Appendix – Supporting Materials
## Annotated Bibliography of Key Speed Management Resources

### Table 1. Speed Management Resources - Annotated Bibliography.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
<th>Primary Audience</th>
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</table>
| **Highway Safety Manual, 1st edition.** American Association of State Highway and Transportation Officials: Washington, D.C., 2010. Available at: highwaysafetymanual.org. | “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. 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.” | -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/. | “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. | -Engineers  
-Program Managers |
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<td><strong>CMFs in Practice.</strong> U.S. DOT, Federal Highway Administration web page &lt;br&gt;Available at: <a href="http://safety.fhwa.dot.gov/tools/crf/resources/cmfs/">http://safety.fhwa.dot.gov/tools/crf/resources/cmfs/</a>.</td>
<td>“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.”</td>
<td>Engineers</td>
</tr>
<tr>
<td><strong>Speed Concepts: Informational Guide.</strong> Washington, D.C.: Office of Safety, Federal Highway Administration, 2009. Available at: <a href="http://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa10001/">http://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa10001/</a>.</td>
<td>“The objectives of this guide are to: &lt;br&gt;- Define common speed-related terminology so that the guide’s contents can be clearly conveyed. &lt;br&gt;- Explain the differences between designated design speed, inferred design speed, operating speed, and posted speed limits. &lt;br&gt;- Illustrate perceptions and research conclusions related to the effects of speed. &lt;br&gt;- Document speed-based technical processes. &lt;br&gt;- Summarize State and local government agency roles and actions related to traffic speed. &lt;br&gt;- Highlight speed management and mitigation measures.”</td>
<td>Engineers&lt;br&gt;-Enforcement&lt;br&gt;-Others</td>
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<tr>
<td>Engineering Countermeasures for Reducing Speeds: A Desktop Reference of Potential Effectiveness in Reducing Speed. FHWA Office of Safety website tool, 2014. Available at: <a href="http://safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count/2014/reducing_speed.cfm">http://safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count/2014/reducing_speed.cfm</a>.</td>
<td>“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.”</td>
<td>-Engineers -Others</td>
</tr>
<tr>
<td>Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Crashes. FHWA Office of Safety website tool, 2014. Available at: <a href="http://safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count/2014/eng_ctm_crsh_14.pdf">http://safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count/2014/eng_ctm_crsh_14.pdf</a></td>
<td>“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.”</td>
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<td>Traffic Calming: State of the Practice.</td>
<td>“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.”</td>
<td>Engineers</td>
</tr>
<tr>
<td>FHWA Guidance Memorandum on Consideration and Implementation of Proven Safety Countermeasures. Date: July 10, 2008</td>
<td>Considerations and Implementation of Proven Safety Countermeasures.</td>
<td>All</td>
</tr>
<tr>
<td>FHWA. Speed Management Safety. Available at:</td>
<td>FHWA Speed Management webpages and resources.</td>
<td>Engineers</td>
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| **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/ | “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.” | -Engineers  
-Program Managers  
-Policy-Makers |
| **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 | “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.”  
-Policymakers |
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<td><strong>Interactive Highway Safety Design Model (IHSDM).</strong> Website with description and link to the IHSDM modeling tool. Available at: <a href="http://www.fhwa.dot.gov/research/tfhrc/projects/safety/comprehensive/ihsdm/">http://www.fhwa.dot.gov/research/tfhrc/projects/safety/comprehensive/ihsdm/</a>.</td>
<td>“IHSDM development is coordinated with two related initiatives: the Highway Safety Manual, developed by the Transportation Research Board and published by AASHTO; and the Safety Analyst, developed by FHWA and now available as AASHTOWare. 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. IHSDM currently includes six evaluation modules (Crash Prediction, Design Consistency, Intersection Review, Policy Review, Traffic Analysis, and Driver/Vehicle).”</td>
<td>-Engineers</td>
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<td><strong>Adding Power to Our Voices: A Framing Guide for Communicating about Injury.</strong> 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: <a href="http://www.cdc.gov/injury/framing">http://www.cdc.gov/injury/framing</a>.</td>
<td>“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. 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.”</td>
<td>-Communications Specialists</td>
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<td><strong>Guidance for Implementation of the AASHTO Strategic Highway Safety Plan. Volume 21: Safety Data and Analysis in Developing Emphasis Area Plans.</strong> Washington, DC: NCHRP, Transportation Research Board, 2008. Available: <a href="http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_500v21.pdf">onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_500v21.pdf</a>.</td>
<td>“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.”</td>
<td>-Program Managers -Data Analysts</td>
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</table>

“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.” | -All Road Safety Practitioners -Program Managers |
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<td><strong>Uniform Guidelines for State Highway Safety Programs. Highway Safety Program Guidelines No. 19.</strong> National Highway Traffic Safety Administration, 2006. Available: <a href="http://www.nhtsa.gov/nhtsa/whatsup/tea21/tea21programs/402guide.html#g19">http://www.nhtsa.gov/nhtsa/whatsup/tea21/tea21programs/402guide.html#g19</a>.</td>
<td>The Speed Control Guidelines (no. 19) is one of 21 sets of uniform program guidelines for state highway safety programs developed for TEA21. “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.”</td>
<td>-Program Managers -Enforcement -Communications Specialists</td>
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| *Effectiveness of Behavioral Highway Safety Countermeasures, NCHRP Report 622.* Washington, D.C.: Transportation Research Board, 2008. Available: [http://www.nap.edu/openbook.php?record_id=14195](http://www.nap.edu/openbook.php?record_id=14195). | 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 framework and guidance for estimating the costs and benefits of emerging, experimental, untried, or unproven behavioral highway safety countermeasures. | -Enforcement  
-Communications Specialists  
-Program Managers |
### Speed Management Resources - Annotated Bibliography

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<td>Road Safety Audit resources on FHWA website: <a href="http://safety.fhwa.dot.gov/rsa/">http://safety.fhwa.dot.gov/rsa/</a></td>
<td>“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... The aim of an RSA is to answer the following questions: -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? 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.”</td>
<td>-Engineers -Planners -Law Enforcement -Other Road Safety Stakeholders</td>
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<td>Note: The pedestrian and bicycle road safety audit guidelines provide supplemental information focusing on safety and roadway issues particularly affecting those users.</td>
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<td><strong>Safety Analyst.</strong>&lt;br&gt;AASHTOware. Network screening analysis tool. Available: <a href="http://www.safetyanalyst.org/">http://www.safetyanalyst.org/</a>.</td>
<td>“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.”</td>
<td>-Engineers</td>
</tr>
<tr>
<td><strong>Speed Management: Road Safety Manual for Decision-makers and Practitioners.</strong>&lt;br&gt;Geneva: Global Road Safety Partnership, 2008. Available at: <a href="http://www.who.int/roadsafety/projects/manuals/speed_manual/en/">http://www.who.int/roadsafety/projects/manuals/speed_manual/en/</a>.</td>
<td>“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.”</td>
<td>-All Safety Stakeholders&lt;br&gt;-Program Managers&lt;br&gt;-Policymakers</td>
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<td><strong>Speed Enforcement Camera Systems: Operational Guidelines.</strong> Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration and Federal Highway Administration, 2008. Available at: <a href="http://ntl.bts.gov/lib/30000/30100/30166/810916.pdf">http://ntl.bts.gov/lib/30000/30100/30166/810916.pdf</a>.</td>
<td>“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.”</td>
<td>-Enforcement -Engineering -Program Managers</td>
</tr>
<tr>
<td><strong>USLimits2. FHWA. A Tool to Aid Practitioners in Determining Appropriate Speed Limit Recommendations.</strong> Tool available at: <a href="http://safety.fhwa.dot.gov/uslimits/">http://safety.fhwa.dot.gov/uslimits/</a></td>
<td>“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. 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.” A related report documenting research for USLimits, 1st ed.: Expert System for Recommending Speed Limits in Speed Zones: Final Report. National Cooperative Highway Research Program, Transportation Research Board. Available at: onlinepubs.trb.org/onlinepubs/trlnet/acl/NCHRP%200367_FinalReport.pdf.</td>
<td>-Engineers -Others responsible for setting speed limits</td>
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MANAGING SPEED on Hillsborough’s High Injury Network

Stakeholder Kick-Off Meeting
May 24, 2019

Presented by:
Gena Torres
Paula Flores
Alex Henry
Welcome & Introduction

Study Objectives

FDOT Speed Management - Pilot Projects

Examples & Best Practices

Stakeholder Input
SAFE STREETS NOW

VISIONZERO

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 polices, 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
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!
TRAFFIC DEATHS

Traffic Deaths per 100,000 Residents

US
Florida
Hillsborough

12.5
12.7

10.1

LaMour Welch, 29
Ernest Kelly, 12
Eugene Fischer, 65
Emily Lopez, 17

SAFE STREETS NOW
VISION ZERO
ONE TRAFFIC DEATH IS TOO MANY
WHAT DOES THE DATA TELL US?

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

WHAT DOES THE DATA TELL US?
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
“...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

Source: USDOT, NHTSA 2016 Traffic Safety Facts
SPEED TAKES THE BACK SEAT

PEDESTRIAN FATALITY & SERIOUS INJURY RISK

- 18%
- 50%
- 77%

- (20 MPH)
- (30 MPH)
+ (40 MPH)

Source: FHWA Achieving Multimodal Networks
SPEED TAKES THE BACK SEAT

Source: FHWA Achieving Multimodal Networks
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
SPEED MANAGEMENT ACTION PLAN - Study Scope

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

Task 1 - STAKEHOLDER ENGAGEMENT

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!
Existing Speed Management Practices
Industry Best Practices
  - Statewide & National
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
TASK 4 - CORRIDOR COMMUNITY ENGAGEMENT

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

Source: USDOT, SPEED MANAGEMENT PROGRAM PLAN, MAY 2014
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

Source: USDOT, SPEED MANAGEMENT PROGRAM
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
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
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

WHAT IS SPEED MANAGEMENT?
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!
• Initiate and Complete Task 2 and 3
• Schedule Working Group Meeting #2
  ▪ Community Engagement Event
  ▪ Pop-up Event

NEXT STEPS
THANK YOU!
MANAGING SPEED on Hillsborough’s High Injury Network

Stakeholder Meeting
October 15, 2019

Presented by:
Gena Torres
Paula Flores
Welcome & Introduction

Update on Prioritization Progress

Community Event - Candidate Corridor

Community Event - Process & Roles

Next Steps
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
- Speed Management Practices
- Corridor Prioritization
- Corridor Community Engagement
- 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
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/
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, Agivated 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/
SPEED MATTERS MOST

As traffic deaths soar, #VisionZero cities pursue lower speed limits & new road design. Learn why Portland leads the movement in our upcoming webinar: bit.ly/2yNeq0B

FOR A SAFER NYC
SPEED LIMIT 25
VISION ZERO
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
Prioritization Factors:

- 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

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Road Classification</th>
<th>Context Classification</th>
<th>ITE/CNU Class Speed Range*</th>
<th>Posted Speed (MPH)</th>
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<td>Principal Arterial</td>
<td>C3 (35-55)</td>
<td>25-35 Max</td>
<td>45,50, 55</td>
<td>10-20</td>
</tr>
<tr>
<td>Gibsonton Dr/Boyette Rd from I-75 to Balm Riverview Rd</td>
<td>Arterial</td>
<td>C3 (35-55)</td>
<td>25-35 Max</td>
<td>45</td>
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<td>Hillsborough Ave from Longboat Blvd to Florida Ave</td>
<td>Principal Arterial</td>
<td>C3 (35-55)</td>
<td>25-35 Max</td>
<td>45, 50</td>
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<td>Fletcher Ave from Armenia Ave to 50th St</td>
<td>Principal Arterial</td>
<td>C3 (35-55)</td>
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<tr>
<td>Dale Mabry from Hillsborough Ave to Bearss Ave</td>
<td>Principal Arterial</td>
<td>C3-C4 (30-45)</td>
<td>25-35 Max</td>
<td>45</td>
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<tr>
<td>Lynn Turner from Gunn Hwy to Ehrlich Rd</td>
<td>Arterial</td>
<td>C3 (35-55)</td>
<td>25-35 Max</td>
<td>45</td>
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<td>Meridian Ave from Channelside Dr to Twiggs St</td>
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<td>C6 (25-30)</td>
<td>25-30 Max</td>
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<td>Bruce B Downs from Fowler Ave to Bearss Ave</td>
<td>Arterial</td>
<td>C3 (35-55)</td>
<td>25-35 Max</td>
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<td>50th/56th St from MLK Blvd to Hillsborough Ave</td>
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<td>C3 (35-55)</td>
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<td>Sheldon Rd from Hillsborough Ave to Water Ave</td>
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<td>56th St from Sligh Ave to Busch Blvd</td>
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<td>Howard Frankland Bridge to Busch Blvd</td>
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Sponsored by: FHWA Office of Infrastructure, Office of Planning, Environment and Realty, & Office of Sustainable Communities, US Environmental Protection Agency

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**Overall**

- 70% are 5-10MPH over National Practice
- 15% are 15-20MPH over National Practice
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 – Equity
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.
### Corridor and Extent

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Extent</th>
<th>Crash Severity / Mile</th>
<th>Ped/Bike Crash Rate / Mile</th>
<th>Schools / Mile</th>
<th>Equity C/C Coverage</th>
<th>Posted Speed</th>
<th>Conflict Class</th>
<th>Class Route</th>
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Welcome & Introduction
Update on Prioritization Progress
Community Event - Candidate Corridor
Community Event - Process & Roles
Next Steps
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/
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
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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 data website: gpi.ninja/hillsborough/
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
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
Fayetteville, AK
LADOT – Los Angeles, CA
Bikewalkkc.org
NEXT STEPS

- Work with County and State - Candidate Corridor
- Task 4 Community Event - February
- Initiate - Task 5 Speed Management Action Plan
THANK YOU!
MANAGING SPEED on Hillsborough’s High Injury Network
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
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

Task 1 - STAKEHOLDER ENGAGEMENT

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
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)
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
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

Source: USDOT, SPEED MANAGEMENT PROGRAM PLAN, MAY 2014
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
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?
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
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Overall
- 70% are 5-10MPH over National Practice
- 15% are 15-20MPH over National Practice
HIN Crash Statistics (2014-2018)

Fatal Crash Characteristics

- 67% < 35 Years Old
- 53% occurred on “Dark-Lighted” streets
- 92% SPEED LIMIT 40+
- 83% Non-Peak Hours
- 59% Non-Intersections
- 59% 4 or more travel lanes
- 71% Aggressive Driving/Speeding
  Erratic, Reckless, Aggravated maneuvers, ran off road, exceeded speed limit, ran red light, careless or negligent

- 43% cars
- 24% SUV
- 14% motorcycles
Identified-Risk Performance Level

Prioritization Factors

- 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)
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 - Equity
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 risk, the higher the points.
## Corridor and Extent

<table>
<thead>
<tr>
<th>Top 20 - Priority Matrix</th>
<th>Crash Severity/Mile</th>
<th>Ped/Bike Crash Rate/Mile</th>
<th>Schools/Mile</th>
<th>Equity CoC Coverage</th>
<th>Posted Speed Limit</th>
<th>Conflict</th>
<th>Transit Routes</th>
<th>High Volumes</th>
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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
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<th>Corridor and Extent</th>
<th>Crash Severity / Mile</th>
<th>Schools / Mile</th>
<th>Equity CoC Coverage</th>
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<td>Armenia Ave Tampa Bay Blvd to Waters Ave</td>
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<td><img src="image2" alt="High" /></td>
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<td>MacDill Ave Kennedy Blvd to Columbus Dr</td>
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<td>M L King Blvd McIntosh Rd to Sammonds Rd</td>
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<td><img src="image5" alt="Medium" /></td>
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Top50 HIN Priority Recap
TASK 5 - Speed Management Action Plan

- Strategies and Countermeasures
- Actions and Implementation Strategy
Vision Zero Principles

- **Human Life and Health**
  - 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.

Source: Municipality of Anchorage
Vision Zero Principles

SAFE TRAVEL FOR ALL

SAFE STREETS  SAFE SPEEDS  SAFE VEHICLES  SAFE PEOPLE

Source: Vision Zero Network
## Aggressive Driving Crash Countermeasures

<table>
<thead>
<tr>
<th>Countermeasure</th>
<th>Urban (C4,C5,C6)</th>
<th>Suburban (C3)</th>
<th>Rural (C1-C2)</th>
<th>Location Type</th>
<th>Effects</th>
</tr>
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<tbody>
<tr>
<td><strong>Safe People Walking or Bicycling:</strong></td>
<td></td>
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<tr>
<td>Pedestrian Crossing - High Visibility</td>
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<tr>
<td>Raised Pedestrian Crossing</td>
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<td>Sidewalks Required on both sides</td>
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<td>Sidewalks (8 foot min standard)</td>
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<td>Mid-Block Pedestrian Crossing/Short Blocks</td>
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<td>Refuge Islands (raised/painted)</td>
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<td>Painted Intersections / Crosswalks</td>
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<td>Bike Lanes (seperated)</td>
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Safe Streets

Source: City of Orlando – Complete Streets Policy
### Aggressive Driving Crash Countermeasures (cont.)

<table>
<thead>
<tr>
<th>Countermeasure</th>
<th>Area Type</th>
<th>Location Type</th>
<th>Effects</th>
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<tbody>
<tr>
<td></td>
<td>Urban (C4,C5,C6)</td>
<td>Suburban (C3)</td>
<td>Rural (C1-C2)</td>
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<td>Safe Streets:</td>
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<tr>
<td>Chicanes / Lateral Shifts</td>
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<td>Full / Half Closure</td>
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<td>Lane Width (10 foot standard)</td>
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<td>Roundabout</td>
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<td>Speed Tables/Raised Intersections</td>
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<td>Bulb Outs</td>
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<td>Corner Radii / Radius Reduction</td>
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# Aggressive Driving Crash Countermeasures (cont.)

## Safe Freeway Interchanges:

<table>
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<tr>
<th>Countermeasure</th>
<th>Urban (C4,C5,C6)</th>
<th>Suburban (C3)</th>
<th>Rural (C1-C2)</th>
<th>Intersection</th>
<th>Slow Street</th>
<th>Arterial / Corridor</th>
<th>Crash Reducing</th>
<th>Speed Reducing</th>
<th>Severity Reducing</th>
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<tr>
<td>Re-evaluate Target Speed Limit</td>
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## Safe Traffic Operations:

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<th>Suburban (C3)</th>
<th>Rural (C1-C2)</th>
<th>Intersection</th>
<th>Slow Street</th>
<th>Arterial / Corridor</th>
<th>Crash Reducing</th>
<th>Speed Reducing</th>
<th>Severity Reducing</th>
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<td>Lower Speed Limits</td>
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<td>Add New Signals / Improve Connectivity</td>
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<td>Rectangular Rapid Flashing Beacon</td>
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<tr>
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<tr>
<td>Re-evaluate Target Speed Limit</td>
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</table>
Safe Speeds
### Aggressive Driving Crash Countermeasures (cont.)

<table>
<thead>
<tr>
<th>Countermeasure</th>
<th>Area Type</th>
<th>Location Type</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban (C4,C5,C6)</td>
<td>Suburban (C3)</td>
<td>Rural (C1-C2)</td>
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<tr>
<td>Targeted Enforcement:</td>
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<td>Automated Section Speed Enforcement</td>
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<td>Mobile Speed Camera Enforcement</td>
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<td>Red Light Cameras</td>
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<td>Targeted Enforcement on High Injury Corridors</td>
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<td>Higher Fines on High Injury Corridors</td>
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<td>Higher Fines in School/Slow Speed Zones</td>
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<td>Education Campaign / PSA:</td>
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<td>New Pavement Markings/Signs</td>
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<td>Target Speed/Coordinated Signals</td>
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Countermeasures
Application to Top8 HIN Corridors
Top8 HIN Corridor - Fatal Crash Characteristics

Fatalities by Age
- <25: 18%
- 26-35: 32%
- 35-50: 11%
- 50-65: 11%
- >65: 3%

Fatalities by Location
- Four-Way Intersection: 36%
- Not at Intersection: 21%
- T-Intersection: 11%
- 11%

Fatalities by Time of Day
- 6-9 AM: 62%
- 3-6 PM: 11%
- Non-Peak: 6%

Contributing Factors
- Failed to Yield Right-of-Way: 34%
- Operated MV in Careless or Negligent Manner: 16%
- Other Contributing Actions: 18%
- Ran Red Light: 13%
- Failed to Keep in Proper Lane: 13%
- Improper Turn: 6%
- Operated MV in Erratic Reckless or Aggravated manner: 3%
- Exceeded Posted Speed: 9%
Top8 HIN Corridor Characteristics

Crashes by Lighting

<table>
<thead>
<tr>
<th></th>
<th>Number of Crashes</th>
<th>Serious Injuries</th>
<th>Fatalities</th>
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<tbody>
<tr>
<td>Dark-Lighted</td>
<td>72%</td>
<td>6%</td>
<td>68%</td>
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<tr>
<td>Dark-Not Lighted</td>
<td>20%</td>
<td>58%</td>
<td>17%</td>
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<tr>
<td>Dawn</td>
<td>4%</td>
<td>4%</td>
<td>17%</td>
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<tr>
<td>Daylight</td>
<td>6%</td>
<td>30%</td>
<td>6%</td>
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<tr>
<td>Dusk</td>
<td></td>
<td></td>
<td>58%</td>
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</table>
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

Source: Collaborative Sciences Center for Road Safety
<table>
<thead>
<tr>
<th>Countermeasure</th>
<th>Bruce B. Downs (Fowler to Bearss)</th>
<th>Hillsborough Ave (Longboat to Florida)</th>
<th>Dale Mabry (Hillsborough to Bearss)</th>
<th>Florida Avenue (Waters to Linebaugh)</th>
<th>Brandon Blvd (Falkenburg to Dover)</th>
<th>Fletcher Avenue (Amelia to 50th)</th>
<th>Sheldon Road (Hillsborough to Waters)</th>
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<tr>
<td>Safe People Walking or Bicycling:</td>
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<tr>
<td>Sidewalks Required on both sides</td>
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<td>Sidewalks (8 foot min standard)</td>
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<td>Bulb Outs</td>
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</table>
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 @ Lambright St
- Major Corridor w/ 45 MPH posted speed
  - High Visibility Crossings 150’ across
  - No refuge islands
  - Large turning radii
  - No centerline hardening
<table>
<thead>
<tr>
<th>Countermeasure</th>
<th>Bruce B Downs (Fowler to Bearss)</th>
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<td><strong>Safe Freeway Interchanges:</strong></td>
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<td>Provide Safe Pedestrian Crossings</td>
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<td>Lower Speed Limits</td>
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<tr>
<td>Add New Signals / Improve Connectivity</td>
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<td>Signal Coordination-Target Speed</td>
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<td>Driver Feedback Signs - Speed</td>
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<td>Leading Pedestrian Interval</td>
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<td>Rectangular Rapid Flashing Beacon</td>
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<td>Hybrid Ped Beacon / HAWK</td>
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<td>Advanced Speed Detection Signals</td>
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<td>Traffic Signal- Demand Responsive off-peak</td>
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<td>Update Pedestrian Countdown Timers</td>
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<tr>
<td>Automated Speed Enforcement</td>
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</tbody>
</table>

Targeted Enforcement and Education applicable to ALL HIN Corridors

? Further information/data necessary
Countermeasure Application
Actions and Implementation Strategy
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
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).
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
Actions and Implementation Strategy - Speed Setting

- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?
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.
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)
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.
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.
Actions and Implementation Strategy - Engineering & Operations

**Action 5 - Traffic Operations Recommendations**

- Where operating speeds exceed 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.
**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.
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.
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
Actions and Implementation Strategy - Engineering & Operations

- Any actions of concern?
- Any additional strategies or actions?
- Are the time frames reasonable?
- Responsible parties?
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.
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.
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.
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.
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.
### 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.
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.
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.
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.
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)
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
Any actions of concern?
Any additional strategies or actions?
Are the time frames reasonable?
Responsible parties?
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
Any actions of concern?
Any additional strategies or actions?
Are the time frames reasonable?
Responsible parties?
• Finalize Draft Plan
• Presentation to MPO Committees
• Incorporate Feedback
• Finalize Speed Management Action Plan
THANK YOU!

Paula C. Flores, FITE
Transportation Planning Practice Leader
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@Paula_CFlores