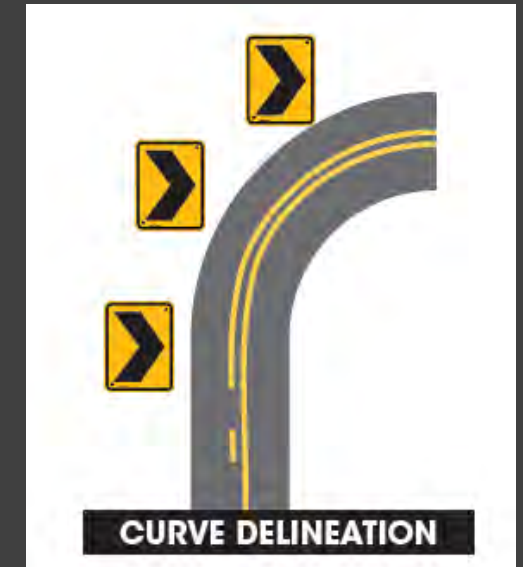
- Data-driven - crash, roadway, user, landuse data
- Applying road design, traffic operations, & safety measures
- Setting “appropriate/rational/desirable/safe” speed limits
- Institutionalize good practices
- Supportive enforcement efforts
- Effective outreach & public engagement
- Cooperation by traffic safety stakeholders



WHAT IS SPEED MANAGEMENT?

Design - Speed Management Countermeasures

- Road Diet
- Speed Humps / Tables
- Roundabouts
- Raised / Refuge islands
- On-Street Parking
- Street Trees
- Narrow Lane widths
- Horizontal/Vertical Curvature
- Short Blocks/ Midblock Crossings
- Pavement markings and Signs
- Leading Pedestrian Intervals
- No Right On Red



US METHOD OF SETTING SPEED LIMITS

Base speed predicated on:

- 85th percentile speed
 - ✓ Based on collective judgement of majority of drivers
 - ✓ Posted limits usually set about 5mph lower
 - ✓ Method not supported by evidence
- USLIMITS2
 - ✓ Considers road, traffic, crash data, access, density, ped/bike activity
 - ✓ Median or 50th percentile speed used to set speed limits
- Safe Systems Approach = TARGET SPEED



85th PERCENTILE SPEED SETTING

2017 National Traffic Safety Board Study

...leads to unintended consequences of higher operating speeds

and

...an undesirable cycle of speed escalation and reduced safety!



WHAT IS SPEED MANAGEMENT?

Intelligent Transportation Systems

- Driver feedback signs
- Install signals to maintain an orderly progression
- Time signals for target speed
- Rest in Red signals
- Excessive speeds trigger red signal indication
- Variable speed limits



WHAT IS SPEED MANAGEMENT?

SUPPORTIVE ENFORCEMENT TECHNIQUES

- Automated Speed Enforcement
- Automated Red Light Cameras
- Targeted enforcement on high crash corridors
- Higher fines on high crash corridors
- Radar and Laser Speed Monitoring
- Aerial enforcement





Welcome & Introduction



Study Objectives



FDOT Speed Management - Pilot Projects



Examples & Best Practices



Stakeholder Input

What do we focus on?

Share with your table potential metrics for prioritization of the corridors...

- What should be considered?
 - Pedestrian Crash Areas?
 - Proximity to schools?
 - Neighborhood demographics? Equity?
 - Severity of crashes?
 - Ease of implementation (low, medium, high cost?)
- Each table report back!



Other speed management techniques?

Share with your table other ideas...

- What is your agency doing?
- What else should be considered?
- Each table report back!



NEXT STEPS

- Initiate and Complete Task 2 and 3
- Schedule Working Group Meeting #2
 - Community Engagement Event
 - Pop-up Event



Education



Engineering



Enforcement



Equity



Evaluation



THANK YOU!

GPI

MANAGING SPEED on Hillsborough's High Injury Network

*Stakeholder Meeting
October 15, 2019*

Presented by:

Gena Torres



Hillsborough MPO
Metropolitan Planning
for Transportation

Paula Flores

GPI



Welcome & Introduction



Update on Prioritization Progress



Community Event - Candidate Corridor



Community Event - Process & Roles



Next Steps

Study Objectives

GOAL

- Improve public health and safety by reducing road fatalities and serious injuries.

DESIRED OUTCOMES

- *Improved safety experience* for all road users - pedestrians, bicyclists, and motorists.
- *Increase awareness* of the dangers of speeding.
- *Institutionalize good practices* in road design, traffic operations, engagement, enforcement and safety.
- Identify *supportive policies, programs and infrastructure* improvements to meet safety goal.
- Obtain *cooperation and support* of stakeholders.

SPEED MANAGEMENT ACTION PLAN – Study Scope

- Stakeholder Involvement
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- Speed Management Action Plan



TASK 3 – CORRIDOR PRIORITIZATION

- Evaluate Top 20 HIN Corridors
- Develop Metrics for Prioritization
 - Severity
 - Equity
 - Pedestrian Crashes
 - Proximity to Schools
 - Ease of Implementation

**PROTECT
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WITH SPEED SAFETY
CAMERAS**



Education



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Equity



Evaluation

HIN Crash Statistics (2014-2018)

- Total crashes - Increased by 13%
- Fatalities - Decreased by 4%
- Serious Injuries - Decreased by 30%
- Motorcycle crashes - Decreased by 10%
- Pedestrian Crashes - Increased by 10%
 - Pedestrian Fatalities - Increased by 41%
 - Serious Injuries - Reduced by 22%
- Bicycle Crashes - Reduced by 5%
 - -20%-30% Bicycle Fatalities/SI

Hillsborough County CDMS data
Crash data website: gpi.ninja/hillsborough/

2014 - 2018 Total Counts for Queried Years.		
30,778	+12.7% ↑	Total Crashes
113	-4.2% ↓	Total Fatalities
976	-29.1% ↓	Total Serious Injuries
61	-6.2% ↓	Total Speeding Crashes
380	-10.2% ↓	Total Fatalities & Injuries
30	-16.7% ↓	Total Fatalities
100	-13.0% ↓	Total Serious Injuries
323	+9.1% ↑	Total Fatalities & Injuries
48	+41.2% ↑	Total Fatalities
83	-21.7% ↓	Total Serious Injuries
220	-4.4% ↓	Total Fatalities & Injuries
8	-20.0% ↓	Total Fatalities
50	-29.6% ↓	Total Serious Injuries

HIN Crash Statistics (2014-2018)

Frequency by Age - <35 years old - 67% of Fatal crashes

Posted Speeds - 40MPH+ - 92% of Fatal crashes

Non-Intersection: 59% of Fatal crashes

Aggressive Driving/Speeding Related Factors: 71% of Fatal crashes

- Erratic Reckless, Aggravated maneuvers, ran off road, exceeded speed limit, ran red light, careless or negligent

Lighting: 53% of Fatal crashes occurred on “Dark-Lighted” streets

Time of Day: 83% of Fatal crashes occur Non-Peak

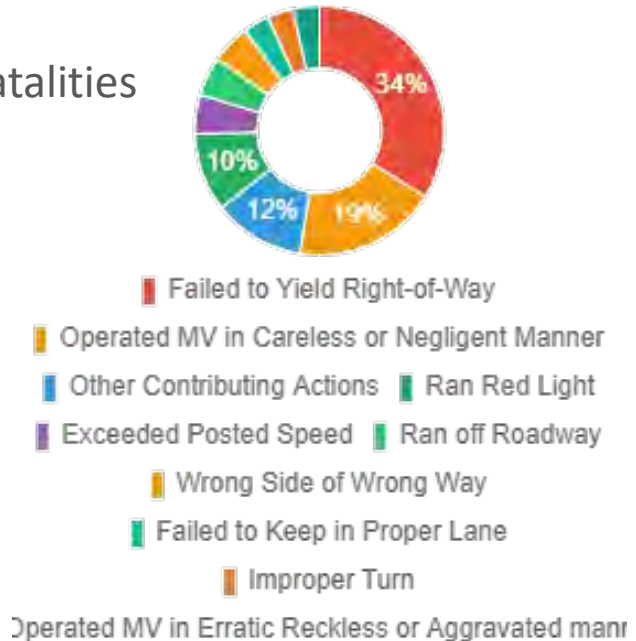
of travel Lanes: 59% of Fatal crashes occur on >4 travel lanes

Vehicle Type: Fatal crashes involved - 43% cars, 24% SUV, 14% Motorcycles

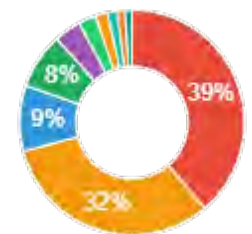
Crash data website: gpi.ninja/hillsborough/

Contributing Factors

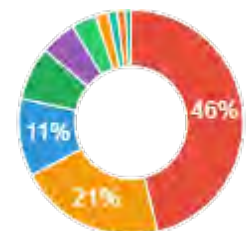
Fatalities



Serious Injuries



Total Crashes



SPEED MATTERS MOST



SPEED LIMIT REDUCTION RESULTS

Seattle

- 40% in crashes
- 30% in injury crashes

NYC

- 14% in crashes
- 49% in pedestrian crashes
- 42% in bicyclist crashes

Mexico City

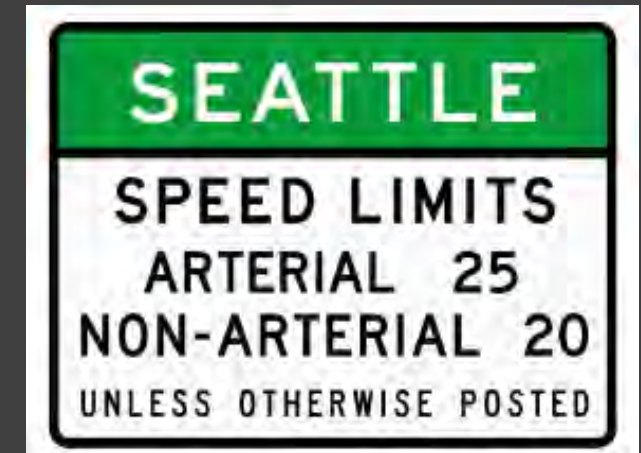
- 18% in crashes

Boston

- 30% in speeds over 35 MPH

Other Cities

- Portland, OR
- Cambridge, MA
- Albuquerque, NM
- Nashville, TN

A speed limit sign on a pole. The top sign is white with black text: "FOR A SAFER BOSTON". The bottom sign is white with blue text: "SPEED LIMIT" and large black text: "25".

Boston has a new default speed limit.

IF YOU DON'T SEE A SIGN, THE SPEED LIMIT IS 25 MPH.

HELP SPREAD THE WORD.
Talk with your family, neighbors, and friends about the speed limit change.

SHOW YOUR SUPPORT.
Visit boston.gov/25mph to learn how to show your support and get engaged.

BE AWARE OF YOUR SPEED.
Drive at or below the 25 mph speed limit. You can help save lives. If you crash, you're less likely to cause serious injury or death.

WHY THE CHANGE?
Reducing driving speeds from 30 mph to 25 mph will help make Boston safer for people of all ages and abilities walking, driving, and bicycling on our streets.

Speed	Likelihood of Severe or Fatal Injury
30	17%
25	30%
20	47%

WHICH STREETS ARE AFFECTED?
The default speed limit applies to all streets without speed limit signs. Some streets will have signs with higher or lower speed limits.

EFFECTIVE 01.09.17

BOSTON.GOV/25MPH // VISIONZEROBOSTON.ORG

Vision Zero City of Boston Mayor Martin J. Walsh

May Meeting - Stakeholder Feedback

Prioritization Factors:

(Ranked by order of most mentioned in breakout groups)

- Posted speed vs. context Class
- Regional equity (low income, Commissioner districts)
- Crash history
- Proximity to schools
- Ped/bike injuries
- Absence of lighting
- Ped/Bike level of stress
- Planned projects in Work Program / CIP
- Low hanging fruit - ease of implementation
- Transit service route
- Geometric features (volumes, lanes, intersection spacing)

Example Assessment – Posted Speed & Context Class

Corridor	Road Classification	Context Classification	ITE/CNU Class Speed Range*	Posted Speed (MPH)	Conflict Range (MPH)
1 Brandon Blvd from Falkenburg Rd to Dover Rd	Principal Arterial	C3 (35-55)	25-35 Max	45, 50, 55	10-20
2 Gibsonton Dr/Boyette Rd from I-75 to Balm Riverview Rd	Arterial	C3 (35-55)	25-35 Max	45	10
3 Hillsborough Ave from Longboat Blvd to Florida Ave	Principal Arterial	C3 (35-55)	25-35 Max	45, 50	10-15
4 Fletcher Ave from Armenia Ave to 50th St	Principal Arterial	C3 (35-55)	25-35 Max	35, 40, 45	5-10
5 Dale Mabry from Hillsborough Ave to Bearss Ave	Principal Arterial	C3-C4 (30-45)	25-35 Max	45	10
6 Lynn Turner from Gunn Hwy to Ehrlich Rd	Arterial	C3 (35-55)	25-35 Max	45	10
7 Meridian Ave from Channelside Dr to Twiggs St	Arterial	C6 (25-30)	25-30 Max	40	10
8 Bruce B Downs from Fowler Ave to Bearss Ave	Arterial	C3 (35-55)	25-35 Max	45	10
9 50th/56th St from MLK Blvd to Hillsborough Ave	Principal Arterial	C3 (35-55)	25-35 Max	45	10
10 15th St from Fowler Ave to Fletcher Ave	Collector	C4 (30-45)	25-35 Max	30	0
11 Big Bend Road from US41 to I75	Arterial	C3 (35-55)	25-35 Max	45	10
12 US301 from I75 to Adamo Dr	Principal Arterial	C3 (35-55)	25-35 Max	50	15
13 Sheldon Rd from Hillsborough Ave to Water Ave	Arterial	C3 (35-55)	25-35 Max	45	10
14 I4 from I275 to 22nd St	Freeway	Urban (50-70)	50-70	55	0
15 56th St from Sligh Ave to Busch Blvd	Principal Arterial	C4 (30-45)	25-35 Max	35, 45	10
16 I275 from Howard Frankland Bridge to Busch Blvd	Freeway	Urban (50-70)	50-70	55, 60	0
17 Kennedy Blvd from Dale Mabry to Ashley Dr	Principal Arterial	C4 (30-45)	25-35 Max	40, 45	5-10
18 78th St from Causeway Blvd to Palm River Rd	Arterial	C4 (30-45)	25-35 Max	45	10
19 CR579/Mango Rd from MLK Blvd to US92	Arterial	C4 (30-45)	25-35 Max	45	10
20 Florida Ave from Waters Ave to Linebaugh Ave	Arterial	C4 (30-45)	25-35 Max	40, 45	5-10

Overall

- 70% are 5-10MPH over National Practice
- 15% are 15-20MPH over National Practice

*Designing Walkable Urban Thoroughfares: A Context Sensitive Approach - An ITE Recommended Practice, ITE, CNU, 2010

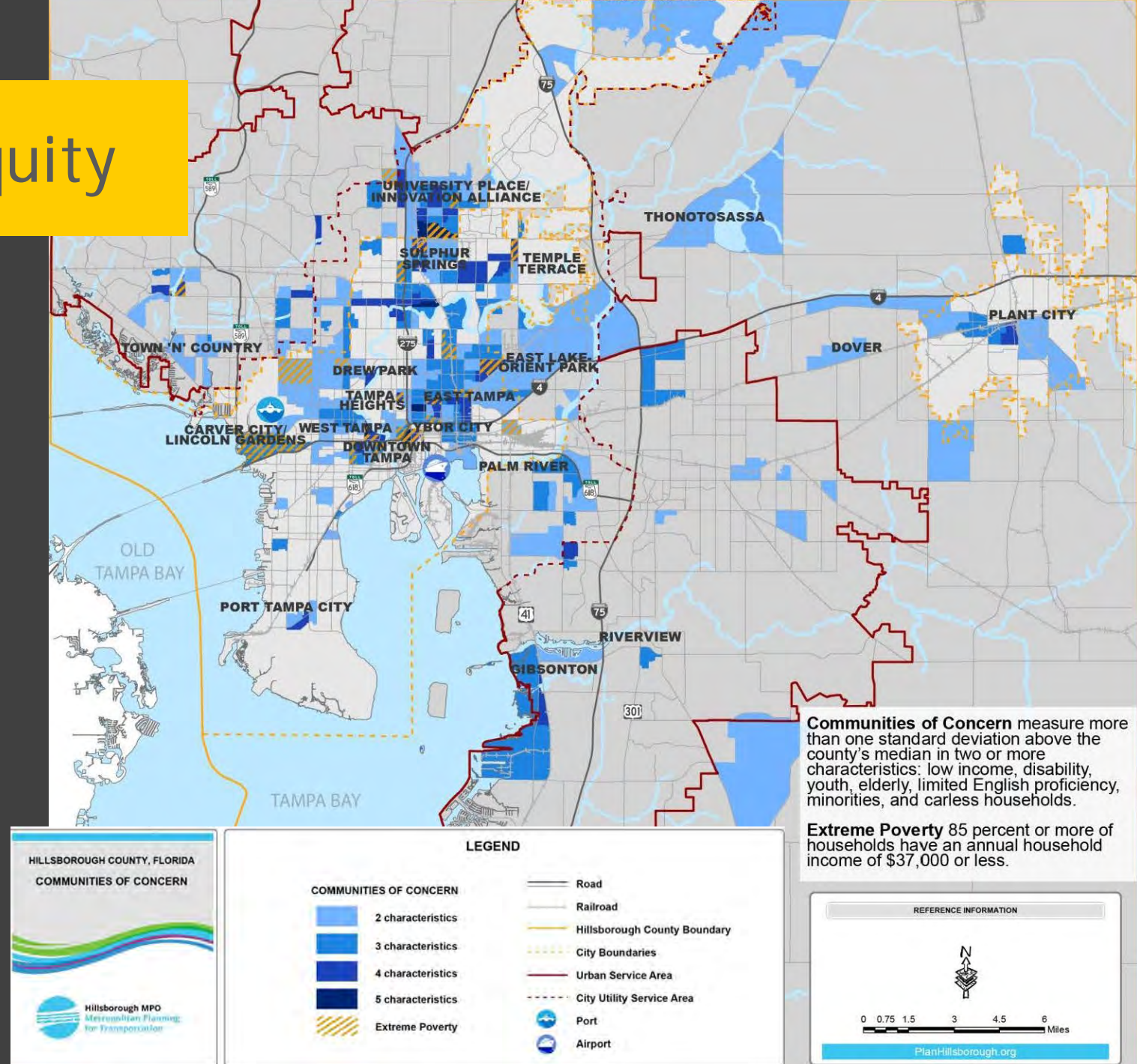
Sponsored by: FHWA Office of Infrastructure, Office of Planning, Environment and Realty, & Office of Sustainable Communities, US Environmental Protection Agency

Example Assessment - Equity



Communities of Concern

Which 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.


- Overlaid HIN corridors
- Estimated distance of frontage of each COC category on the corridor
- Assigned a point system for each COC category on the corridor
- Developed a Risk Performance Level - the higher the deviations, the higher the points, the higher the risk.

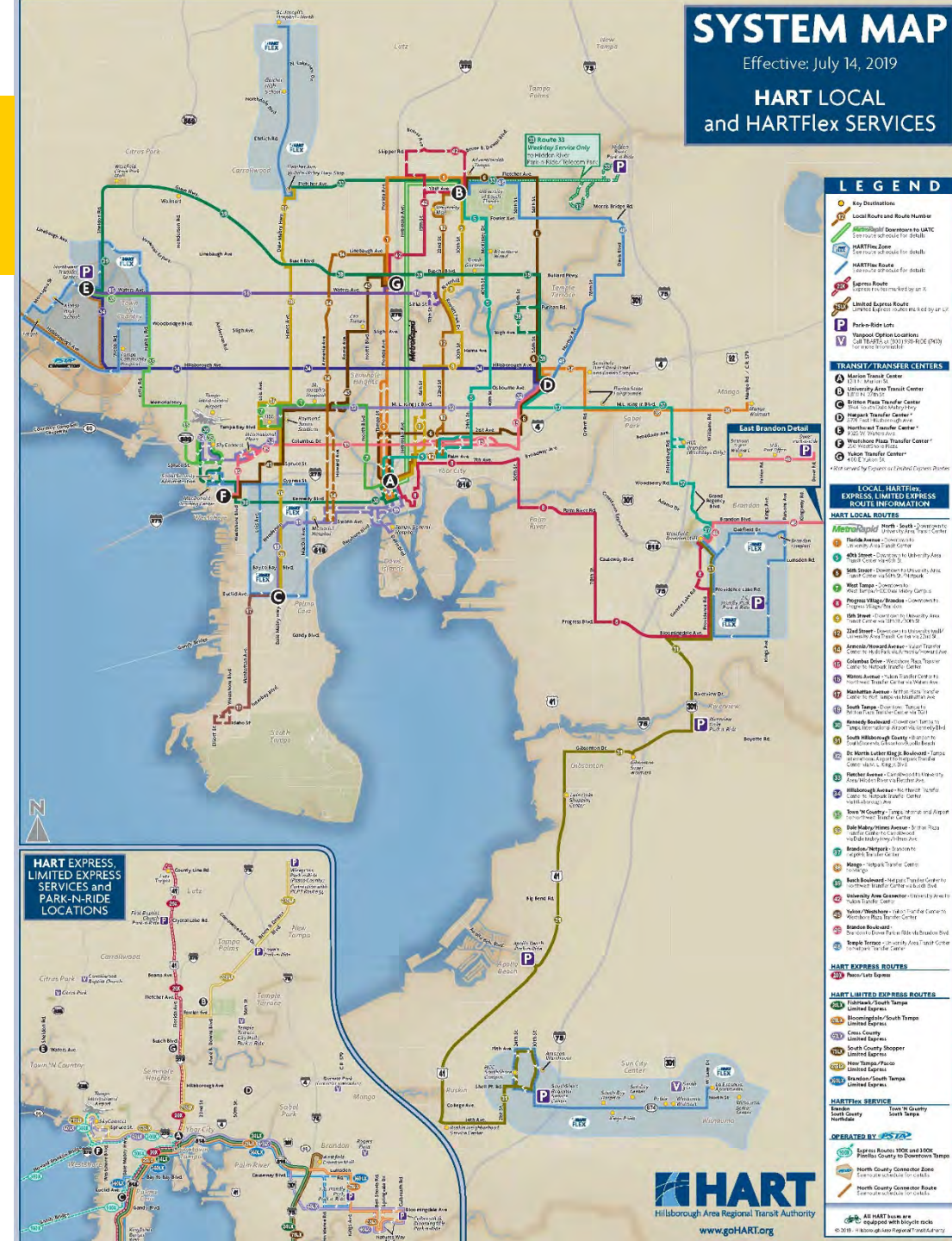


Example Assessment - Transit Service Routes

- Overlaid HIN corridors
 - Identified how many service routes traverse the corridor
 - Identified how many routes cross the corridor
 - Identified if a transfer center or park and ride lot exists
 - Identified what key destinations (grocery, health care, schools, etc.) exist with transit access
 - Assigned a point system for each category
 - Developed a Risk Performance Level - the higher the services provided, the higher the points, the higher the risk.
- | Performance Level | |
|---|--------|
|  | High |
|  | Medium |

Performance Level

	High
	Medium
	Low



Priority Matrix

Corridor and Extent		Crash Severity / Mile	Ped/Bike Crash Rate/Mile	Schools / Mile	Equity CoC Coverage	Posted Speed - Context Class Conflict	Transit Routes	High Volumes	High # Lanes	
Brandon Blvd	Falkenburg Rd to Dover Rd	●	◐	●	◐	●	◐	◐		5.3
Gibsonston Dr/Boyette Rd	I-75 to Balm Riverview Rd	●	◐	●	◐	●	◐	◐		4.7
Hillsborough Ave	Longboat Blvd to Florida Ave	◐	●	●	◐	●	◐	◐		5.7
Fletcher Ave	Armenia Ave to 50th St	◐	●	◐	●	●	◐	◐		5.3
Dale Mabry	Hillsborough Ave to Bearss Ave	◐	◐	●	●	◐	◐	◐		5.7
Lynn Turner	Gunn Hwy to Ehrlich Rd	◐	◐	◐	◐	◐	◐	◐		3.3
Meridian Ave	Channelside Dr to Twiggs St	●	◐	◐	◐	●	◐	◐		4.7
Bruce B Downs	Fowler Ave to Bearss Ave	◐	●	◐	●	●	◐	◐		6.0
50th/56th St	MLK Blvd to Hillsborough Ave	◐	◐	◐	●	●	◐	◐		5.0
15th St	Fowler Ave to Fletcher Ave	●	●	◐	●	◐	◐	◐	T	4.3
Big Bend Road	US41 to I75	◐	◐	●	◐	◐	◐	◐	B	4.0
US301	I75 to Adamo Dr	◐	◐	◐	◐	◐	◐	◐	D	3.7
Sheldon Rd	Hillsborough Ave to Water Ave	◐	●	●	◐	●	◐	◐		5.3
I4	I275 to 22nd St	●	◐	◐	◐	◐	●	●		3.7
56th St	Sligh Ave to Busch Blvd	◐	●	◐	◐	●	◐	◐		5.0
I275	Howard Frankland Bridge to Busch Blvd	◐	◐	◐	◐	●	●	●		4.0
Kennedy Blvd	Dale Mabry to Ashley Dr	●	◐	◐	◐	◐	◐	◐		5.3
78th St	Causeway Blvd to Palm River Rd	●	◐	◐	◐	◐	◐	◐		4.3
CR579/Mango Rd	from MLK Blvd to US92	◐	◐	●	◐	◐	◐	◐		4.0
Florida Ave	Waters Ave to Linebaugh Ave	●	●	◐	●	●	◐			5.7

Priority Scoring

	High
	Medium
	Low

Performance Level

●	High
◐	Medium
◐	Low



Welcome & Introduction



Update on Prioritization Progress



Community Event - Candidate Corridor



Community Event - Process & Roles



Next Steps

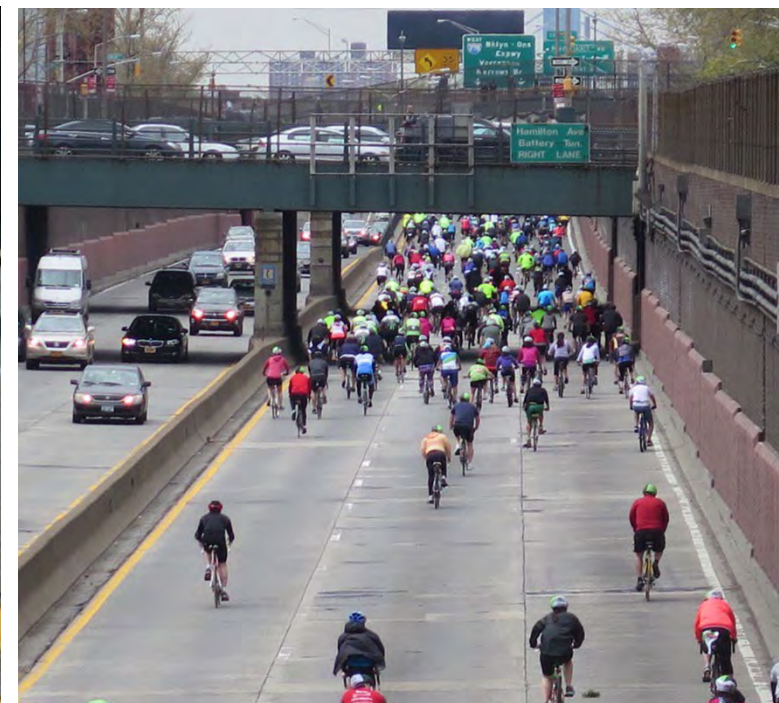


Image Source: Tampa Bay Online



TASK 4 - CORRIDOR COMMUNITY ENGAGEMENT

- Community Event
- Select corridor
- Evaluate corridor needs - Baseline
- Identify and Install treatments & strategies



EXAMPLE - Sheldon Road

- Hillsborough to Waters Ave (2014-2018)

- High Priority Corridor
- Over 15 Severe crashes per mile
- Total Crashes - Increased by 18%
- Fatalities - Increased by 13%
- Serious Injuries - Decreased by 32%
- Motorcycle crashes - More Fatal
- Pedestrian crashes - Increased by 4%
- Bicycle crashes - Decreased by 25%

Crash data website: gpi.ninja/hillsborough/

2014 - 2018			
Total Counts for Queried Years:			
953	+17.9% ↑	Total Crashes	
9	+12.5% ↑	Total Fatalities	
23	-32.4% ↓	Total Serious Injuries	
2	-33.3% ↓	Total Speeding Crashes	
6	-14.3% ↓	Total Fatalities & Injuries	Motorcycle Crashes
2	+100.0% ↑	Total Fatalities	
0	-100.0% ↓	Total Serious Injuries	
20	+4.0% ↑	Total Fatalities & Injuries	Pedestrian Crashes
2	0.0%	Total Fatalities	
7	-22.2% ↓	Total Serious Injuries	
13	-25.0% ↓	Total Fatalities & Injuries	Cyclist Crashes
0	-100.0% ↓	Total Fatalities	
2	-50.0% ↓	Total Serious Injuries	

EXAMPLE - Sheldon Road

- Hillsborough to Waters Ave (2014-2018)

Frequency by Age - <35 years old - 50% of Fatal crashes

Non-Intersection: 33% of Fatal crashes

T-Intersection: 44% of Fatal Crashes

Aggressive Driving/Speeding Related Factors: 72% of Fatal crashes

- Erratic Reckless, Aggravated maneuvers, ran off road, exceeded speed limit, ran red light, careless or negligent, drove too fast

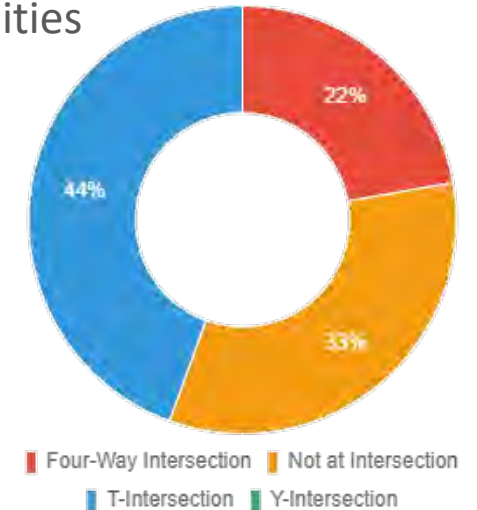
Lighting: 44% of Fatal crashes occurred at night

Time of Day: 78% of Fatal crashes occur Non-Peak

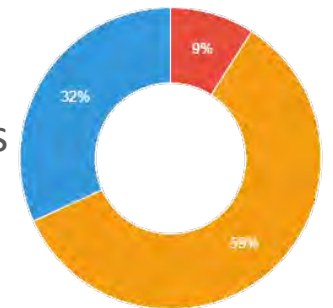
Vehicle Type: Fatal crashes involved - 62% cars, 13% SUV, 25% Motorcycles

Crash Location

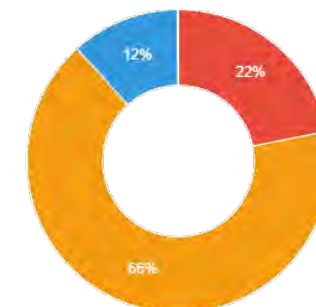
Fatalities



Serious Injuries



Total Crashes



It's your turn... What are your thoughts?

What speed management Pop-Up techniques could be considered on similar corridors?





Welcome & Introduction



Update on Prioritization Progress



Community Event - Candidate Corridor



Community Event - Process & Roles



Next Steps



Image Source: Tampa Bay Online

Community Event - Process

- Meet with local community leaders
- Set date early February
- Who to invite? Send invitations
- Prepare demonstration materials



Community Event - Stakeholder Roles

- Outreach
- Logistics
- Materials
- Set up
- Safety



Chicago, IL



LADOT - Los Angeles, CA



blogspot.com-Toronto



Fayetteville, AK



Bikewalkkc.org

NEXT STEPS

- Work with County and State - Candidate Corridor
- Task 4 Community Event - February
- Initiate - Task 5 Speed Management Action Plan



Education



Engineering



Enforcement



Equity



Evaluation



THANK YOU!



Hillsborough MPO
Metropolitan Planning
for Transportation

GP

VISIONZERO

HILLSBOROUGH



Hillsborough MPO
Metropolitan Planning
for Transportation

Stakeholder Meeting

April 27, 2020

MANAGING SPEED on Hillsborough's High Injury Network

Presented by:

Paula C. Flores, FITE
Transportation Planning Practice Leader
Greenman-Pedersen, Inc.
pflores@gpinet.com
@Paula_CFlores

GPI

Study Objectives

GOAL

- Improve public health and safety by reducing road fatalities and serious injuries.

DESIRED OUTCOMES

- *Improved safety experience* for all road users - pedestrians, bicyclists, and motorists.
- *Increase awareness* of the dangers of speeding.
- *Institutionalize good practices* in road design, traffic operations, engagement, enforcement and safety.
- Identify *supportive policies, programs and infrastructure* improvements to meet safety goal.
- Obtain *cooperation and support* of stakeholders.

SPEED MANAGEMENT ACTION PLAN – Study Scope

- Task 1 - Stakeholder Involvement
- Task 2 - Speed Management Practices
- Task 3 - Corridor Prioritization
- Task 4 – Next30 High Injury Corridors
- Task 5 - Speed Management Action Plan



Task 1 – STAKEHOLDER ENGAGEMENT

Partners & Stakeholders

- Hillsborough County MPO
- Hillsborough County
- Hillsborough County School District
- City of Tampa
- City of Temple Terrace
- Plant City
- Law Enforcement
- FDOT
- HART
- THEA
- Florida Health Department

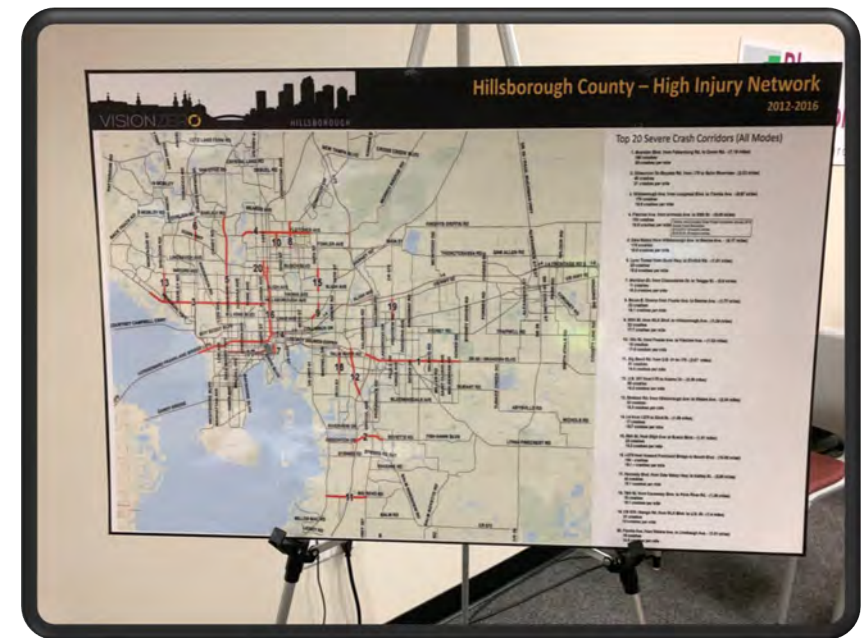
Engagement Rules

- Be engaged
- Be respectful of others
- Be creative, innovative
- Be positive
- Be a problem solver
- Be a motivator for change
- Be a Safety Warrior!

... people are dying, and we can make a difference!

Stakeholder Meetings

May 24, 2019
October 2019
April 2020



Stakeholder Feedback

Prioritization Factors:

(Ranked by order of most mentioned in breakout groups)



- Posted speed vs. context Class
- Regional equity (low income, Commissioner districts)
- Crash history
- Proximity to schools
- Ped/bike injuries
- Absence of lighting
- Ped/Bike level of stress
- Planned projects in Work Program / CIP
- Low hanging fruit - ease of implementation
- Transit service route
- Geometric features (volumes, lanes, intersection spacing)

Stakeholder Feedback

Potential Countermeasures:



- Wider use of Red-Light Cameras – do studies; change how we speak about them, and apply revenue for safety improvements
- Enforcement - Consider photo enforcement, share example case studies; manual vs automated enforcement assessment; need legislation.
- Outreach & Education – at schools; more resources to E's; build community partnerships; support from local elected officials
- Crosswalks - Elevated crosswalks; increase density in urban areas
- Tactical Urbanism – more pilot projects; use bollards/quick curb
- Traffic Signals - Coordination for target speed; increase density of # of signals; smart technology for vehicle detection;
- Speed Limit Signs – enhance visibility with panels and bright sticks
- Land use patterns – mixed and higher density
- More roundabouts
- More on-street parking
- Lane eliminations

TASK 2 - SPEED MANAGEMENT PRACTICES

- Existing Speed Management Practices
- Industry Best Practices
 - Statewide & National



Education



Engineering



Enforcement



Equity



Evaluation

WHAT IS SPEED MANAGEMENT?

SPEED MANAGEMENT PLAN ATTRIBUTES:

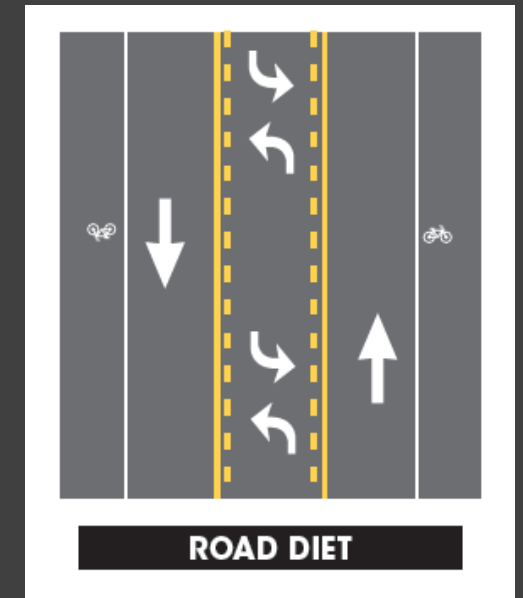
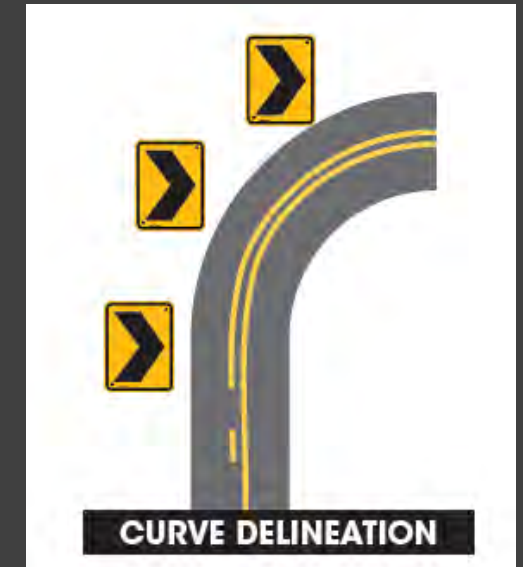
- Data-driven - crash, roadway, user, landuse data
- Applying road design, traffic operations, & safety measures
- Setting “appropriate/rational/desirable/safe” speed limits
- Institutionalize good practices
- Supportive enforcement efforts
- Effective outreach & public engagement
- Cooperation by traffic safety stakeholders



WHAT IS SPEED MANAGEMENT?

Design - Speed Management Countermeasures

- Road Diet
- Speed Humps / Tables
- Roundabouts
- Raised / Refuge islands
- On-Street Parking
- Street Trees
- Narrow Lane widths
- Horizontal/Vertical Curvature
- Short Blocks/ Midblock Crossings
- Pavement markings and Signs
- Leading Pedestrian Intervals
- No Right On Red



WHAT IS SPEED MANAGEMENT?

Intelligent Transportation Systems

- Driver feedback signs
- Install signals to maintain an orderly progression
- Time signals for target speed
- Rest in Red signals
- Excessive speeds trigger red signal indication
- Variable speed limits



WHAT IS SPEED MANAGEMENT?

SUPPORTIVE ENFORCEMENT TECHNIQUES

- Automated Speed Enforcement
- Automated Red Light Cameras
- Targeted enforcement on high crash corridors
- Higher fines on high crash corridors
- Radar and Laser Speed Monitoring
- Aerial enforcement



TASK 3 – CORRIDOR PRIORITIZATION

- Evaluate Top 20 HIN Corridors
- Develop Metrics for Prioritization
 - Severity
 - Equity
 - Focus on Pedestrian Crashes
 - Proximity to Schools
 - Ease of Implementation

**PROTECT
#EVERYSCHOOL
WITH SPEED SAFETY
CAMERAS**



Education



Engineering



Enforcement



Equity



Evaluation

Example Assessment -Posted Speed & Context Class

Overall

- 70% are 5-10MPH over National Practice
- 15% are 15-20MPH over National Practice

Corridor	Road Classification	Context Classification	ITE/CNU Class Speed Range*	Posted Speed (MPH)	Conflict Range (MPH)
Brandon Blvd from Falkenburg Rd to Dover Rd	Principal Arterial	C3 (35-55)	25-35 Max	45,50, 55	10-20
Gibsonston Dr/Boyette Rd from I-75 to Balm Riverview Rd	Arterial	C3 (35-55)	25-35 Max	45	10
Hillsborough Ave from Longboat Blvd to Florida Ave	Principal Arterial	C3 (35-55)	25-35 Max	45, 50	10-15
Fletcher Ave from Armenia Ave to 50th St	Principal Arterial	C3 (35-55)	25-35 Max	35, 40, 45	5-10
Dale Mabry from Hillsborough Ave to Bearss Ave	Principal Arterial	C3-C4 (30-45)	25-35 Max	45	10
Lynn Turner from Gunn Hwy to Ehrlich Rd	Arterial	C3 (35-55)	25-35 Max	45	10
Meridian Ave from Channelside Dr to Twiggs St	Arterial	C6 (25-30)	25-30 Max	40	10
Bruce B Downs from Fowler Ave to Bearss Ave	Arterial	C3 (35-55)	25-35 Max	45	10
50th/56th St from MLK Blvd to Hillsborough Ave	Principal Arterial	C3 (35-55)	25-35 Max	45	10
15th St from Fowler Ave to Fletcher Ave	Collector	C4 (30-45)	25-35 Max	30	0
Big Bend Road from US41 to I75	Arterial	C3 (35-55)	25-35 Max	45	10
US301 from I75 to Adamo Dr	Principal Arterial	C3 (35-55)	25-35 Max	50	15
Sheldon Rd from Hillsborough Ave to Water Ave	Arterial	C3 (35-55)	25-35 Max	45	10
I4 from I275 to 22nd St	Freeway	Urban (50-70)	50-70	55	0
56th St from Sligh Ave to Busch Blvd	Principal Arterial	C4 (30-45)	25-35 Max	35, 45	10
I275 from Howard Frankland Bridge to Busch Blvd	Freeway	Urban (50-70)	50-70	55, 60	0
Kennedy Blvd from Dale Mabry to Ashley Dr	Principal Arterial	C4 (30-45)	25-35 Max	40, 45	5-10
78th St from Causeway Blvd to Palm River Rd	Arterial	C4 (30-45)	25-35 Max	45	10
CR579/Mango Rd from MLK Blvd to US92	Arterial	C4 (30-45)	25-35 Max	45	10
Florida Ave from Waters Ave to Linebaugh Ave	Arterial	C4 (30-45)	25-35 Max	40, 45	5-10

*Designing Walkable Urban Thoroughfares: A Context Sensitive Approach- An ITE Recommended Practice, ITE, CNU, 2010

HIN Crash Statistics (2014-2018)

Fatal Crash Characteristics



67%

92%



59%



Non-Intersections

Aggressive Driving/Speeding

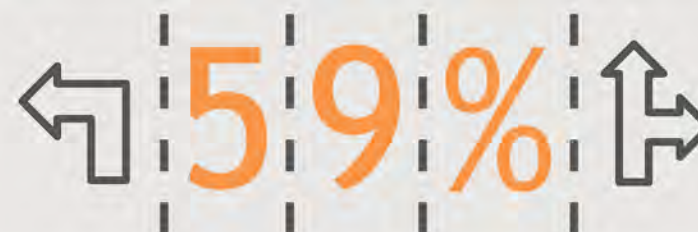
Erratic Reckless, Aggravated maneuvers, ran off road, exceeded speed limit, ran red light, careless or negligent

71%

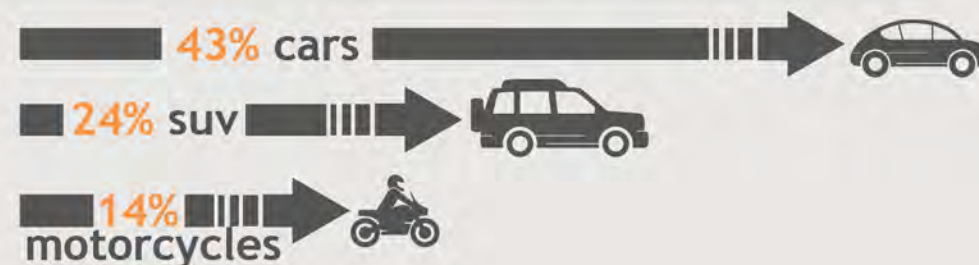


Non-Peak Hours

83%



4 or more travel lanes



Prioritization Factors

Identified- Risk Performance Level

Performance Level

	High
	Medium
	Low

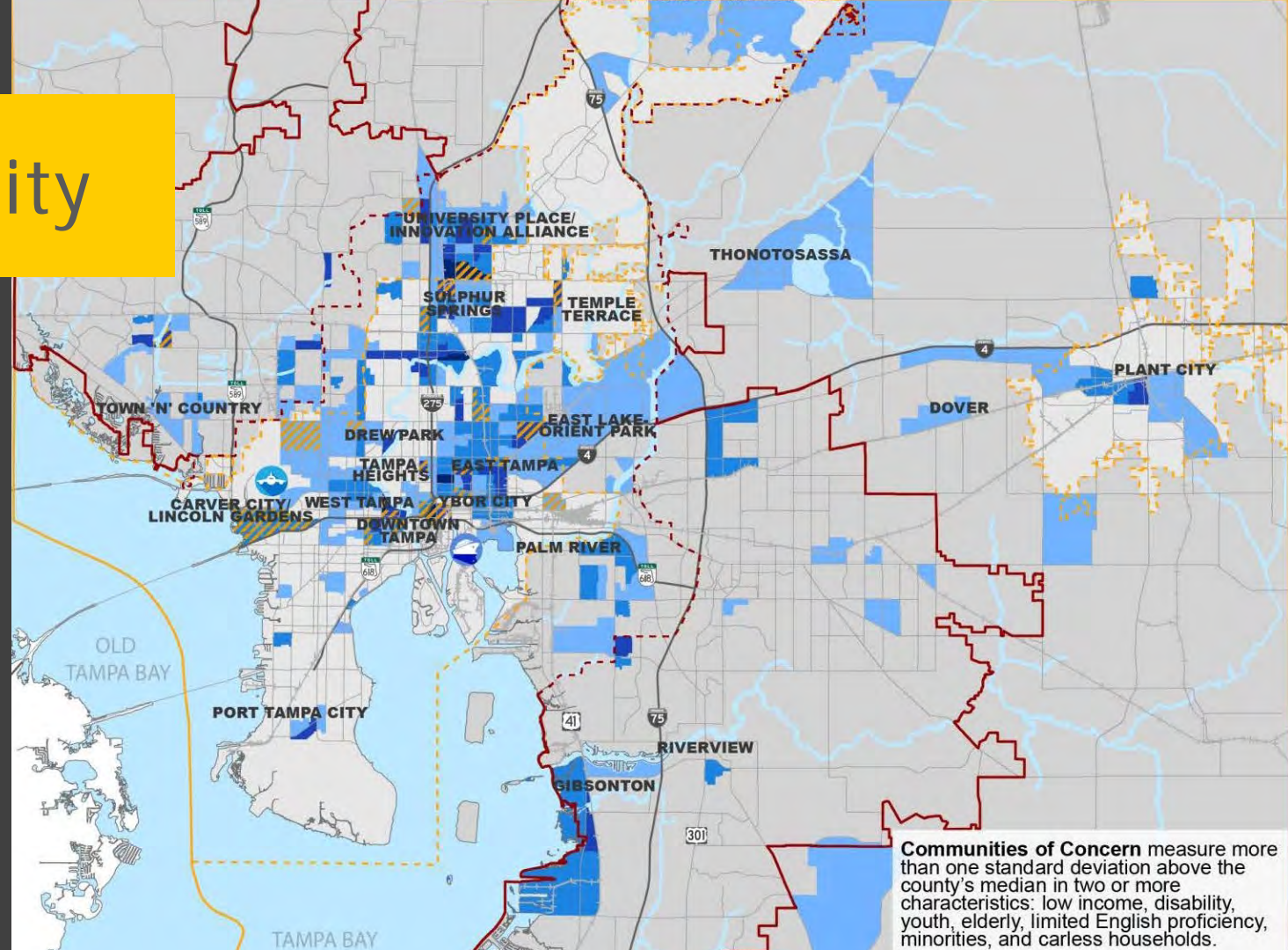
- Posted speed vs. context Class
- Regional equity (low income, Commissioner districts)
- Crash history
- Proximity to schools
- Ped/bike injuries
- Transit service route
- Geometric features (volumes, lanes, intersection spacing)

Example Assessment - Equity

Communities of Concern

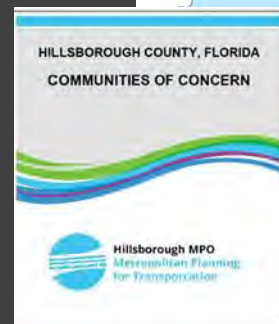
Which measure more than one standard deviation above the county's median in two or more characteristics: low income, disability, youth, elderly, limited English proficiency, minorities and carless households.

- Overlaid HIN corridors
- Estimated distance of frontage of each COC category on the corridor
- Assigned a point system for each COC category on the corridor
- Developed a Risk Performance Level - the higher the deviations, the higher the points, the higher the risk.



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 85 percent or more of households have an annual household income of \$37,000 or less.



LEGEND

COMMUNITIES OF CONCERN

- 2 characteristics
- 3 characteristics
- 4 characteristics
- 5 characteristics
- Extreme Poverty

- Road
- Railroad
- Hillsborough County Boundary
- City Boundaries
- Urban Service Area
- City Utility Service Area
- Port
- Airport

REFERENCE INFORMATION



PlanHillsborough.org

- Overlaid HIN corridors
- Identified how many service routes traverse the corridor
- Identified how many routes cross the corridor
- Identified if a transfer center or park and ride lot exists
- Identified what key destinations (grocery, health care, schools, etc.) exist with transit access
- Assigned a point system for each category
- Developed a Risk Performance Level -
the higher the services provided, the
higher the risk, the higher the points.

- Overlaid HIN corridors
- Identified how many service routes traverse the corridor
- Identified how many routes cross the corridor
- Identified if a transfer center or park and ride lot exists
- Identified what key destinations (grocery, health care, schools, etc.) exist with transit access
- Assigned a point system for each category
- Developed a Risk Performance Level -
the higher the services provided, the
higher the risk, the higher the points.

Performance Level	
	High
	Medium
	Low



Top 20 - Priority Matrix

Corridor and Extent

		Crash Severity / Mile	Ped/Bike Crash Rate/ Mile	Schools / Mile	Equity CoC Coverage	Posted Speed – Context Class Conflict	Transit Routes	High Volumes	
Brandon Blvd	Falkenburg Rd to Dover Rd								5.3
Gibsonston Dr/Boyette Rd	I-75 to Balm Riverview Rd								4.7
Hillsborough Ave	Longboat Blvd to Florida Ave								5.7
Fletcher Ave	Armenia Ave to 50th St								5.3
Dale Mabry	Hillsborough Ave to Bearss Ave								5.7
Lynn Turner	Gunn Hwy to Ehrlich Rd								3.3
Meridian Ave	Channelside Dr to Twiggs St								4.7
Bruce B Downs	Fowler Ave to Bearss Ave								6.0
50th/56th St	MLK Blvd to Hillsborough Ave								5.0
15th St	Fowler Ave to Fletcher Ave								4.3
Big Bend Road	US41 to I75								4.0
US301	I75 to Adamo Dr								3.7
Sheldon Rd	Hillsborough Ave to Water Ave								5.3
I4	I275 to 22nd St								3.7
56th St	Sligh Ave to Busch Blvd								5.0
I275	Howard Frankland Bridge to Busch Blvd								4.0
Kennedy Blvd	Dale Mabry to Ashley Dr								5.3
78th St	Causeway Blvd to Palm River Rd								4.3
CR579/Mango Rd	from MLK Blvd to US92								4.0
Florida Ave	Waters Ave to Linebaugh Ave								5.7

Priority Scoring

High
Medium
Low

Performance Level

	High
	Medium
	Low

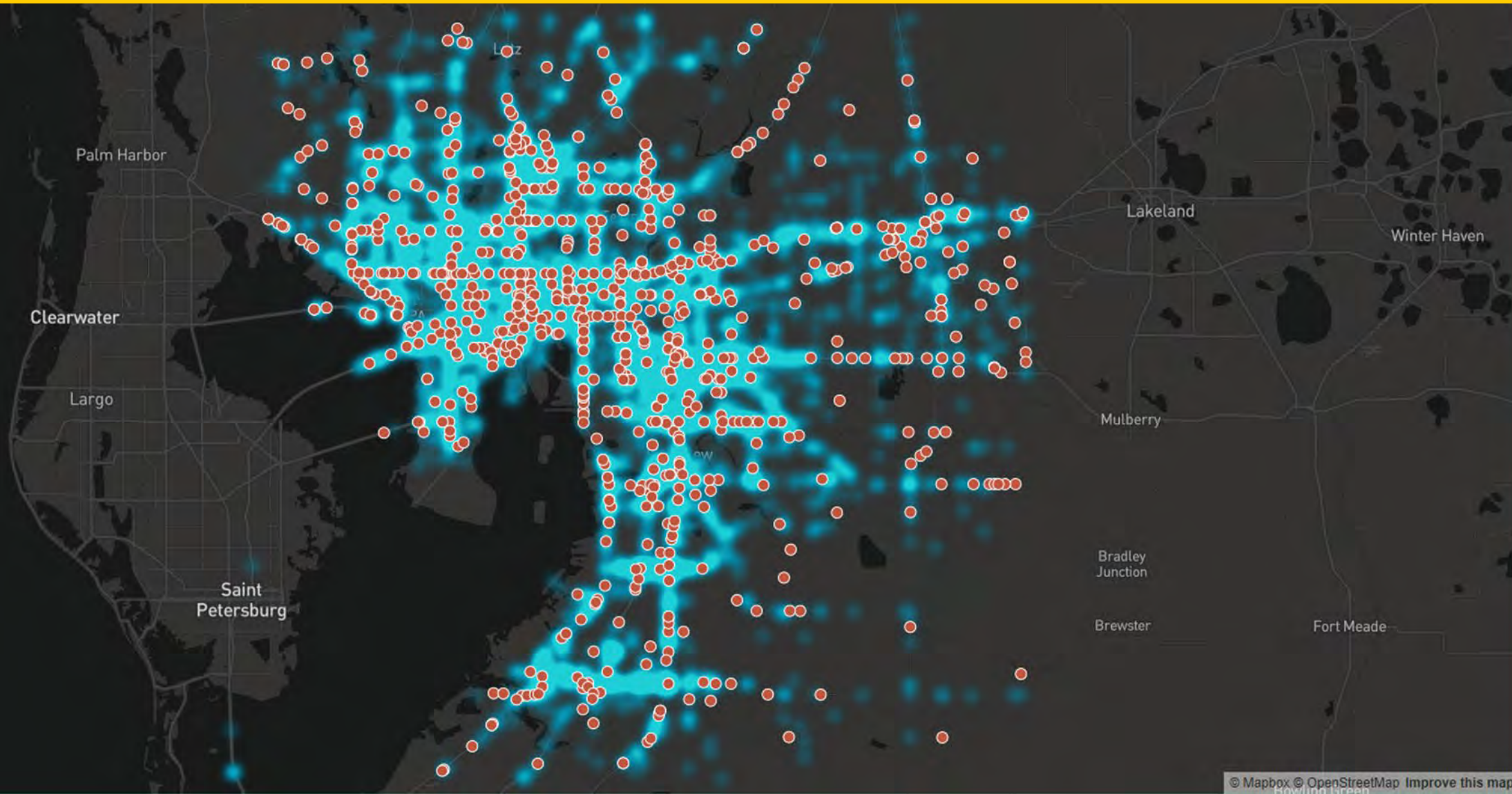
TASK 4 – Next Top 30 HIN Corridors

- Identify Next30
- Prioritize Next30



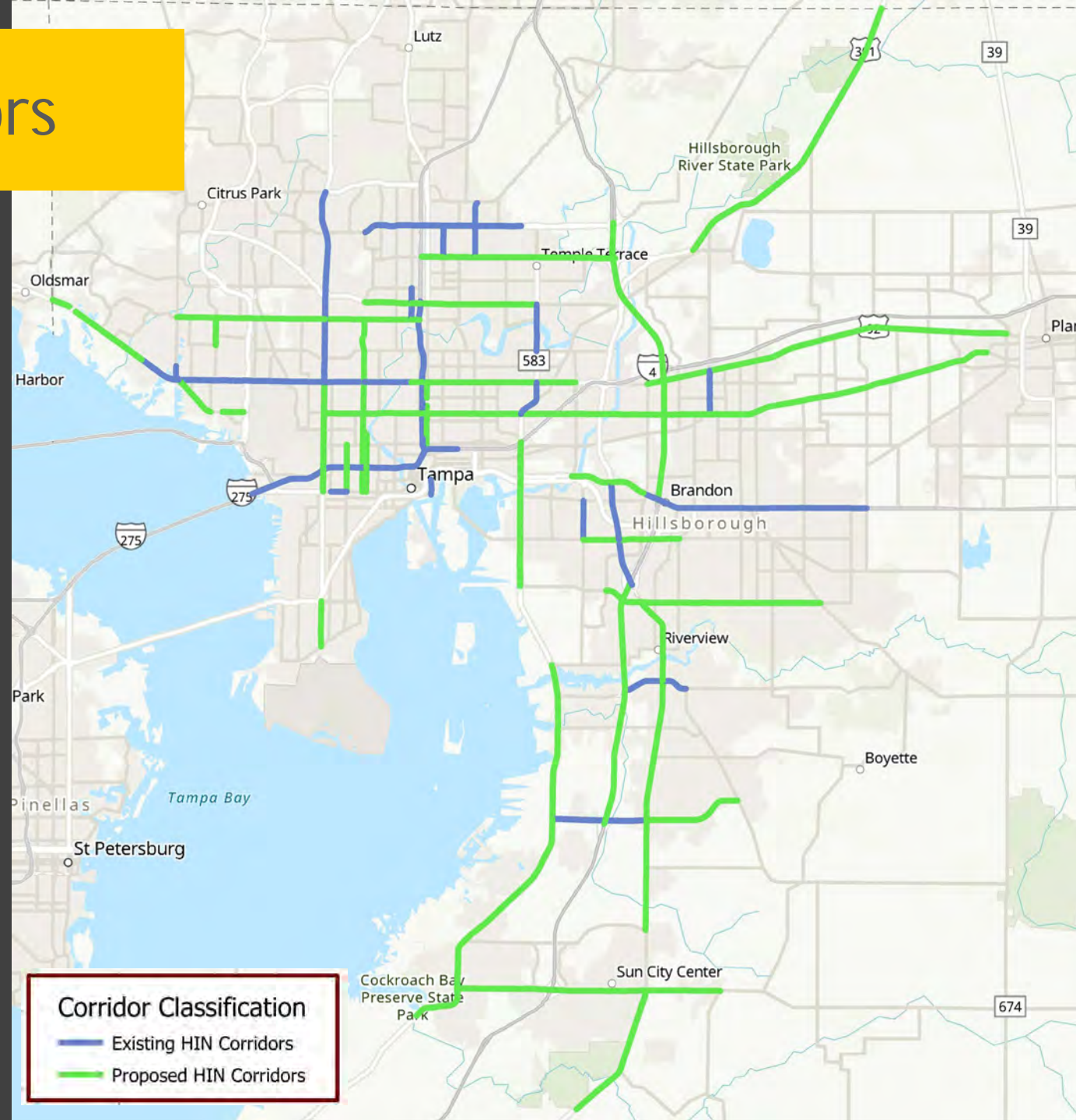
Fatal + Serious Injury Crashes

(Jan 2014-Dec 2018)



Next30 High Injury Corridors

Bloomingdale Ave - US Hwy 301 to Lithia Pinecrest Rd
US Hwy 41 - Gulf City Rd to Riverview Dr
US Hwy 301 - 19th Ave to Bloomingdale Ave
M L King Blvd - Dale Mabry Hwy to Parson Ave
US Hwy 41 - Madison Ave to I4
Big Bend Rd - I75 to Balm Riverview Rd
Busch Blvd - Armenia Ave to 56th Street
SR 674 (Sun City Ctr Blvd) - US Hwy 41 to CR579
I-75 - SR 60 to Fletcher Ave
Hillsborough Ave - Florida Ave to Orient Rd
Waters Ave - Sheldon Road to Dale Mabry Hwy
Fowler Ave - I275 to I75
US Hwy 301 - SR 674 to Lightfoot Rd
I-75 - Big Bend Rd to US Hwy 301
SR 60 /Adamo Dr - Orient Rd to Falkenburg Rd
Causeway Blvd - 78th St to Providence Rd
Waters Ave - Dale Mabry Hwy to Nebraska Ave
Progress Blvd - Falkenburg Rd to US Hwy 301
Hillsborough Ave - Race Track Rd to Longboat Blvd
Memorial Hwy - Hillsborough Ave to Veterans Expwy
Hanley Rd - Woodbridge Blvd to Waters Ave
Dale Mabry Hwy - Interbay Blvd to Gandy Blvd
Howard Ave - Kennedy Blvd to Tampa Bay Blvd
Dale Mabry Hwy - Kennedy Blvd to Hillsborough Ave
US Hwy 92 - Falkenburg Rd to Thonotosassa Rd
Nebraska Ave - Columbus Ave to Hillsborough Ave
US Hwy 301 - Stacy Rd to County Line
Armenia Ave - Tampa Bay Blvd to Waters Ave
MacDill Ave - Kennedy Blvd to Columbus Dr
M L King Blvd - McIntosh Rd to Sammonds Rd



Next 30 - High Injury Corridors Priority Matrix

Corridor and Extent		Crash Severity / Mile	Schools / Mile	Equity CoC Coverage	Posted Speed – Context Class Conflict	High Volumes	
Bloomingtondale Ave	US Hwy 301 to Lithia Pinecrest Rd						4.0
US Hwy 41	Gulf City Rd to Riverview Dr						2.0
US Hwy 301	19th Ave to Bloomingtondale Ave						4.0
M L King Blvd	Dale Mabry Hwy to Parson Ave						3.3
US Hwy 41	Madison Ave to I4						3.3
Big Bend Rd	I75 to Balm Riverview Rd						3.7
Busch Blvd	Armenia Ave to 56th Street						4.7
SR 674 (Sun City Ctr Blvd)	US Hwy 41 to CR579						3.7
I-75	SR 60 to Fletcher Ave						3.0
Hillsborough Ave	Florida Ave to Orient Rd						3.0
Waters Ave	Sheldon Road to Dale Mabry Hwy						4.3
Fowler Ave	I275 to I75						4.7
US Hwy 301	SR 674 to Lightfoot Rd						3.3
I-75	Big Bend Rd to US Hwy 301						2.0
SR 60 / Adamo Dr	Orient Rd to Falkenburg Rd						3.0

Corridor and Extent		Crash Severity / Mile	Schools / Mile	Equity CoC Coverage	Posted Speed – Context Class Conflict	High Volumes	
Causeway Blvd	78th St to Providence Rd						3.7
Waters Ave	Dale Mabry Hwy to Nebraska Ave						3.3
Progress Blvd	Falkenburg Rd to US Hwy 301						3.3
Hillsborough Ave	Race Track Rd to Longboat Blvd						3.3
Memorial Hwy	Hillsborough Ave to Veterans Expwy						3.7
Hanley Rd	Woodbridge Blvd to Waters Ave						3.0
Dale Mabry Hwy	Interbay Blvd to Gandy Blvd						3.7
Howard Ave	Kennedy Blvd to Tampa Bay Blvd						3.7
Dale Mabry Hwy	Kennedy Blvd to Hillsborough Ave						3.7
US Hwy 92	Falkenburg Rd to Thonotosassa Rd						2.7
Nebraska Ave	Columbus Ave to Hillsborough Ave						3.7
US Hwy 301	Stacy Rd to County Line						2.7
Armenia Ave	Tampa Bay Blvd to Waters Ave						3.7
MacDill Ave	Kennedy Blvd to Columbus Dr						3.0
M L King Blvd	McIntosh Rd to Sammonds Rd						2.3

Priority Scoring

High
Medium
Low

Performance Level

	High
	Medium
	Low



Top50 HIN Priority Recap

TASK 5 - Speed Management Action Plan

- Strategies and Countermeasures
- Actions and Implementation Strategy



Education



Engineering



Enforcement



Equity



Evaluation

Vision Zero Principles



**HUMAN LIFE
AND HEALTH**
ARE PRIORITIES IN
OUR COMMUNITY.



TRAFFIC DEATHS AND
SEVERE INJURIES ARE
PREVENTABLE.



**WE ARE HUMAN
AND MAKE MISTAKES.**
THE ROADWAY SYSTEM SHOULD BE
DESIGNED TO PROTECT US.

**SPEED IS A
CRITICAL FACTOR**
IN CRASH SEVERITY. THE MOST
EFFECTIVE APPROACH IS TO
SYSTEMATICALLY PRIORITIZE
SAFETY OVER SPEED.



**RESPONSIBILITY
IS SHARED**
BETWEEN SYSTEM DESIGNERS
AND ROAD USERS.



Vision Zero Principles



Safe People



Safe Streets



Aggressive Driving Crash Countermeasures (cont.)

	Area Type			Location Type			Effects		
Countermeasure	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Safe Streets:									
Chicanes / Lateral Shifts	✓	✓		✓	✓	✓		✓	✓
Full / Half Closure	✓			✓	✓	✓	✓	✓	✓
Lane Width (10 foot standard)	✓	✓		✓	✓	✓	✓	✓	✓
Road Diet (repurpose space)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gateway Treatement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundabout	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mini Traffic Circle	✓	✓	✓	✓	✓		✓	✓	✓
Speed Tables/Raised Intersections	✓	✓		✓	✓	✓		✓	✓
Bulb Outs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Corner Radii / Radius Reduction	✓	✓	✓	✓	✓	✓		✓	✓
Centerline Hardening	✓	✓		✓	✓	✓	✓	✓	✓
Eliminate Acceleration Lanes	✓	✓		✓	✓	✓	✓	✓	✓
Eliminate Deceleration Lanes	✓	✓		✓	✓	✓		✓	✓
Eliminate Right Turn Channelization	✓	✓		✓	✓	✓	✓	✓	✓
On-Street Parking	✓	✓			✓	✓		✓	✓
Tactical Urbanism-Quick Fixes	✓	✓	✓	✓	✓	✓	✓	✓	✓
Provide Street / Pedestrian Lighting	✓	✓		✓	✓	✓	✓	✓	✓
Convert to Two-Way Streets	✓	✓	✓		✓	✓		✓	✓
Enhanced Curve Delineation	✓	✓	✓		✓	✓	✓	✓	✓
Optical Speed Bars/ Converging Chevrons	✓	✓	✓			✓	✓	✓	✓
Re-evaluate Context Class	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓		✓	✓	✓	✓	✓

Aggressive Driving Crash Countermeasures (cont.)

Countermeasure	Area Type			Location Type			Effects		
	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Safe Freeway Interchanges:									
Eliminate Acceleration Lanes	✓	✓	✓		✓	✓	✓	✓	✓
Redesign High Speed Exit Ramps	✓	✓	✓		✓	✓	✓	✓	✓
Redesign High Speed On-Ramps	✓	✓	✓		✓	✓	✓	✓	✓
Transverse(in lane) Rumble Strips	✓	✓	✓		✓	✓	✓	✓	✓
Provide Safe Continuous Bike Lanes	✓	✓			✓	✓	✓	✓	✓
Provide Safe Pedestrian Crossings	✓	✓			✓	✓	✓	✓	✓
Re-evaluate Context Class	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓		✓	✓	✓	✓	✓
Safe Traffic Operations:									
Lower Speed Limits	✓	✓	✓		✓	✓	✓	✓	✓
Add New Signals / Improve Connectivity	✓	✓	✓	✓	✓	✓		✓	✓
Protected-only Left Turn Signal Phasing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Signal Coordination-Target Speed	✓	✓		✓	✓	✓	✓	✓	✓
Variable Speed Limits (Expressways)	✓	✓						✓	✓
Driver Feedback Signs - Speed	✓	✓	✓		✓	✓	✓	✓	✓
Leading Pedestrian Interval	✓			✓	✓	✓	✓	✓	✓
Rectangular Rapid Flashing Beacon	✓	✓		✓	✓	✓	✓	✓	✓
Hybrid Ped Beacon / HAWK	✓	✓		✓	✓	✓	✓	✓	✓
Rest in Red Signal Operation	✓	✓	✓	✓	✓	✓	✓	✓	✓
Advanced Speed Detection Signals	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shorter Signal Cycle Lengths	✓	✓	✓	✓	✓	✓	✓	✓	✓
Traffic Signal- Demand Responsive off-peak	✓	✓	✓	✓	✓	✓	✓	✓	✓
Street Lighting / Pedestrian Level Lighting	✓	✓	✓	✓	✓	✓	✓	✓	✓
Update Pedestrian Countdown Timers	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Context Class	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-evaluate Target Speed Limit	✓	✓	✓		✓	✓	✓	✓	✓

Safe Speeds



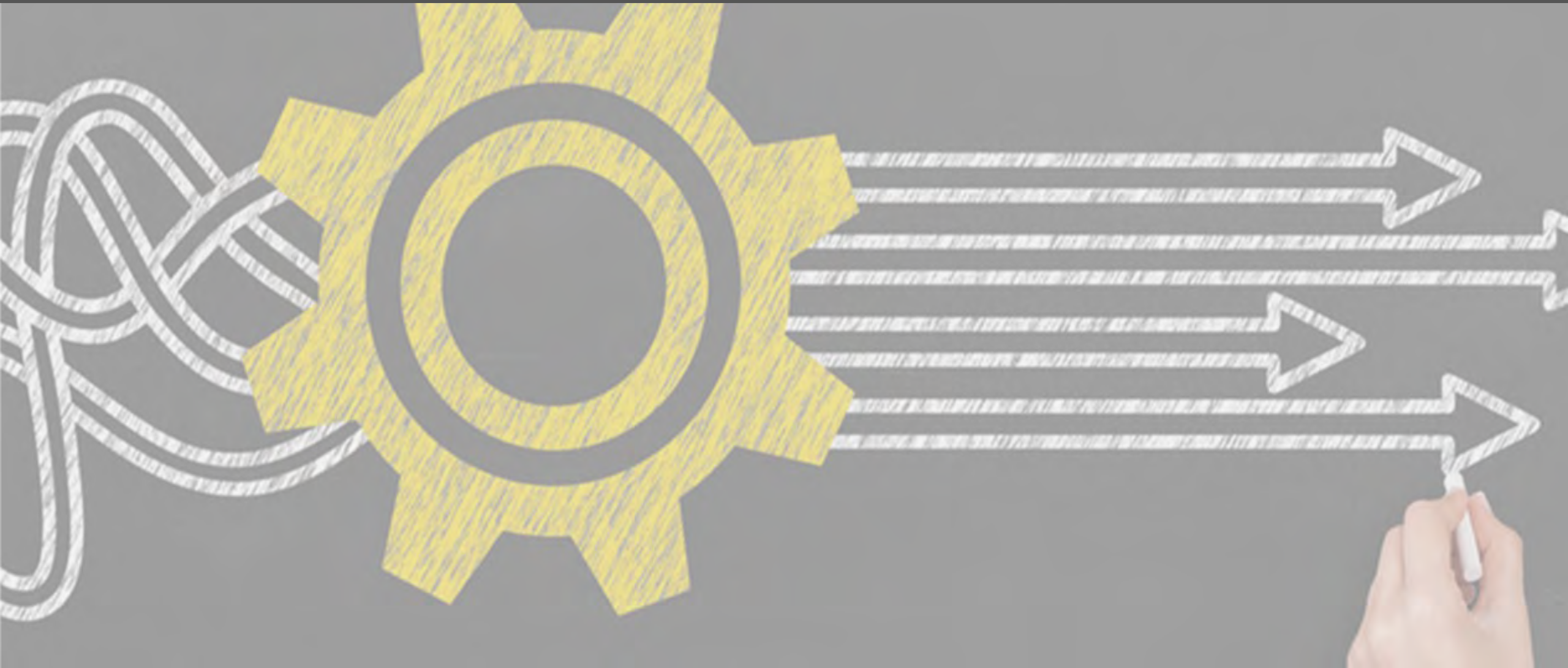
Aggressive Driving Crash Countermeasures (cont.)

	Area Type			Location Type			Effects		
Countermeasure	Urban (C4,C5,C6)	Suburban (C3)	Rural (C1-C2)	Intersection	Slow Street	Arterial / Corridor	Crash Reducing	Speed Reducing	Severity Reducing
Targetted Enforcement:									
Automated Section Speed Enforcement	✓	✓	✓		✓	✓	✓	✓	✓
Mobile Speed Camera Enforcement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red Light Cameras	✓	✓	✓	✓	✓	✓		✓	✓
Targeted Enforcement on High Injury Corridors	✓	✓	✓		✓	✓	✓	✓	✓
Higher Fines on High Injury Corridors	✓	✓	✓		✓	✓	✓	✓	✓
Higher Fines in School/Slow Speed Zones	✓	✓	✓		✓	✓	✓	✓	✓
Education Campaign / PSA:									
Aggressive Driving	✓	✓	✓				✓	✓	✓
Respect for All Users w/Emphasis on Vulnerable	✓	✓	✓				✓	✓	✓
Motorcycle Safety	✓	✓	✓				✓	✓	✓
RRFB's / Hawk Operations	✓	✓	✓				✓	✓	✓
Automated Speed Enforcement	✓	✓	✓				✓	✓	✓
New Pavement Markings/Signs	✓	✓	✓				✓	✓	✓
New Conflict Zone Markings	✓	✓	✓				✓	✓	✓
Target Speed/Coordinated Signals	✓	✓	✓				✓	✓	✓
New Traffic Technology	✓	✓	✓				✓	✓	✓

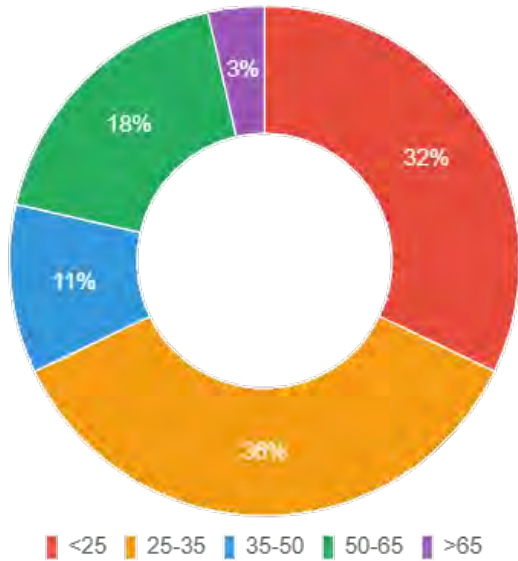


Countermeasures

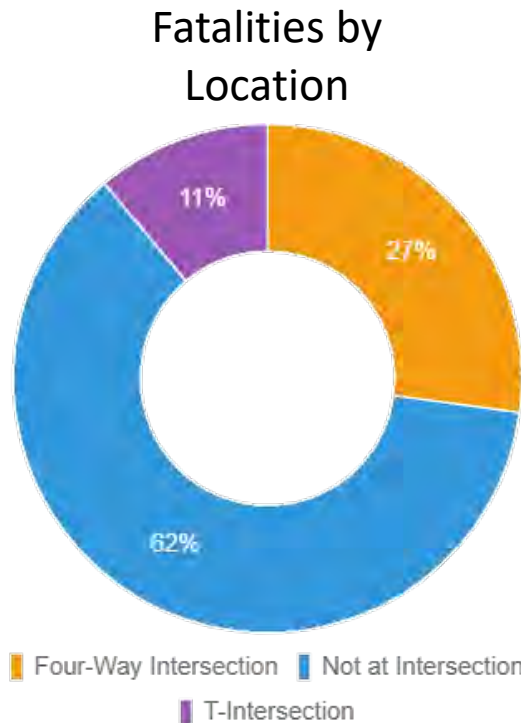
Application to Top8 HIN Corridors



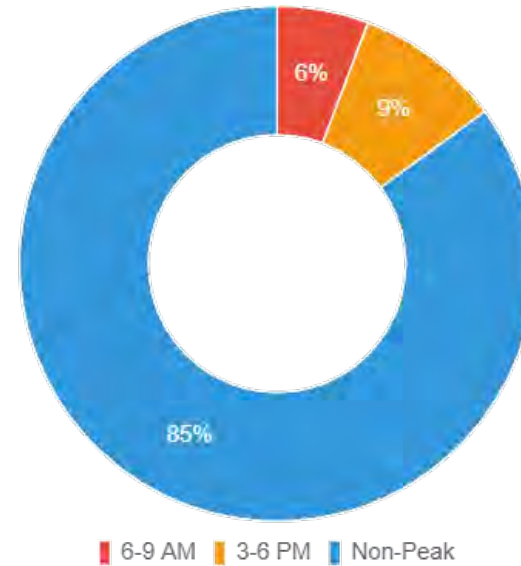
Top8 HIN Corridor - Fatal Crash Characteristics



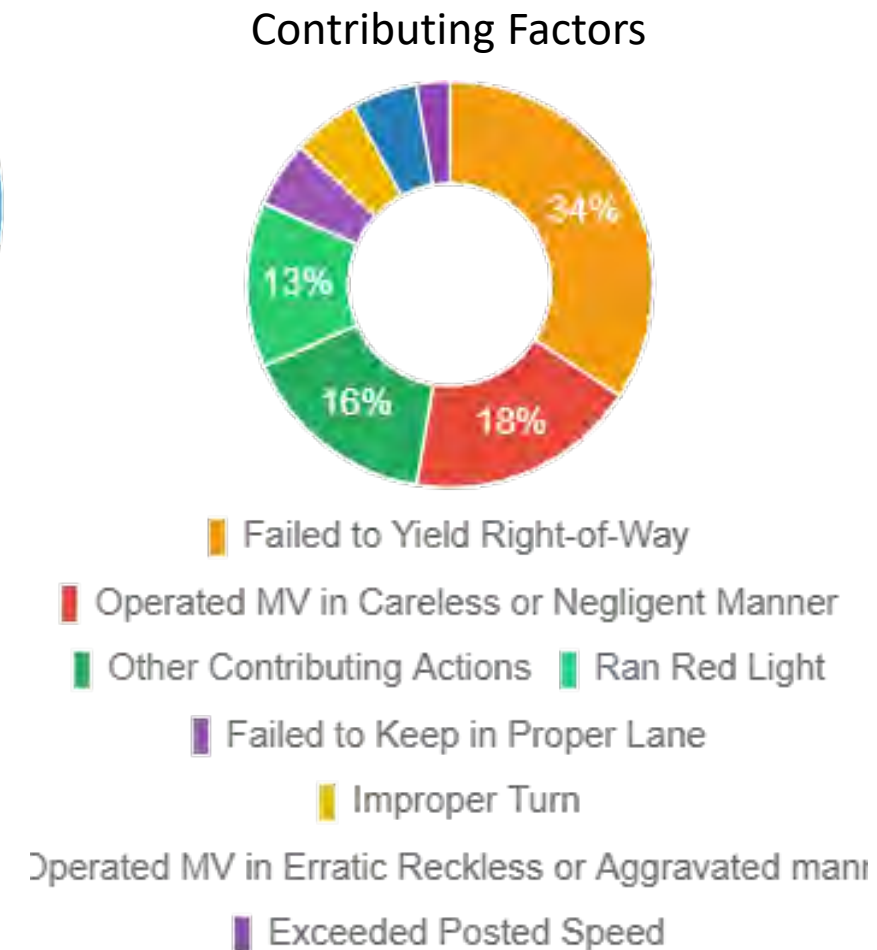
Fatalities by Age



Fatalities by Location



Fatalities by Time of Day

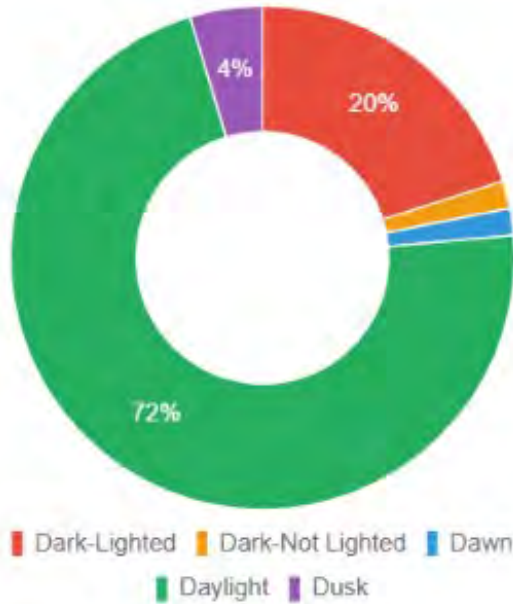


Contributing Factors

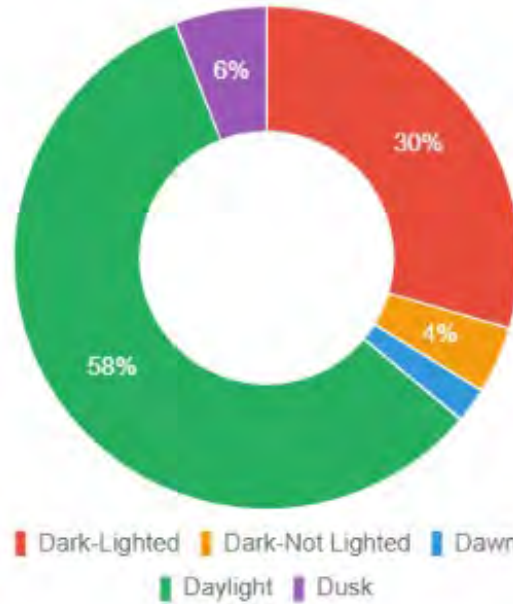
Top8 HIN Corridor Characteristics

Crashes by Lighting

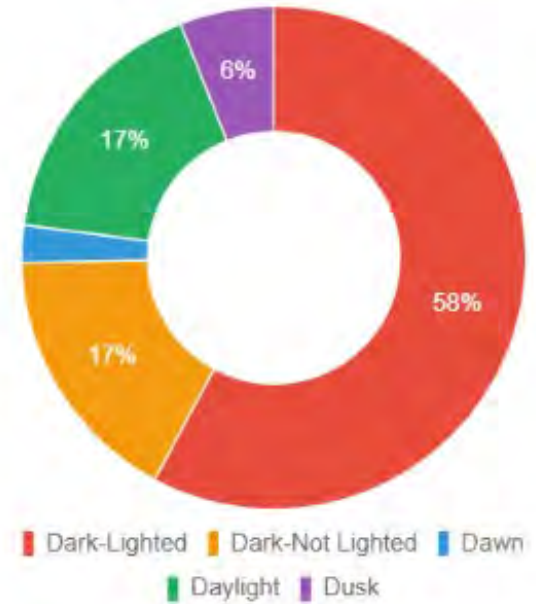
Number of Crashes



Serious Injuries



Fatalities



Safe Systems Approach

- Holistic view of the road system
- Interactions among roads and roadsides, travel speeds, vehicles and road users
- Inclusive approach for all users
 - Drivers, motorcyclists, passengers, pedestrians, cyclist, and commercial/heavy vehicles
- Speeds must be managed
- Humans are not exposed to impact forces beyond their physical tolerance

Most Importantly, it's proactive vs. reactive

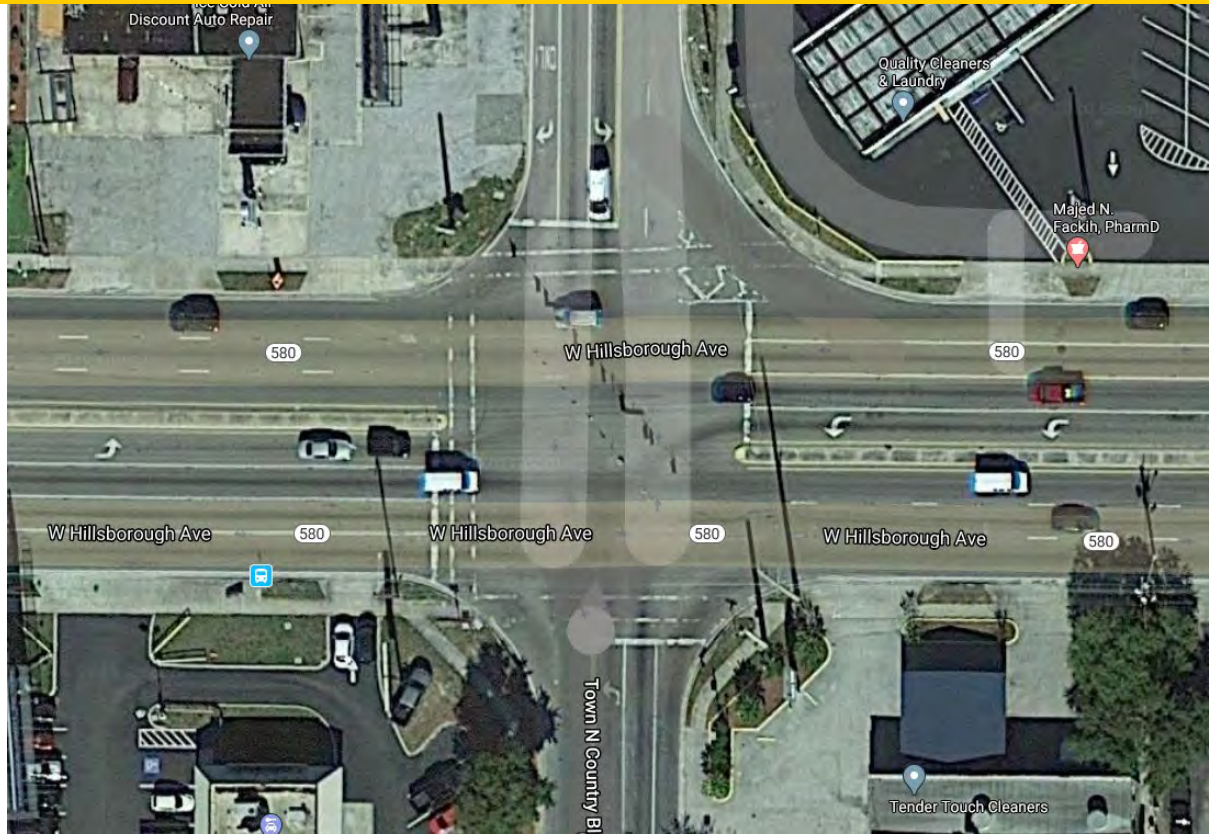
Figure 2.1 | Principles of the Safe System Approach



Top 8 HIN Corridor – Cursory Evaluation

Countermeasure	Bruce B Downs (Fowler to Bearss)		Hillsborough Ave (Longboat to Florida)	Dale Mabry (Hillsborough to Bearss)		Florida Avenue (Waters to Linebaugh)	Brandon Blvd (Falkenburg to Dover)		Fletcher Avenue (Armenia to 50th)	Sheldon Road (Hillsborough to Waters)	Kennedy Blvd (Dale Mabry to Ashley)
<i>Safe People Walking or Bicycling:</i>											
Pedestrian Crossing - High Visibility	✓		✓	✓		✓	✓		✓		✓
Sidewalks Required on both sides	✓		✓	✓			✓		✓		
Sidewalks (8 foot min standard)	✓		✓	✓		✓	✓		✓		✓
Sidewalk Seperation (from travel lanes)	✓		✓	✓		✓	✓		✓		✓
Mid-Block Pedestrian Crossing/Short Blocks	✓		✓	✓		✓	✓		✓		✓
Refuge Islands (raised/painted)	✓		✓	✓		✓	✓		✓		✓
Bike Lanes (seperated)	✓		✓	✓		✓	✓		✓		✓
Bike Lanes (protected)	✓		✓	✓		✓	✓		✓		✓
Shade Trees / Landscaping	✓		✓	✓		✓	✓		✓		✓
Expand Radius of Safe Routes to School			✓	✓		?	?		?		
Re-evaluate Target Speed Limit	✓		✓	✓		✓	✓		✓		✓
<i>Safe Streets:</i>											
Lane Width (10 foot standard)	✓		✓	✓		✓	✓		✓		✓
Road Diet (repurpose space)	✓		✓	✓		✓	✓		✓		✓
Gateway Treatement	✓		✓	✓		✓	✓		✓		✓
Roundabout	?		?	?		?	?		✓		?
Speed Tables/Raised Intersections	?		?	?		?	?		✓		?
Bulb Outs	✓		✓	✓		✓	✓		✓		✓
Corner Radii / Radius Reduction (+Driveways)	✓		✓	✓		✓	✓		✓		✓
Centerline Hardening	✓		✓	✓		✓	✓		✓		✓
Eliminate Acceleration Lanes	✓		✓	✓					✓		
Eliminate Deceleration Lanes	✓										
Eliminate Right Turn Channelization	✓		✓	✓		✓	✓		✓		
Tactical Urbanism-Quick Fixes	✓		✓	✓		✓	✓		✓		✓
Provide Street / Pedestrian Lighting	?		?	?		?	?		?		?

Examples



W Hillsborough Ave @ Town N Country Blvd

Major Corridor w/ 45-50 MPH posted speed

- No high visibility crossings
- Only three pedestrian crossings
- Large turning radii
- High speed right turn lane

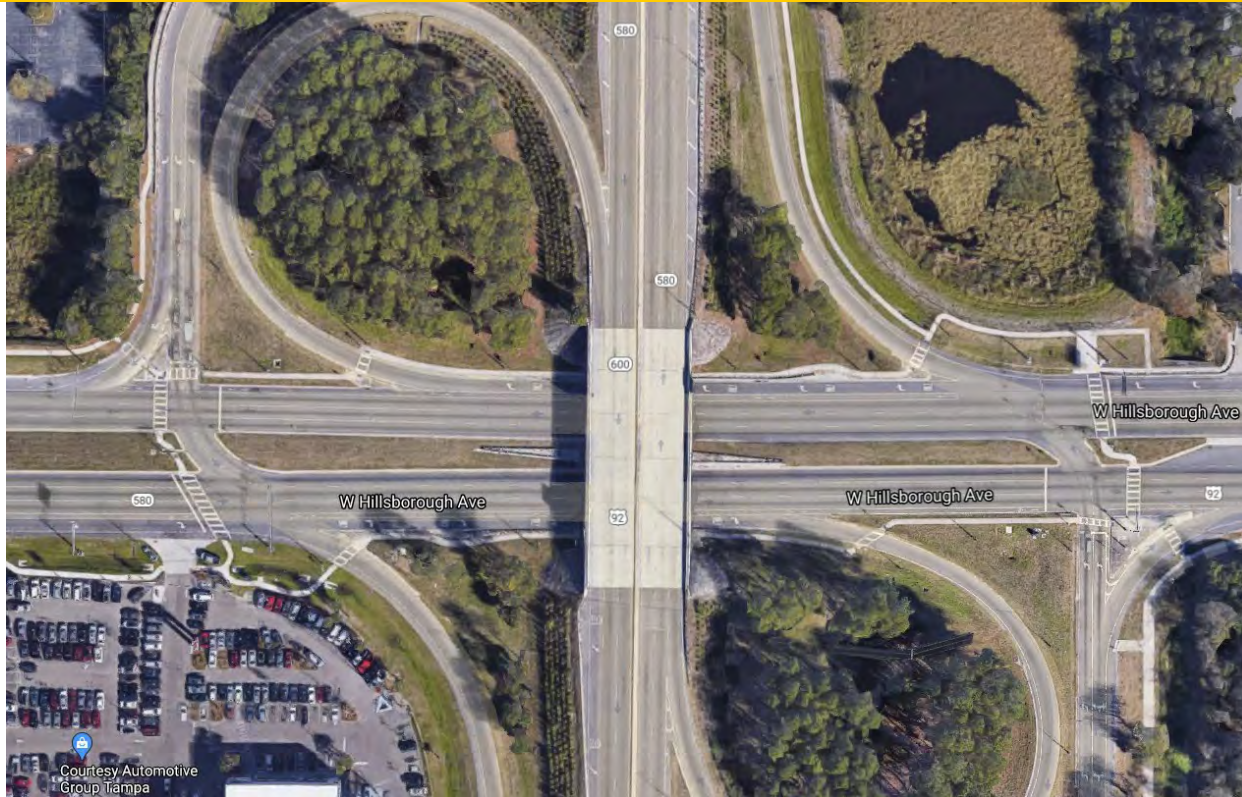


Dale Mabry Highway @ Floyd Road

Major Corridor w/ 45 MPH posted speed

- Two Bus stop locations
- No crossings
- Large turning radii
- High speed right turn lanes

Examples



W Hillsborough Ave @ Dale Mabry Highway

- Major Corridor w/ 45-50 MPH posted speed
- Circuitous pedestrian crossings
 - Bicycle multi-threat conflict zones
 - High speed acceleration/deceleration lanes



Dale Mabry Highway @ Lambricht St

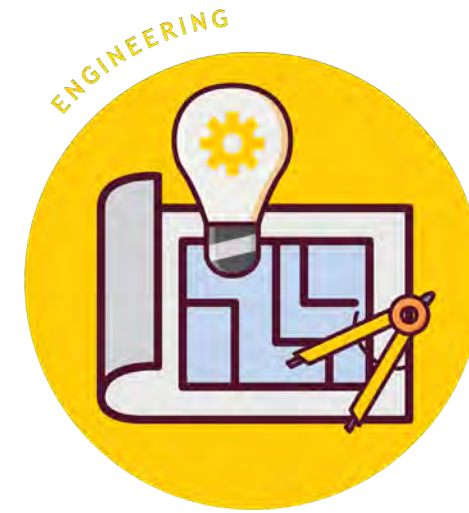
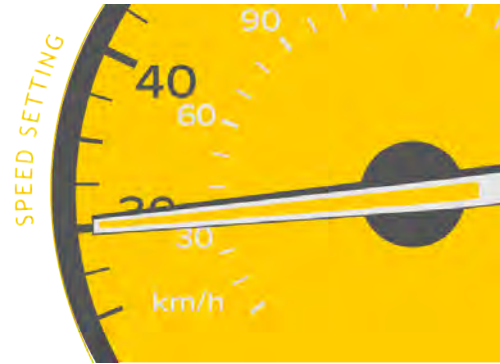
- Major Corridor w/ 45 MPH posted speed
- High Visibility Crossings 150' across
 - No refuge islands
 - Large turning radii
 - No centerline hardening

Top 8 HIN Corridor – Cursory Evaluation

Countermeasure	Bruce B Downs (Fowler to Bearss)	Hillsborough Ave (Longboat to Florida)	Dale Mabry (Hillsborough to Bearss)	Florida Avenue (Waters to Linebaugh)	Brandon Blvd (Falkenburg to Dover)	Fletcher Avenue (Armenia to 50th)	Sheldon Road (Hillsborough to Waters)	Kennedy Blvd (Dale Mabry to Ashley)
Safe Freeway Interchanges:								
Eliminate Acceleration Lanes		✓						
Redesign High Speed Exit Ramps		✓			✓	✓		
Redesign High Speed On-Ramps		✓			✓	✓		
Transverse(in lane) Rumble Strips		✓			✓	✓		
Provide Safe Continuous Bike Lanes		✓			✓	✓		
Provide Safe Pedestrian Crossings					✓			
Safe Traffic Operations:								
Lower Speed Limits	✓	✓	✓	✓	✓	✓	✓	✓
Add New Signals / Improve Connectivity	✓	✓	✓	✓	✓	✓	✓	✓
Signal Coordination-Target Speed	✓	✓	✓	✓	✓	✓	✓	✓
Driver Feedback Signs - Speed	✓	✓	✓	✓	✓	✓	✓	✓
Leading Pedestrian Interval	✓	✓	✓	✓	✓	✓	✓	✓
Rectangular Rapid Flashing Beacon	✓	✓	✓	✓	✓	✓	✓	✓
Hybrid Ped Beacon / HAWK	✓	✓	✓	✓	✓	✓	✓	✓
Rest in Red Signal Operation	✓	✓	✓	✓	✓	✓	✓	✓
Advanced Speed Detection Signals	✓	✓	✓	✓	✓	✓	✓	✓
Traffic Signal- Demand Responsive off-peak	✓	✓	✓	✓	✓	✓	✓	✓
Update Pedestrian Countdown Timers	✓	✓	✓	✓	✓	✓	✓	✓
Automated Speed Enforcement	✓	✓	✓	✓	✓	✓	✓	✓
Red Light Cameras	✓	✓	✓	✓	✓	✓	✓	✓
Targeted Enforcement and Education applicable to ALL HIN Corridors								
? Further information/data necessary								



Countermeasure Application



Actions and Implementation Strategy



Study Objectives

GOAL

- Improve public health and safety by reducing road fatalities and serious injuries.

DESIRED OUTCOMES

- *Improved safety experience* for all road users - pedestrians, bicyclists, and motorists.
- *Increase awareness* of the dangers of speeding.
- *Institutionalize good practices* in road design, traffic operations, engagement, enforcement and safety.
- Identify *supportive policies, programs and infrastructure* improvements to meet safety goal.
- Obtain *cooperation and support* of stakeholders.

Safe Speeds



Actions and Implementation Strategy - Speed Setting



Action 1 - Regional Context Classification

- ✓ Develop and publish Context Class for every street in the county per ITE/ULI speed range guidance
- ✓ Update FDOT Context Class speeds per ITE/ULI best practices
- ✓ Identify corridors with egregious speed limits related to context class
- ✓ Develop process to address and prioritize modifications
- ✓ Review and update regularly per local growth and development plans

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Speed Setting



Action 2 - Immediately Evaluate All Projects

- ✓ Per new Context Classifications, evaluate all ongoing projects at State, County and City Levels
- ✓ All projects include: new roads, reconstruction projects, resurfacing projects, operations projects (ITS, signal progression).

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Speed Setting Recommendations



Action 3 - Initiate a HC safety task force to engage on speed limit setting, improve consistency of outcomes, and restore credibility of speed limits. Outcomes:

- ✓ Improve the methodology for determining operating speed per national best practices.
- ✓ Adopt a Safe Systems Approach - Target Speed
- ✓ Discourage the use of the 85th percentile method to set speed limits in urban, suburban and rural town centers.
- ✓ Encourage agencies to establish a max speed limits of:
 - 20MPH on any street within a residential district
 - 25-35MPH on all other streets
- ✓ Provide guidance that address liability and tort barriers

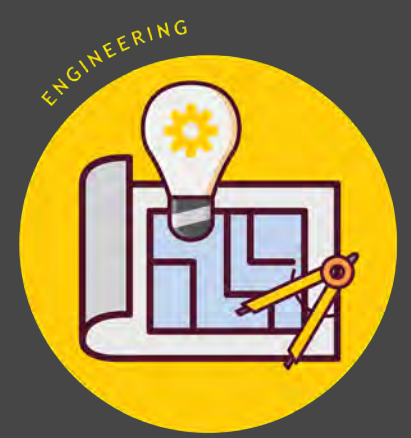
Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Speed Setting



- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?

Actions and Implementation Strategy - Engineering & Operations

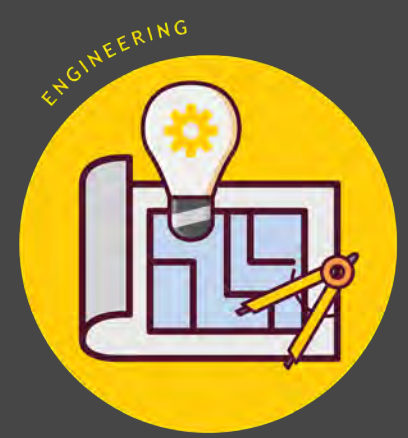


Action 1 - Develop preliminary treatment plans for Top50 High Injury Network corridors.

- ✓ Establish standard scope for all evaluations to ensure consistency.
- ✓ Obtain travel speed for Top50 High Injury Network corridors.
- ✓ Identify feasible countermeasures from the Speed Management resource table.
- ✓ Identify immediate quick fix (Tactical Urbanism) recommendations.
- ✓ Identify longer term recommendations, program and fund.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations



Action 2 - Strengthen Design Manual / Design Standards for roadway construction, operations and maintenance.

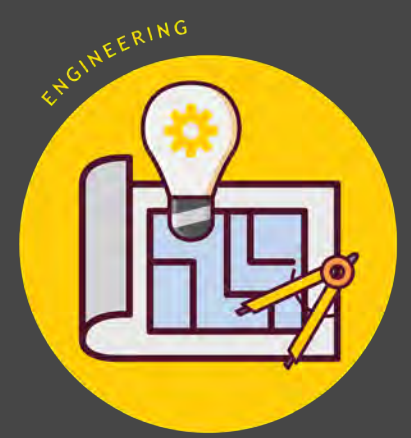
- ✓ Reflect the speed management concepts and countermeasures identified.
- ✓ Add more flexibility for multimodal design needs.
- ✓ Discourage overdesigning for future motor vehicle capacity where such design would encourage higher operating speeds.
- ✓ Include design guidance that is more protective of vulnerable users where variable speeds (transition areas) and where land use destinations suggest current or latent demand for walking and bicycling.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations



Action 3 - Incorporate design flexibility to reflect state of the art / national best practices.

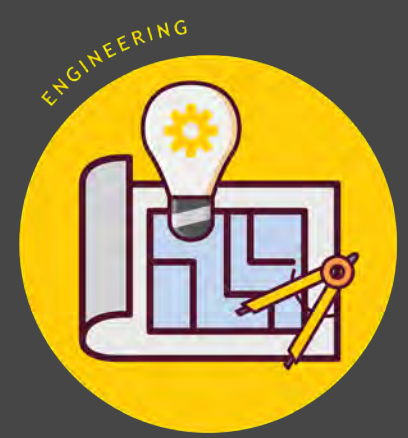
- ✓ Agencies should be encouraged to adopt and require national best practices on safety, vision zero and speed management (ITE, NACTO, Vision Zero Network, etc.)
- ✓ Update FDOT Street Design Standards - Replace "warrant" requirements with "guidelines" per FHWA principals. Especially in justification for pedestrian crossings and signals in high pedestrian areas, and school zones.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations

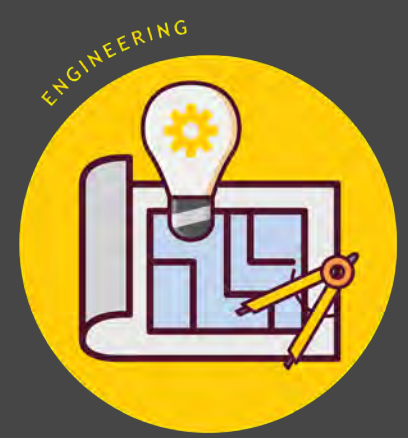


Action 4 - Establish Local Street Design Guidelines

- ✓ Encourage local agencies City and County to establish context sensitive design guidelines.
- ✓ Ensure prioritization of transportation modes for vulnerable users. People first design approach.
- ✓ Ensure close coordination and refinement of land use / zoning / development regulations.
- ✓ Encourage adoption of local agency ordinances/policies that would require developers to meet safety and speed management in new street design.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations



Action 5 - Traffic Operations Recommendations

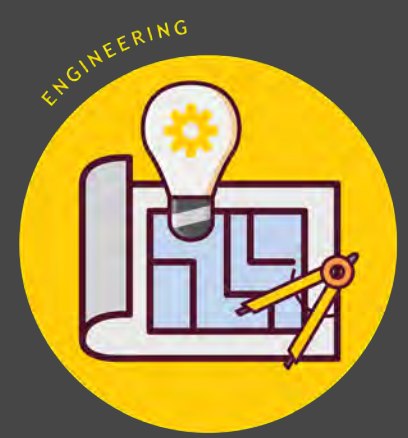
- ✓ Where operating speeds exceeds the context classification ranges, identify and install the appropriate traffic control countermeasures.
- ✓ Expand the use of automated traffic safety cameras in school zones, at traffic signals, and other locations that maybe approved under statute.
- ✓ Use signal timing to manage traffic flow for compliance with target speeds.
- ✓ Use radar feedback signs and messaging to help public understand that the speed limit is the upper limit.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations

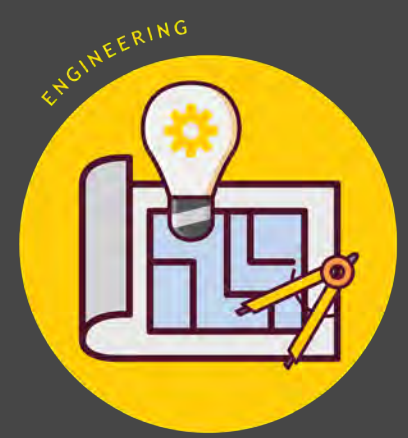


Action 6 – Professional Development and Training

- ✓ Provide educational opportunities for professionals, public officials on speed management principles, importance of vehicle speed and injury severity.
- ✓ Provide training on relationship between 85th percentile operating speed and the effect of increasing speed limits on fatal and serious injury crashes, versus less severe crashes.
- ✓ Provide training on speed management and land use/zoning/development decisions.
- ✓ Provide educational opportunities on how to determine which streets need traffic calming techniques.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations



Action 7 - Fund Improvements to Achieve Speed Management Goals

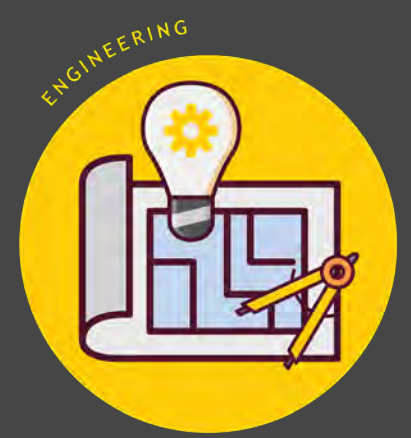
- ✓ Inventory current and future sources of funding for safety and speed management.
- ✓ Reprioritize funding for safety and speed management projects.
- ✓ Encourage competitive grant programs (safety programs, SRTS and Ped/Bicycle Safety Programs) to make speed management practices eligible for funding and add speed management consideration in selection criteria.
- ✓ Identify and pursue opportunities to incorporate speed management treatments with other projects.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations

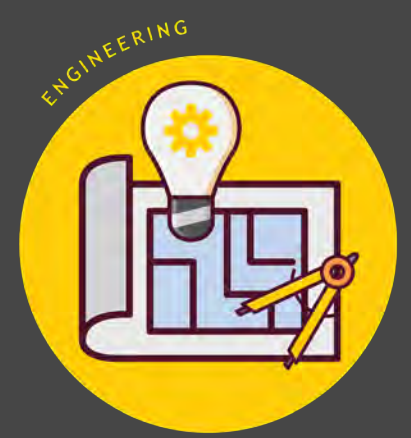


Action 8 - Collaborate with law enforcement, firefighting and other emergency response professionals to generate support for Safety and Speed Management goals and implementation.

- ✓ Potential issues may include:
 - ✓ Enforcement preference for multiple lanes so they have a lane to work in;
 - ✓ Grid verses cul-de-sac issues;
 - ✓ Lane width;
 - ✓ On-Street parking value as friction for speed management

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Engineering & Operations



- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?

Actions and Implementation Strategy - Education and Enforcement



Action 1 - Educate the Public and Elected Officials

- ✓ Encourage public health and traffic safety partners to educate the public and elected officials about the importance of speed management and injury minimization.
- ✓ Create a one-page injury minimization and speed management that is easy to read and understand for decision makers (one for city and one for county).
- ✓ Apply principles of multicultural communication means to prepare and share traffic safety educational materials.
- ✓ Educate drivers by using advertising, updates to school curriculum and driver's education programs.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Education and Enforcement



Action 2 - Develop Education Messages

- ✓ Encourage proper road use behavior by all road users
- ✓ Explain how and why injury minimization speed limit methodology is used to inform of the purpose and goals of the speed management approach.
- ✓ Obtain public understanding and support to prevent / reduce road rage and support positive traffic safety culture in communities.
- ✓ Inform the general public about the importance of using appropriate lower speed limits to save lives and achieve Vision Zero goals.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Education and Enforcement



Action 3 - Draw on local resources and partners to develop community-based public awareness and education.

- ✓ Ensure that speed limits, including statutory maximums, are well-communicated to drivers.
- ✓ Improve and increase communications about the safety reasons for effective policies and strategies.
- ✓ Increase publicity and visibility of enforcement to enhance deterrent effects.
- ✓ Target education and outreach when speed limit or street design changes occur.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Education and Enforcement



Action 4 - Encourage Elected officials to adopt Speed Management Policy

- ✓ Replicate steps used to encourage adoption of Complete Streets Policies, in a way that will inform the community and get support from elected officials.
- ✓ Create a one-page concise page that shows how injury minimization efforts support Complete Streets principles for staff and elected officials to use in response to public concerns.
- ✓ Encourage the integration of speed management into Complete Streets policies.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Education and Enforcement



Action 5 - Establish safeguards against inequitable enforcement practices.

- ✓ Before undertaking enforcement emphasis campaigns, provide training on equity issues for law enforcement and encourage work with cultural ambassadors in diverse communities.
- ✓ Primarily issuing warnings and educational materials rather than citations, early on in new programs.
- ✓ Ensure all outreach materials are bilingual, at a minimum.
- ✓ Establishing metrics to continuously evaluate equity within program activities.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Education and Enforcement



Action 6 - Enforcement Recommendations

- ✓ Encourage enforcement efforts to address the top 10% of aggressive driver behaviors on HIN network corridors.
- ✓ Expand the use of automated speed enforcement in school zones.
- ✓ Encourage better posted and impact speed documentation in crash data reports.
- ✓ Design escalating enforcement campaigns
- ✓ Designate "speed awareness zones" with higher fines for aggressive driving violations,
- ✓ Issue notifications to drivers and encouraging resident-involved speed reduction efforts.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Education and Enforcement



- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?

Actions and Implementation Strategy - Policy / Legislation



Action 1 - Support Changes to Laws and Regulations as necessary to ensure people are protected to the greatest extent possible.

- ✓ Encourage the change in guidance authorizing agencies to reevaluate speed limits.
- ✓ Discourage the use of the 85th percentile speed setting in urban, suburban and rural town centers.
- ✓ Develop and adopt a Speed Management Policy.
- ✓ Integrate speed management goals in Complete Streets policies.
- ✓ Encourage the use of automated traffic safety cameras for speed management in HIN corridors and school zones.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Policy / Legislation



Action 2 - Set a firm Vision Zero crash reduction Goal

- ✓ Establish parameters to establish a 50% reduction in fatal and serious injury crashes by 2030.
- ✓ Prioritize repurposing existing corridors for all users.
- ✓ Prioritize safety projects in LRTP and UWP to achieve crash reduction goal.
- ✓ Redefine funding objectives to fund safety projects to achieve Vision Zero safety goals.

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Policy / Legislation



Action 3 - Develop an inter-agency speed and safety review process to assess land use and transportation plans, designs, and implemented projects. That will:

- ✓ Leverage parallel programs and initiatives where there are shared objectives and priorities.
- ✓ Coordinate land use and transportation plans in setting speed limits and street design characteristics.
- ✓ Set or revise speed limits early in the new project planning process.
- ✓ Conduct road safety audits of all new, pending and maintenance and operations projects.

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Policy / Legislation



Action 4 - Review and update Land Use Policies - ensure walkable, safe, and healthy communities.

- ✓ Ensure mixed-use development patterns
- ✓ Ensure grid street system to improve connectivity
- ✓ Ensure multi-modal infrastructure is required of all developments
- ✓ Maximize the number of entry points to subdivisions
- ✓ Ensure self enforcing street design
- ✓ Integrate neighborhood schools with safe access

Short Term (1-2 Years)

Mid Term (3-5 years)

Long Term (5+ years)

Actions and Implementation Strategy - Policy / Legislation



Action 5 - Review and Initiate Traffic Safety Legislation Measures

- ✓ Pull on local partnerships and elected political officials to formulate a plan of action to address current and future traffic safety legislative needs, including but not limited to:
 - ✓ The need to update statutory speed setting legislation
 - ✓ State authority to utilize Automated Speed Enforcement
 - ✓ Initiate the need for a state Motorcycle Helmet Law
 - ✓ Identify other critical safety legislation needs

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

Actions and Implementation Strategy - Policy / Legislation



- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?

Actions and Implementation Strategy - Plan Evaluation



Action 1 - Develop evaluation metrics and timeframes for plan updates.

- ✓ Establish quarterly updates of the Speed Management Action Plan.
- ✓ Establish post-project evaluation measures with qualitative and quantitative approaches, including:
 - ✓ Quantitative measures: speed reduction, crash reduction, serious injury/fatality reduction, and impact on travel time.
 - ✓ Qualitative measures: user observations, surveys

Short Term (1-2 Years)
Mid Term (3-5 years)
Long Term (5+ years)

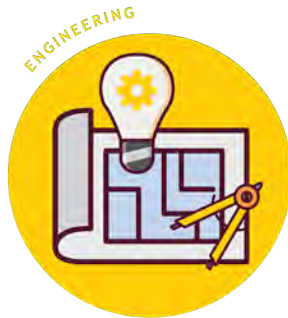
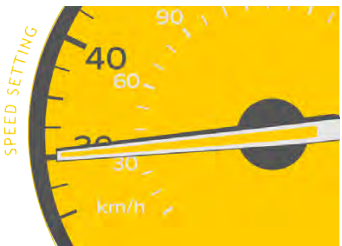
Actions and Implementation Strategy - Plan Evaluation



- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?

NEXT STEP

- Finalize Draft Plan
- Presentation to MPO Committees
- Incorporate Feedback
- Finalize Speed Management Action Plan





Hillsborough MPO
Metropolitan Planning
for Transportation

THANK YOU!

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Submitted by:



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