Best Practices for Pedestrian and Bicycle Safety

Florida’s Pedestrian and Bicycle Safety Coalition

April 2015
Best Practices for
Pedestrian and Bicycle Safety

Florida’s Pedestrian and Bicycle Safety Coalition

April 2015
# Table of Contents

Introduction ................................................................................................................................................ 3  
Pedestrian and Bicycle Safety Coalition.................................................................................................. 4  
Engineering Countermeasures for Pedestrian and Bicycle Safety ....................................................... 6  
Pedestrian and Bicycle Traffic Engineering and Design Audit Program ............................................. 8  
Grassroots Pedestrian Safety Education Initiative .................................................................................. 10  
Pedestrian and Bicycle Safety Educational Campaigns on University Campuses ............................. 12  
Educational Outreach on Pedestrian and Bicycle Safety via Social Media .......................................... 14  
Pedestrian and Bicycle Open Streets Events ......................................................................................... 16  
High Visibility Enforcement Programs for Pedestrian and Bicycle Safety ....................................... 18  
Pedestrian and Bicycle Safety Roll Call Videos for Law Enforcement ............................................. 20  
Development of Mobile Lighting Measurement System for Roadway Illumination Data Collection .... 22  
Contact Information ................................................................................................................................ 24
Introduction

This guide was written to provide information on the best practices in pedestrian and bicycle safety being used in the state of Florida, with examples of each. These best practices include coalition establishment, engineering countermeasures, engineering design and audit programs, educational initiatives, outreach events, use of social media, high visibility enforcement programs, use of technology, and other activities of significance. Contact information for each example activity is included.
**Best Practice:**
Pedestrian and Bicycle Safety Coalition

**Example:**
Florida Pedestrian and Bicycle Safety Coalition

**Objective** – To establish an effective partnership of stakeholders charged with implementing countermeasures to improve an identified traffic safety problem.

**Authority** – Florida’s Pedestrian and Bicycle Safety Coalition is authorized and supported by the Secretary of the Florida Department of Transportation (FDOT).

**Coordination** – Florida’s Pedestrian and Bicycle Safety Coalition was developed by the FDOT Bicycle Pedestrian Focused Initiative Leadership Team. The State Bicycle Pedestrian Safety Program Manager is charged with planning and facilitating coalition meetings and activities. The program manager is supported by a team at the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF), which manages the logistics of the coalition and supports and evaluates countermeasure implementation.

**Member Selection/Qualifications** – Stakeholders from State and local agencies, advocacy groups, and other local partners with pedestrian and bicycle safety priorities were selected to serve as coalition members. Members include representatives from engineering, enforcement, education, and emergency medical services as well as universities, citizen-based organizations, public health organizations, transit, bicycle groups, and media representatives.

An integrated coalition is the key to effective problem identification, countermeasure selection and implementation, and problem resolution. The partners selected for Florida’s Pedestrian and Bicycle Safety Coalition were given roles and responsibilities and expectations up front, which provided an opportunity for them to thoroughly understand the level of commitment required of them prior to their participation on the coalition. The coalition is charged with implementation of Florida’s Pedestrian and Bicycle Strategic Safety Plan.

At the initial meeting of the coalition, the business plan was outlined and divided into seven emphasis areas: Data, Analysis and Evaluation; Law Enforcement and Emergency Services; Legislation, Regulation and Policy; Driver Education and Licensing; Communication; Outreach; and Highway and Traffic Engineering. Team leaders were assigned to lead each emphasis area team’s implementation plan and were charged with leading breakout sessions at in-person meetings and conducting mid-quarter conference calls to drive momentum.
Resources – Federal, State, and local resources are used to fund coalition travel and meetings, outreach, and education, among other activities. Other resources included partner/stakeholder time, materials, and commitment to the goals of the coalition.

Evaluation – Based on the latest available data, from 2011 to 2012, pedestrian fatalities in Florida were reduced by 6.24%, from 497 to 466, and bicycle fatalities were reduced by 12.50% from 120 to 105. As a result, Florida dropped from #1 to #5 nationally in 2012 for pedestrian fatalities. Within the first two years, Florida’s Pedestrian and Bicycle Safety Coalition implemented more than 50% of the strategies in the Pedestrian and Bicycle Strategic Safety Plan.

Conclusion – The establishment of a forum in which a diverse group of people with various areas of expertise in pedestrian and bicycle safety can come together and work toward the common goal of problem resolution has proven to be a worthy investment. The results of their efforts are reflected in both the percentage of strategies implemented and in the reduction in pedestrian and bicyclist crashes, fatalities, and serious injuries on our roadways.

Contact Information

Trenda McPherson
State Bicycle/Pedestrian Program Manager
Florida Department of Transportation
605 Suwannee Street, MS-17
Tallahassee, FL 32399
Trenda.Mcpherson@dot.state.fl.us
**Best Practice:**

*Engineering Countermeasures for Pedestrian and Bicycle Safety*

**Example:** Florida Pedestrian and Bicycle Policy and Guidance Initiatives

**Objective** – To establish, clarify, and update the Florida Department of Transportation (FDOT) standards, manuals, and other guidance materials to incorporate pedestrian and bicycle safety on Florida roadways.

**Authority** – Florida’s Pedestrian and Bicycle Policy and Guidance Initiative is authorized and supported by the FDOT Secretary.

**Coordination** – The Florida Pedestrian and Bicycle Policy and Guidance Initiatives team is led by the FDOT District One Secretary. Representatives from FDOT’s Central Office for Roadway Design, Safety, Traffic Engineering and Operations, and the Office of Policy Planning make up this cross-functional team.

**Evaluation** – The team created and refined guidance on innovative engineering countermeasures to improve pedestrian and bicyclist safety. This guidance has been incorporated into the *FDOT Plans Preparation Manual, Design Standards, Traffic Engineering Manual, and Florida Greenbook*. Examples of these countermeasures include wider and buffered bike lanes, green bike transition areas, shared lane markings, and pedestrian channelization. Additional updates include guidance on the installation of pedestrian safety devices such as marked crosswalks, pedestrian signals, rectangular rapid flashing beacons, and pedestrian hybrid beacons.

Other outcomes of this effort include adoption of FDOT road diet guidance and a Complete Streets policy. The team has evaluated the agency’s approach to roadway lighting, with a focus on pedestrian lighting. Additionally, an initiative has been launched toward guidance on the implementation of roundabouts, a proven measure to reduce pedestrian conflicts with vehicles. Training has been conducted on the criteria for implementing the many initiatives described above. Additional training is planned for FDOT staff and agency partners.

**Conclusion** – The updated and revised guidance provides a framework for consistent implementation of improved facilities for bicyclists and pedestrians on Florida roadways. The focus on bicyclist and pedestrian safety is incorporated in all phases of a project, from planning to construction.
Pedestrian Hybrid Beacon

Pedestrian Channelization Barrier – Developmental Design Standard

Shared Lane Marking

Contact Information

Angela Wilhelm, P.E.
State Traffic Studies Engineer
Florida Department of Transportation
605 Suwannee Street, MS 36
Tallahassee, FL 32399
Angela.Wilhelm@dot.state.fl.us

DeWayne Carver, AICP
State Bicycle/Pedestrian Coordinator
Florida Department of Transportation
605 Suwannee Street, MS 32
Tallahassee, FL 32399
Dewayne.Carver@dot.state.fl.us
**Example: FDOT District Seven Road Safety Audit Program**

**Objective** – To provide guidance and procedures for conducting a Road Safety Audit (RSA) and ensure that safety recommendations from individual RSAs are effectively documented, reviewed by appropriate Florida Department of Transportation (FDOT) District staff, and acted upon in a timely manner to improve the safety of users of the State Highway System.

**Authority** – The District Seven Road Safety Audit Program is supported and funded by FDOT.

**Coordination** – The District Seven RSA program is managed by the Special Projects/Safety Engineer (or designee) within the District’s Traffic Operations Office, consistent with the procedures and overall program guidance from District leadership. This person has primary responsibility for identifying and scheduling specific RSA projects in response to adopted project selection criteria, ensuring that adequate levels of funding are programmed and authorized to support RSA activities performed by consultants, monitoring and reporting, as required, to District leadership on the District's performance in accomplishing the objectives of the RSA program, and recommending changes to this procedure to make the RSA program more efficient and effective. The process may use in-house FDOT staff, consultant staff, local government staff, or other individual stakeholders to lead or participate in RSAs.

**Process/Qualification** – RSAs are effective when performed at any stage of a project’s life-cycle. The RSA team uses crash data to address specific high-crash locations or corridors, most of which are deemed as unsafe for pedestrians/bicyclists; however, no crash data exist that support the condition. A field review is done to address the problems before they become statistics. Conducting an RSA allows people to see and address major and minor issues. During field reviews, the RSA team suggests all meaningful safety improvements that may be costly, involve right-of-way acquisition, cause delay, or simply be outside the scope of a traditional Resurfacing, Restoration, and Rehabilitation (RRR) project. The report contains a description and location map of the RRR project corridor; a discussion of the significant crash data and predominant crash types; a description of any fatal vehicular, pedestrian, or bicycle crashes; presentation of corridor-wide and site-specific safety issues and the hazards they pose; and suggested safety improvements that would mitigate those hazards.

Facilities on which District Seven emphasizes the performance of RSAs are (1) fully-functional State roadways that have exhibited an elevated crash history, (2) existing roadway sections scheduled in the near-term for RRR projects, (3) municipal and County roadways within FDOT District Seven that are on the Federal Aid System and are of a particular safety concern to local government officials, (4) major capacity projects in the Project Development and Environment (PD&E) or design phase, and (5) special
safety audits, such as pedestrian, bicycle, school, or transit RSAs or other focused RSAs at eligible locations that the Special Projects/Safety Engineer (or designee) has determined that an RSA may be beneficial in improving safety.

**Resources** – The RSA program typically is funded by federal highway safety funds; however, state and other federal funds may be used to support RSAs as allowed by budget and work program procedures and as directed by District leadership.

**Evaluation** – An RSA is conducted well in advance of the design scope and project advertisement so the suggestions can be reviewed and evaluated with consideration for benefits and costs for inclusion in the scope. The process greatly reduces the potential for cost increases and delays attributable to operational and/or safety improvements that could be added to the scope during the actual RRR design process.

**Conclusion** – Suggested safety improvements from an RSA, which are approved for inclusion in the RRR project, can be incorporated into the design scope prior to the design contract advertisement. The RSA report could call for a more detailed analysis of a specific safety suggestion resulting from the audit. If District managers wish to conduct RSAs, it is necessary for each District to assess its RRR project scope development process and schedule. From the time the listing of an upcoming RRR is developed, there must be sufficient time to allow the RSA teams to be established, crash data to be gathered, field reviews to be scheduled and conducted, reports to be prepared and reviewed, and approved operational and safety improvements to be included in the design scope. This process greatly reduces the potential for cost increases and delays to the project.

---

**Contact Information**

Kevin Dunn  
Traffic Services Manager  
FDOT District 7 Traffic Operations  
11201 N. McKinley Drive, MS 7-1300  
Tampa, FL 33612-6403  
Kevin.Dunn@dot.state.fl.us

Stephen Benson, AICP, CNU-A  
Bike/Ped Safety Specialist  
FDOT District 7 Traffic Operations/Safety  
11201 N. McKinley Drive, MS 7-1300  
Tampa, FL 33612  
Stephen.Benson@dot.state.fl.us
**Best Practice:**

**Grassroots Pedestrian Safety Education Initiative**

**Example: WalkWise Florida**

**Objective** – To increase the baseline knowledge of safety-related pedestrian laws, actions, and behaviors by 10% through targeted interactive presentations and recruitment of WalkWise ambassadors and educators.

**Authority** – WalkWise Florida, originally WalkWise Tampa Bay, is managed by the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF) and funded by the Florida Department of Transportation (FDOT).

**Coordination** – WalkWise Florida began as WalkWise Tampa Bay, a concept originally developed by FDOT District Seven, and grew to be a statewide initiative through a grant to CUTR. The CUTR team manages an audience response system that is used to gather feedback from questions presented during WalkWise presentations. Data are collected and used to evaluate the effectiveness of the education program. At each presentation, pledges to WalkWise, Bike Smart, and Drive Safely are taken as motivators for action.

**Process/Qualification** – The WalkWise campaign targets specific demographic groups that are at a higher risk for pedestrian injuries and fatalities and at geographic locations based on mapping data at which there are high pedestrian crash rates in Florida. Educational campaigns have proven to be more successful when they target people directly at risk of a problem. The WalkWise campaign provides an informative, free, 15- to 30-minute presentation and discussion to anyone living or working within a targeted area. The WalkWise presentation is provided to diverse audiences such as civic groups, older adult centers, colleges and universities, homeless shelters, veterans, and businesses. More than 1,600 WalkWise presentations have been made to target audiences, and more than 20,000 WalkWise Ambassadors have taken a pledge to pedestrian safety over a five-year period.

**Resources** – The program is managed by CUTR with funding from FDOT. Partnerships with local public agencies and private sector businesses are created and maintained to provide additional support for outreach and awareness of the program. Other resources include citizen WalkWise Ambassadors and partner/stakeholder time.

**Evaluation** – Key findings from the collection of audience response data show that learning retention was high after each educational session. The data indicated that the level of knowledge associated with pedestrian safety increased more than 10% over the established baseline during the presentation. Approximately two weeks after the presentation, more than 90% of email survey respondents had retained the information, and almost all agreed to share their knowledge about pedestrian safety with
friends, family, and coworkers. In addition, all respondents rated the presentation and knowledge level of the presenter as “excellent” or “very good.”

**Conclusion** – WalkWise Florida has proven to be an effective program for providing safety education to adults through a targeted grassroots approach. The program leverages citizen involvement and personal commitment to spread the word about pedestrian safety to others to increase the limited reach of the presentations. Attendees take the WalkWise pledge, committing to safe pedestrian, bicycle, and driver behavior, and become Ambassadors for the program. Research has shown that such commitments can increase the percentage of people who will adopt a new behavior and give up an old one (Kotler & Lee, 2008). The program was developed to be easily replicated in other high-priority areas of Florida.

---

**Contact Information**

Julie Bond  
Senior Research Associate  
USF Center for Urban Transportation Research  
4202 East Fowler Avenue, CUT100  
Tampa, FL 33620  
bond@cutr.usf.edu

Pei-Sung Lin, Ph.D., P.E., PTOE  
Program Director  
USF Center for Urban Transportation Research  
4202 East Fowler Avenue, CUT100  
Tampa, FL 33620  
lin@cutr.usf.edu
Best Practice:  
Pedestrian and Bicycle Safety Educational Campaigns on University Campuses  

Example:  
USF Bulls Walk and Bike Week

**Objective** – To promote pedestrian and bicyclist safety and to educate pedestrians, bicyclists, and drivers on university campuses about the precautions and laws related to walking and biking. The overall theme of the events is to remind everyone to "Walk Wise, Bike Smart, and Drive Carefully."

**Authority** – USF Bulls Walk and Bike Week is authorized and supported by the Center for Urban Transportation Research (CUTR) at University of South Florida (USF) and the Florida Department of Transportation (FDOT).

**Coordination** – USF Bulls Walk and Bike Week was developed by CUTR to promote FDOT’s “Alert Today Alive Tomorrow” message. CUTR and USF are responsible for planning all activities surrounding the event.

**University Initiative** – USF Bulls Walk and Bike Week is an annual educational campaign on the USF Tampa campus that aims to improve the awareness of pedestrians, bicyclists, and motorists on and around university campuses and educate people on ways to be safe regardless of location.

**Resources** – Funding for the Bulls Walk and Bike Week educational campaign at USF, along with the outreach activities and promotional materials, is allocated by the FDOT Traffic Safety Office through the Community Traffic Safety Program Support grant.

**Evaluation** – The public opinion survey results from this educational campaign in 2014 showed that approximately 61% of all respondents considered the educational campaign to be effective or somewhat effective in improving pedestrian and bicyclist safety on campus. The observational survey results from this event showed that road user behaviors improved after the campaign. The percentage of pedestrians and bicyclists crossing at intersections during steady walking signal indicators and within crosswalks significantly increased after the campaign. Moreover, it was observed that the crossing behavior improved more when pedestrians and bicyclists crossed in a pairs. Observationally, the distraction rate of road users to pedestrians and bicyclists dropped after the campaign event.

**Conclusion** – The USF Bulls Walk and Bike Week proved to be an effective educational campaign for promoting pedestrian and bicycle safety, especially in a high-density area such as a university campus or other dense areas of Tampa. The goal of the event reached beyond pedestrians and bicyclists to
motorists, reminding all to be courteous and to aim to reduce the numbers of crashes, injuries, and fatalities to zero. Involving more universities in this type of annual event can provide proper education and safety awareness to students and faculty members across the state who are more likely to walk or bike at and near their schools.

Contact Information

Pei-Sung Lin, Ph.D., P.E., PTOE
Program Director
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
lin@cutr.usf.edu
Best Practice: 
Educational Outreach on Pedestrian and Bicycle Safety via Social Media

Example: 
Florida’s Alert Today Alive Tomorrow on Facebook and Twitter

Objective – To successfully implement an educational social media campaign that targets high-risk pedestrians and bicyclists via social media outlets such as Facebook and Twitter. The goal is to implement safety strategies that engage target audiences and keep them engaged on social media sites, keeping them informed of the State of Florida’s pedestrian and bicycle safety efforts.

Authority – The comprehensive, data-driven educational outreach via social media for the Florida Pedestrian and Bicycle Safety Coalition was authorized and supported by the Secretary of the Florida Department of Transportation (FDOT) and developed and organized by the selected social media coordinator at the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF).

Coordination – Florida’s Pedestrian and Bicycle Safety Coalition was developed by FDOT’s Bicycle/Pedestrian Focused Initiative Leadership Team. The State Bicycle/Pedestrian Safety Program Manager was charged with designating one person to be in charge of all social media efforts. This person is responsible for setting up social media pages, creating a variety of daily posts for selected outlets, and creating a theme consistent with the topic. Postings include weekly trivia questions and/or giveaways and photos, which keep users engaged and provide correlated safety messages. Also included are videos and hyperlinks to other safety campaigns and events, which are extremely beneficial, as users are able to see a full spectrum of the safety efforts that occur throughout the state.

Target Audience – The target audience includes Florida residents and others who may be interested in, concerned about, and/or responsible for pedestrian and bicycle safety. Approximately 73% of adults who access the Internet use social media websites; 63% of these users visit Facebook at least once per day. The largest age group on Facebook is 19–29, which includes the majority of the primary target audience of those ages 16–25, identified as at the highest risk for fatalities, injuries, and crashes while walking or biking.

Resources – Federal, State, and local resources are used. Advertising through social media is planned to be implemented, which can be specifically marketed to a particular region, demographic, age, or gender. This will allow for more effective marketing of particular areas of emphasis.
Evaluation – Within one year, the social media efforts of the Florida Pedestrian and Bicycle Safety Coalition have resulted in more than 100,000 views of social media posts on the Alert Today Florida Facebook and Twitter pages. This has increased pedestrian and bicycle safety awareness around Florida and has allowed users to engage with coalition members on Florida’s safety efforts. Florida residents can easily access these social media pages, are able to understand the safety efforts being conducted, and can ask questions regarding the future of the Florida Pedestrian and Bicycle Safety Coalition.

Conclusion – Similar to pedestrian and bicycle safety educational campaigns on university campuses, the introduction of social media provides significant advertising and promotional opportunities and benefits. Allowing individuals to interact and share information via social media allows more people to be aware of the campaign, laws, and safety precautions. Many people use social media to obtain day-to-day news and information. Social media helps people understand the importance of bicycle and pedestrian safety, while at the same time relaying the information in a convenient and cost-effective medium.

Contact Information

Navid Farahbakhsh, E.I.
Public Information/Social Media Coordinator
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
nfarahba@cutr.usf.edu
**Best Practice:**

**Pedestrian and Bicycle Open Streets Events**

**Example: Florida Cyclovia and Open Streets Events**

**Objective** – To encourage communities to “use” streets in a different way by developing opportunities for people to play, shop, or simply meet on the street. This free and family-friendly program encourages pedestrians and bicyclists to inhabit city streets safely while promoting safety, physical activity, and a sense of “community.” The concept is to promote a culture shift from being “car-centric” to healthier, livable communities that support all modes of transportation, including those that are human-powered.

**Authority** – Florida’s Cyclovia and Open Street programs are authorized and supported by the Florida Department of Transportation (FDOT), in partnership with local municipalities, public officials, and community partners and organizations.

**Coordination** – Cyclovia (also referred to as Ciclovía) or Open Streets is based on the Spanish word for “cycle path.” Originating in Bogotá, Colombia, Cyclovia events temporarily close major city streets during off-peak periods to motor vehicle traffic and convert them into safe and open “linear parks” in the heart of the city where people can run, bike, walk, and interact with each other. FDOT District Champions met with public officials and law enforcement representatives in communities with a higher-than-average rate of pedestrian and bicycle crashes to discuss, plan, design, and map potential Cyclovia and Open Streets locations. Communities were encouraged to take the lead by organizing sponsors and activities, while FDOT worked with local law enforcement to manage the maintenance of traffic elements. Local businesses and volunteers assisted in marketing, organizing activities and entertainment, and conducting surveys and counts during events.

**Qualification** – The vision for Cyclovia is to get people moving and engaged. It is important to keep the events local and ensure they are accessible to everyone. Locations should be centrally located and convenient to transit stops and bike routes. Cyclovia provides an excellent platform to integrate neighborhoods that may be separated due to land use challenges or to revitalize an area in which people might not otherwise walk or bike. Route determination requires consideration of several criteria, including open businesses, low traffic volumes, fewer intersections, alternative access to parking, and areas that provide shade, depending upon weather conditions. Law enforcement participation is key, as it is needed to provide maintenance of traffic and maintain public safety. Increased enforcement visibility is often a crime reducer; capitalize on that opportunity. Some areas may face challenges with maintenance of traffic depending on who has jurisdiction over a specific roadway, and others may face challenges in providing law enforcement coverage due to staffing limitations. All these elements should be considered during the planning stages to ensure that the event comes together successfully.
Resources – Primarily local resources are utilized for Cyclovia. In addition to FDOT support of maintenance of traffic, which is also funded by municipalities in some cases, activities are organized and held based on efforts of volunteers and partner organizations.

Evaluation – Measuring outcomes and return on investment for Ciclovia is simple given you put the right measures in place in advance. For example, people won’t come if they aren’t aware of the event. Developing a media plan is critical. To gauge attendance, measures such as taking surveys, giving away t-shirts, having volunteer “counters”, entering a raffle, or even offering an opportunity to have a photo taken at the entrance are all ways to track attendance. If the location is in a business area, request business financials or statistics up front then ask the businesses to compare those to the date of the Ciclovia to reflect the percentage of change. Look at crime statistics before and after. As stated earlier, increased visibility of enforcement typically reduces crime. Then consider the total investment, total increase in economic/business sales impact, the economic impact of crime and crash reduction, and emission reduction for ongoing activities. You might consider looking at increased property values, and the amount of community engagement (education/culture shift) to gauge your return on investment. Remember to keep it simple. This is not meant to be a “street party”. It’s meant to be a way to reconnect neighborhoods and to shift the culture to a more bicycle/pedestrian friendly atmosphere. Adding too many elements only serves to drive up the cost.

Conclusion – The establishment of Cyclovia and Open Streets programs has enabled local communities to walk and bike as part of a healthier lifestyle, to promote pedestrian and bicycle infrastructure improvements, to implement Complete Streets and livable communities, and to show neighbor, and the rest of the world that their communities are bicycle friendly. With measurable outcomes, those who may have challenged the idea initially might buy in at the end.

Contact Information

Trenda McPherson
State Bicycle/Pedestrian Program Manager
Florida Department of Transportation
605 Suwannee Street, MS-17
Tallahassee, FL 32399
Trenda.Mcpherson@dot.state.fl.us
**Best Practice:**
High Visibility Enforcement Programs for Pedestrian and Bicycle Safety

**Example:**
Florida High Visibility Enforcement Contracts

**Objective** – To implement ongoing educational campaigns with high visibility enforcement operations in locations with the highest need, resulting in a higher awareness and gradual cultural change towards improved pedestrian and bicycle safety.

**Authority** – Florida's high visibility law enforcement agency contracts are funded by the Florida Department of Transportation (FDOT) and managed by the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF), which administers educational materials and funding for approved agencies to conduct operations.

**Coordination** – CUTR contracted with 20 law enforcement agencies that represent the 10 Florida counties with the highest pedestrian fatalities to participate in the first phase of the High Visibility Enforcement Program during the spring and summer of 2014. In the fall of 2015 during Phase II of the program, the number of contracts grew to 36 as more agencies around the state became aware of the program, and the program opened up to the top 15 high-priority counties. The High Visibility Enforcement Program is intended to engage law enforcement officers and increase their awareness and knowledge of pedestrian and bicyclist safety, enabling them to better educate roadway users, including drivers, pedestrians, and bicyclists. This education/enforcement effort empowers roadway users to make safer choices. The operations focus on the behaviors of all roadway users that create unsafe conditions for pedestrians and bicyclists.

**Qualifications** – Contracts with individual law enforcement agencies enable and encourage officers to focus on the safety of pedestrians and bicyclists through dedicated overtime operations. To be eligible for these funds, agencies must be located in one of the Florida counties with the largest number of pedestrian and bicyclist fatalities and must complete training using materials provided by FDOT. The agencies conduct repeated overtime enforcement operations that gradually educate, warn, and cite violators, specifically focusing on locations identified by crash data.

**Resources** – Federal, State, and local resources are used. Funding for the High Visibility Enforcement contracts and supporting efforts is provided by the Federal Highway Administration (FHWA) and distributed by FDOT, with assistance from CUTR, based on the pedestrian and bicycle initiative, focusing on the 15 highest-priority counties and proper application.
Evaluation – Officers participating in the first phase of contracts in FY 13/14 completed 2,338 operations focused on pedestrian and bicycle safety, which resulted in more than 31,000 warnings and 12,000 citations to motorists, pedestrians, and bicyclists for traffic violations in locations with a history of crashes. The program’s effectiveness will be evaluated in conjunction with educational campaigns and engineering countermeasures.

Conclusion – The program successfully engages law enforcement agencies and the public in promoting awareness of pedestrian and bicycle traffic laws. In addition, the program brought safety to the attention of all road users in specific areas with a high pedestrian and bicyclist crash history. Communicating and coordinating with participating agencies can be a challenge, since each department has different operational issues, policies, and pedestrian and bicycle safety-related problems. Good communication was key, and outlining the expected outcomes and product outputs from the start worked well. Participating agencies reported an increase in law compliance and a positive effect on related behavior. However, the foundation for establishing a permanent cultural change is repeated activities and an extended and sustained effort to establish a new understanding of pedestrian and bicycle safety.

Contact Information

Kristin Larsson, M.S., TCRA
Grant Coordinator
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
kristin@cutr.usf.edu

Achilleas Kourtellis, Ph.D.
Research Associate
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
kourtellis@cutr.usf.edu
**Best Practice:**

Pedestrian and Bicycle Safety

Roll Call Videos for Law Enforcement

**Example:**

Florida Law Enforcement Roll Call Videos

**Objective** – To provide supplemental ongoing educational efforts with “roll call” videos that refresh law enforcement officer knowledge and understanding of pedestrian and bicyclist crash types, contributing behaviors, and relevant statutes.

**Authority** – Florida’s law enforcement roll call videos are authorized and supported by the Florida Department of Transportation (FDOT), funded by the Federal Highway Administration (FHWA). The videos are produced by the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF) with assistance from a media production company.

**Coordination** – Two short (5–8 minute) “roll call briefing” videos with separate scripts and storyboards were created to provide law enforcement officials with the information necessary to assist in preventing the state’s frequent pedestrian and bicyclist fatalities and to educate them about current pedestrian and bicyclist issues and laws. Each video presents the most common crash types, contributing behaviors, applicable statutes, and enforcement strategies. The contracted media production company was responsible for a creative mix of graphics, effective animation, scripted on-camera action, sound bites, and narration to create two engaging and impactful videos, with assistance and approval from CUTR. Post-production included an initial first cut of each video that was assembled and submitted for review and approval from FDOT. After revisions, a final cut of each video was approved and mastered for delivery, including a DVD master and an MP4 that was used for Internet distribution. CUTR organized distribution to each law enforcement agency.

**Process** – Law enforcement agencies can either organize a group viewing of the videos for their members or provide them for individual viewing. The videos provide an overview of the laws related to the safety of pedestrians and bicyclists in an easily-accessible format. Roll call videos are a required training element for the High Visibility Enforcement Program.

**Resources** – The roll call videos were produced by CUTR with funds from FHWA through a Task Work Order with FDOT. FDOT District Seven provided needed research and development of the outlines for the roll call videos to bolster pedestrian and bicycle law enforcement. A local media production company was used for production and development of the videos under contract with CUTR.
**Evaluation** – Law enforcement agencies have found the roll call videos to be effective and informative for all officials taking part in the pedestrian and bicycle High Visibility Enforcement Program.

**Conclusion** – The roll call videos provide an easy-to-understand compilation of actions and behaviors that law enforcement can identify when patrolling and can help to refresh their knowledge of current laws. They also provide a basic outline for actions law enforcement agencies across the state should be taking through education and enforcement to make people aware of risks and precautions to make the roads safer for all.

**Contact Information**

Peter Hsu, P.E.  
Assistant District Traffic Operations Engineer  
District Safety & Special Project Engineer  
FDOT District 7 Traffic Operations/Safety  
11201 N. McKinley Drive, Tampa, FL 33612  
[ Ping.Hsu@dot.state.fl.us ]

Trenda McPherson  
State Bicycle/Pedestrian Program Manager  
Florida Department of Transportation  
605 Suwannee Street, MS-17  
Tallahassee, FL 32399  
[ Trenda.Mcpherson@dot.state.fl.us ]
**Best Practice:**

**Development of Mobile Lighting Measurement System for Roadway Illumination Data Collection**

**Example:**

Advanced Lighting Measurement System (ALMS)

**Objective** – To develop an innovative system using a fully-automated method to measure roadway illumination data, a vital component for improving the driving environment at night and reducing the risk of night-time traffic crashes.

**Authority** – The Advanced Lighting Measurement System (ALMS) was developed by the Center for Urban Transportation Research (CUTR) at The University of South Florida (USF), with the support of the Florida Department of Transportation (FDOT) District Seven, to conduct illumination measurement on selected roadways for more than 300 centerline miles throughout the District. The lighting data generated by ALMS has been used extensively in many transportation and non-transportation applications. For example, FDOT District Seven and its consultant Tindale Oliver use the lighting data to conduct roadway safety assessments, and Tampa Electric (TECO), the energy provider in the Tampa Bay area, uses the lighting data to evaluate the performance of LED technologies in street lights.

**Coordination** – CUTR conducted illumination measurement activities on roadways and transferred the data to Tindale Oliver and other agencies for analysis. The City of Tampa and TECO also initiated street light upgrades. FDOT District Seven coordinated these activities.

**Process** – ALMS is an embedded mobile system mounted on a vehicle with the capability of recording illumination readings while traveling at normal driving speeds (30 mph or higher) and was developed as a small, reliable system that can read and store illumination data automatically. The functions of ALMS include recording horizontal illumination data (foot-candles) at 2 points every 10 feet, storing and uploading the measured data to a computer, converting the raw data to CSV/GIS format, and displaying and statistically analyzing roadway illumination in a heat-map.

**Resources** – State funding was used to support data collection on Florida state roadways.
Evaluation – ALMS significantly decreases the time necessary for illumination measurement data collection along highways, thus increasing measurement efficiency by more than 2,000 times (from 75 ft/hr to 30 mi/hr) and substantially reducing operation costs. It also significantly advances measurement accuracy and reduces the risk of personnel being exposed to risks related to collecting data while in traffic. ALMS allows for large-scale lighting data collection and data analysis to improve night-time safety.

Conclusion – ALMS represents a significant advance in the field of transportation safety management. The system fully resolved the major issues confronting traditional lighting measurement, including inefficiency, high cost, low accuracy, and operator exposure. The lighting data generated from ALMS are extremely important for highway agencies such as FDOT for ensuring premium roadway lighting level services, repairing poorly-lit corridors, and identifying other possible safety concerns.

Contact Information

Pei-Sung Lin, Ph.D., P.E., PTOE
Program Director
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
lin@cutr.usf.edu

Zhenyu Wang, Ph.D.
Research Associate
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
zwang9@cutr.usf.edu
CONTACT INFORMATION

Trenda McPherson
State Bicycle/Pedestrian Program Manager
Florida Department of Transportation
605 Suwannee Street, MS-17
Tallahassee, FL 32399
Trenda.Mcpherson@dot.state.fl.us

Pei-Sung Lin, Ph.D., P.E., PTOE
Program Director
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
lin@cutr.usf.edu

Stephen Benson, AICP, CNU-A
Bike/Ped Safety Specialist
FDOT District 7 Traffic Operations/Safety
11201 N. McKinley Drive, MS 7-1300
Tampa, FL 33612
Stephen.Benson@dot.state.fl.us

Julie Bond
Senior Research Associate
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
bond@cutr.usf.edu

DeWayne Carver, AICP
State Bicycle/Pedestrian Coordinator
Florida Department of Transportation
605 Suwannee Street MS 32
Tallahassee FL 32399
Dewayne.Carver@dot.state.fl.us

Kevin Dunn
Traffic Services Manager
FDOT District 7 Traffic Operations
11201 N. McKinley Drive, MS 7-1300
Tampa, FL 33612
Kevin.Dunn@dot.state.fl.us

Navid Farahbakhsh, E.I.
Public Information/Social Media Coordinator
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
nfarahba@cutr.usf.edu

Peter Hsu, P.E.
Assistant District Traffic Operations Engineer
District Safety & Special Project Engineer
FDOT District 7 Traffic Operations/Safety
11201 N. McKinley Drive, Tampa, FL 33612
Ping.Hsu@dot.state.fl.us

Achilleas Kourtellis, Ph.D.
Research Associate
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
kourtellis@cutr.usf.edu

Kristin Larsson, M.S., TCRA
Grant Coordinator
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
kristin@cutr.usf.edu

Angela Wilhelm, P.E.
State Traffic Studies Engineer
Florida Department of Transportation
605 Suwannee Street, MS 36
Tallahassee, FL 32399
Angela.Wilhelm@dot.state.fl.us

Zhenyu Wang, Ph.D.
Research Associate
USF Center for Urban Transportation Research
4202 East Fowler Avenue, CUT100
Tampa, FL 33620
zwang9@cutr.usf.edu