

# Chapter 13:

## Transportation Safety & Security

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The following section fulfills the Metropolitan Planning Organization's Program Management Handbook, Long Range Transportation Checklist, U.S. Code Requirement B-11 as stated below:

**“Does the plan include a safety element consistent with the State's Strategic Highway Safety Plan, and (as appropriate) emergency relief and disaster preparedness plans and strategies and policies that support homeland security? [23 C.F.R. 450.322(h)]”**

*This entire chapter addresses the safety and security of the transportation system .*

## SAFETY COMPONENT

The Safe, Affordable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (SAFETEA-LU), among other things, places additional emphasis on safety, especially in the planning process. Examples of how safety planning is advanced by SAFETEA-LU include the following requirements:

- The metropolitan planning process should *“provide for the consideration and implementation of projects, strategies, and services that will increase the safety of the transportation system for motorized and non-motorized user.”*
- The Metropolitan Planning Organization (MPO) planning process should be consistent with the [State] Strategic Highway Safety Plan (SHSP) and the metropolitan transportation plan [long range transportation plan] shall, at a minimum, *“include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.”*
- The metropolitan transportation plan [LRTP] *“should include a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects for the MPA [metropolitan planning area] contained in the SHSP.”* and
- The congestion management process (CMP) shall include *“identification and evaluation of the anticipated performance and*

*expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures.”*

The purpose of this section is to recommend actions to address key aspects of the SAFETEA-LU requirements and recommendations stated above.

## SAFETEA-LU Requirements and Suggested Strategies

The first step in establishing a methodology to implement the safety planning requirements introduced by SAFETEA-LU is to deconstruct the policy Requirements introduced by the legislation into specific actionable items. The following provides a discussion of each SAFETEA-LU safety planning requirement and suggests specific action items that may be performed as part of the LRTP and/or CMP to satisfy the stated requirements.

Requirements 1, 2, and 3 address the metropolitan planning process, while requirements 4 and 5 address the metropolitan long range plan itself.

**Requirement 1:** The planning process shall provide for the consideration and implementation of projects, strategies, and services that will increase the safety of the transportation system for motorized and non-motorized users.

The safety of motorized and non-motorized users can be impacted in two main ways through the MPO planning process: 1) Safety can be increased by programming capital projects (or funding non-capital strategies) to address existing safety issues. 2) Safety can be increased by making infrastructure decisions that optimize the safety performance of the transportation system and support land use strategies which reduce overall vehicle miles of travel.

## Suggested Action Items/Strategies:

1. MPOs should use crash attribute data and geographic information systems (GIS) crash maps to identify locations with abnormal crash rates, high crash frequencies, and/or over-representation of specific crash types, including crash types associated with SHSP emphasis areas. SHSP emphasis areas were used in the prioritization criteria during the development of this LRTP as described on pages 8-6 and 8-7.



2. In addition to the project prioritization process, MPOs should consider the safety performance of roadway facilities as part of the LRTP needs plan and CMS plan project identification processes. Nearly all major roadway corridors were considered for improvement in the Needs Plan. The CMP process also considers safety to identify corridors and to prioritize.
3. Consider the expected safety performance of network alternatives and select for network alternatives that maximize vehicle miles of travel along roadway types with good expected safety performance (e.g., limited access highways and 4-lane divided roads). Grade separated urban interchanges on US 19 and SR 54/SR 56, new interchanges on Suncoast Pkwy at Ridge Rd and I-75 at Overpass Rd., as well as mobility enhancements that likely include managed lanes are included in the Needs and Cost Affordable Plans to address this issue.
4. Supplement Highway Safety Improvement Program (HSIP), Safe Routes to School (SRTS), and High Risk Rural Roads (HRRR) funds with other “boxed” funds to address point-safety issues as identified in Strategy 1 above. This will be accomplished through the MPO’s annual TIP/CIE development process.

**Requirement 2:** The Metropolitan Planning Organization (MPO) planning process should be consistent with the [State] Strategic Highway Safety Plan (SHSP).

The current Florida SHSP, effective through September 30, 2010, focuses efforts and resources on four emphasis areas:

- Aggressive Driving
- Intersection Crashes
- Vulnerable Road Users (pedestrians, bicyclists, motorcyclists)
- Lane Departure Crashes

MPOs should work towards reducing crashes corresponding with these emphasis areas as part of their planning process

**Suggested Action Items/Strategies:**

1. Cross-reference individual crash records to the SHSP Emphasis Areas. Crashes may correspond to more than one are (e.g., a pedestrian crash at an intersection or a lane departure crash resulting from aggressive driving). This was accomplished in Maps 13-1 through 13-8
2. Compare the emphasis area performance of the MPO jurisdiction to the State as a whole and/or to a group of peer jurisdictions (counties). Determine which, if any, emphasis areas make up a significantly greater share of the jurisdiction’s crashes compared with the state or the jurisdiction’s peers.
3. Deconstruct the emphasis areas into specific crash types—identify locations (intersections and corridors) that have a high frequency or an over-representation of specific emphasis area crashes or of specific crash types. See Maps 13-1 through 13-8
4. Cross-reference planned long range and short range capital projects with emphasis area problem locations and institutionalize project development procedures to ensure safety issues are analyzed and addressed as part of planned project. This addressed through the FDOT D7 project development and the Pasco County CTST project and CMP taskforce.

**Requirement 3:** Congestion management process shall include “identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures.

While the LRTP process typically addresses through-lane capacity improvements, congestion management process (CMP) plans more often deal with intersection operational improvements and therefore are an excellent platform to affect safety improvements. A logical conclusion of this requirement is that congestion management process project selection and prioritization should consider safety and congestion

**Suggested Action Items/Strategies:**

1. Use crash data management assets as discussed in Requirement #1.





2. Consider existing safety issues (rate, frequency, and over-representation of correctable crash types or SHSP emphasis area crash types) as part of the CMP capital project selection and prioritization process.
3. Maintain a database of potential safety projects which could not be constructed with Highway Safety Improvement Program funds due to right-of-way, environmental, or benefit/cost issues and consider these projects as CMP candidates based on the combined merit of congestion and safety mitigation benefits. The MPO taskforce process maintains a listing of issues and potential projects. Also, the District Safety Engineer/Traffic Operations Department is required to identify and address traffic safety issues and develop systemic approaches to reduce the incidence and severity of crashes. The primary funding for implementing safety projects is Federal HSIP funds. For numerous reasons, these funds are not suitable for projects which require right-of-way acquisition or significant environmental permitting. For this reason, the Safety Group works to screen-out projects with these issues prior to expending resources to conduct preliminary engineering work. As such, the District does not maintain a list of “on-deck” projects which may be considered for CMP funding. The District has also engaged in a coordinated program to conduct road safety audits (RSAs) on state and some local roadways. RSA reports include short-term and long-term recommendations of which the latter may be used to develop CMP projects. The District has a Draft/Beta RSA tracking database which, once fully operational, may serve as a quick reference for identifying safety considerations which have not yet been addressed. The District does engage in annual reviews of the “5% Report” generated by the State Safety Office (SSO) and semi-annual reviews of the SSO high crash spot and high crash segment lists. These reviews include summary evaluations of locations where a safety problem is evident but no low-cost solution is viable. As such, the 5% report, high crash spot/segment reviews, and roadway safety audit reports/action items database may serve as an excellent reference in the development and prioritization of CMP projects.

**Requirement 4:** The metropolitan transportation plan [LRTP] “should include a safety element that incorporates or summarizes the priorities, goals,

counter measures, or projects for the MPA [metropolitan planning area] contained in the SHSP.

MPOs should summarize what their strategies/actions to address safety in one consolidated element of their plan.

**Suggested Action Items/Strategies:**

1. Summarize the MPOs overall safety performance with respect to the SHSP, as discussed in the Requirement #2 action items. Also, summarize any unique safety issues that warrant special attention irrespective of the SHSP.
2. Illustrate how measures included in other elements of the plan address the MPOs safety issues and implement the SHSP. This can be found in the Prioritization Process and CMP process.
3. Describe stand alone safety initiatives which are not implemented elsewhere in the plan such as the CTST and CMP Taskforce.

**Requirement 5:** The metropolitan transportation plan [long range transportation plan (LRTP)] shall, at a minimum, “include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.”

Requirements #5 and #1 are similar except that, while Requirement #1 refers to the MPO planning process, Requirement #5 references the MPO transportation plan itself. Also, Requirement #1 refers to projects and strategies while Requirement #5 only mentions strategies. A reasonable interpretation of this requirement is that actions identified as means to implement Requirement #1 should be manifest in the transportation plan.

**Suggested Action Items/Strategies:**

See Requirements #1 & #2.

**Strategic Plan Integration**

The Florida Strategic Highway Safety Plan (SHSP) identifies the following four

emphasis areas which account for the majority of severe injury crashes:

- Aggressive Driving
- Lane Departure
- Intersection
- Vulnerable Road User

One approach to ensure the MPO process and transportation plan address the SHSP is to evaluate the distribution of emphasis area crashes in the jurisdiction with the state as a whole. Figures 13-1 through 13-4 show a comparison of the SHSP emphasis area crash distributions in Pasco County compared with Florida. While fewer of the County’s crashes correspond to the “Aggressive Driving” emphasis area than the State as a whole, the County has a higher proportion of crashes corresponding to the “Lane Departure” and “Intersection” emphasis areas.

Understanding the role of emphasis area crashes in the County crash distribution can help prioritize programs and safety countermeasures to improve the County’s safety performance. To focus on specific issues, however, it is necessary to deconstruct the general emphasis areas into more specific categories. Table 13-1 illustrates the relationship of the general emphasis areas to more specific crash types which can then be used as the basis for identifying countermeasure opportunities.

Crash locations on the major roadway network have been geographically located as a part of the Pasco MPO’s effort to develop the LRTP. This section includes maps that illustrate the total number of crashes between 2006 and 2008 on the roadway network. Crashes were then mapped to illustrate the location of crashes for the four safety emphasis areas and the severity of crash related injuries. This includes the following maps:

- Map 13-2
- Map 13-4
- Map 13-6
- Map 13-8

Using this information, corridors with the highest frequency of crashes for each of the safety emphasis areas were identified as illustrated in the following maps:

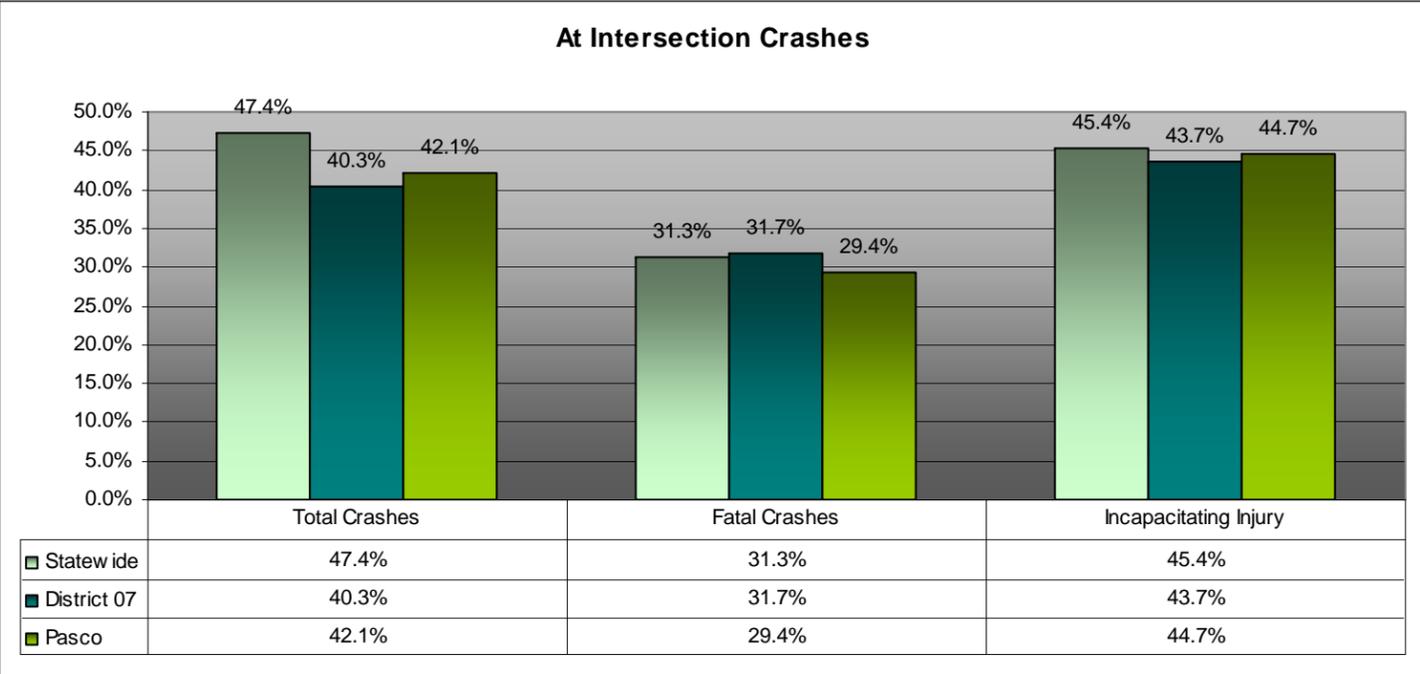
- Map 13-1
- Map 13-3
- Map 13-5
- Map 13-7

This information was directly used in the prioritization of projects on the basis of safety in the cost affordable plan.

SHSP Emphasis Area	Sub-Classifications		
<b>Aggressive Driving</b>	Speed	DUI	Red Light Running
<b>Lane Departure</b>	Rural 2-Lane Highway	Urban Multi-lane Roads	Limited Access Highways
<b>Intersection</b>	Major Roadway Signalized	Major Roadway Unsignalized	Rural Stop Controlled
<b>Vulnerable User</b>	Pedestrian	Bicyclist	Motorcycle

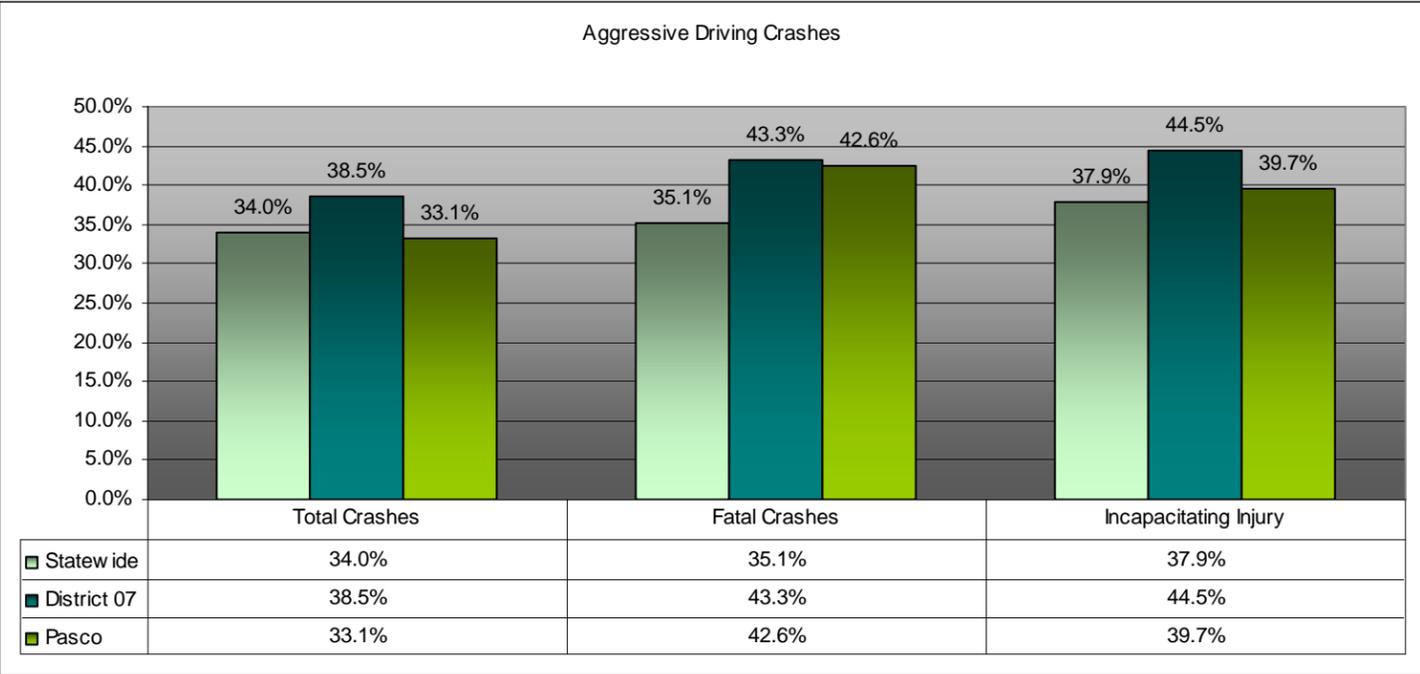
**Table 13-1: Crash Type Relationships**





**Figure 13-1: At Intersection Crashes 2004-2008**

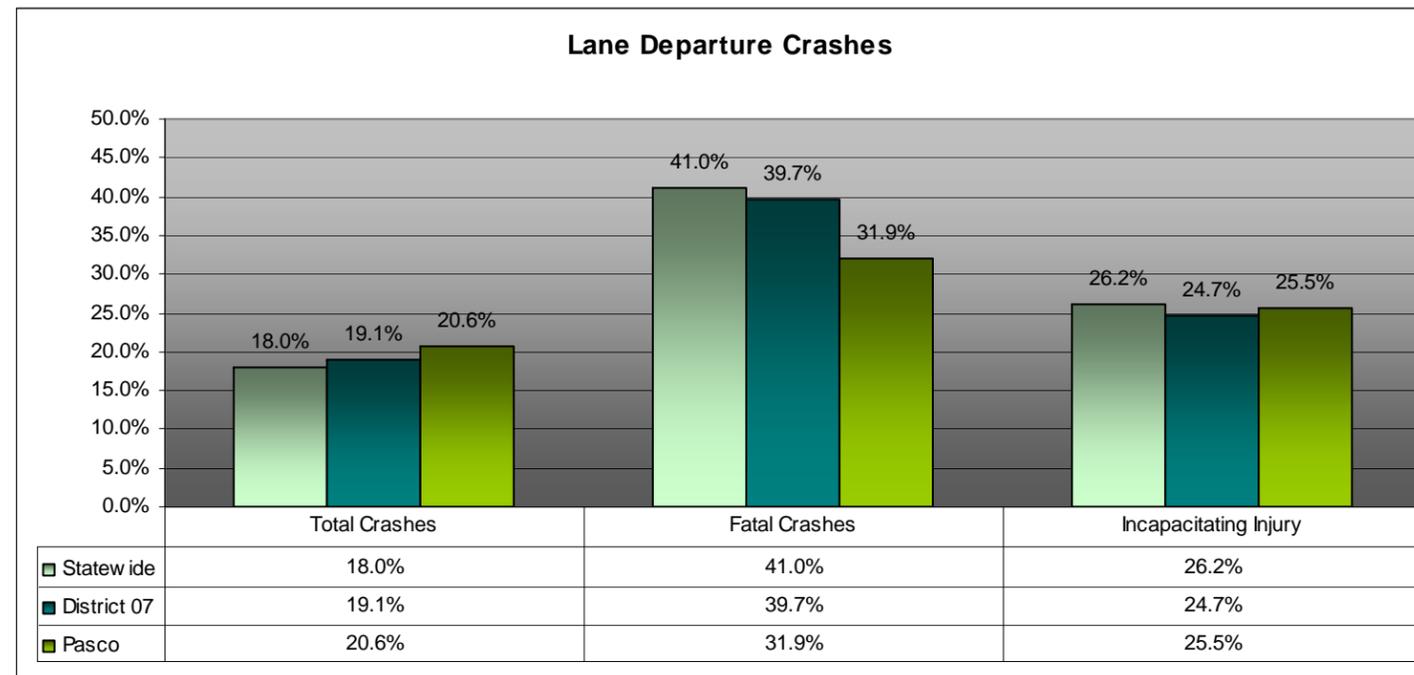
Source: State of Florida Safety Office, Crash Analysis Reporting System



**Figure 13-2: Aggressive Driving Crashes 2004-2008**

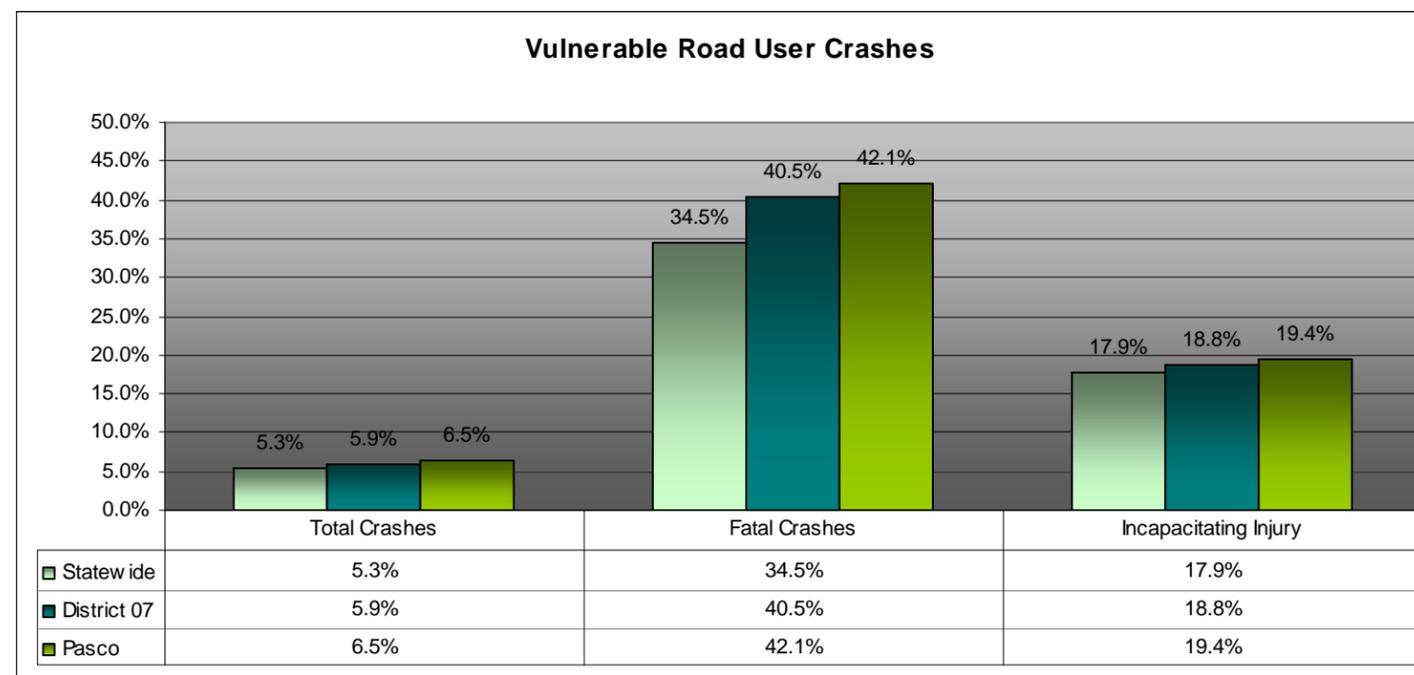
Source: State of Florida Safety Office, Crash Analysis Reporting System





**Figure 13-3: Lane Departure Crashes 2004-2008**

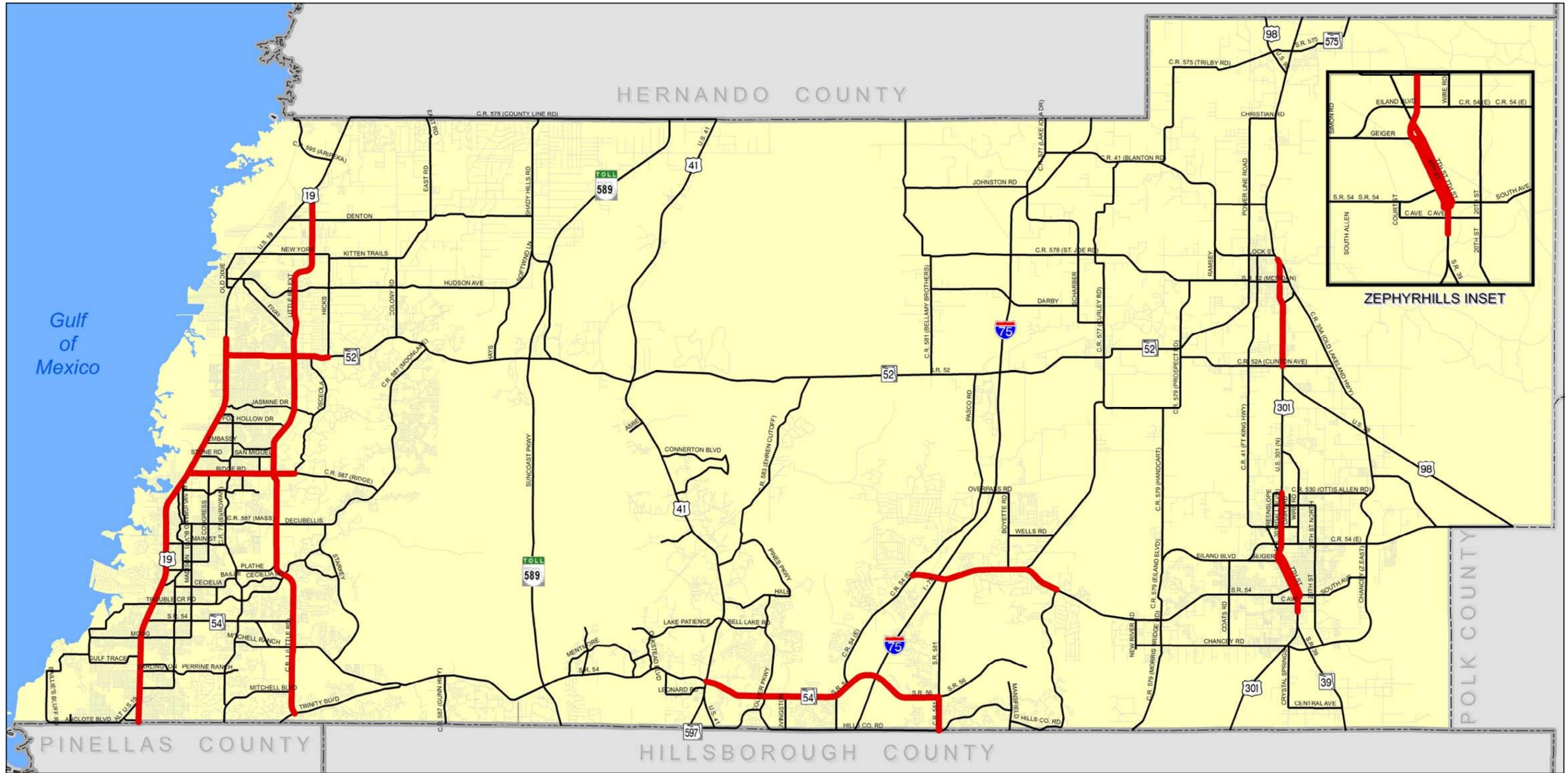
Source: State of Florida Safety Office, Crash Analysis Reporting System



**Figure 13-4: Vulnerable Road User Crashes 2004-2008**

Source: State of Florida Safety Office, Crash Analysis Reporting System

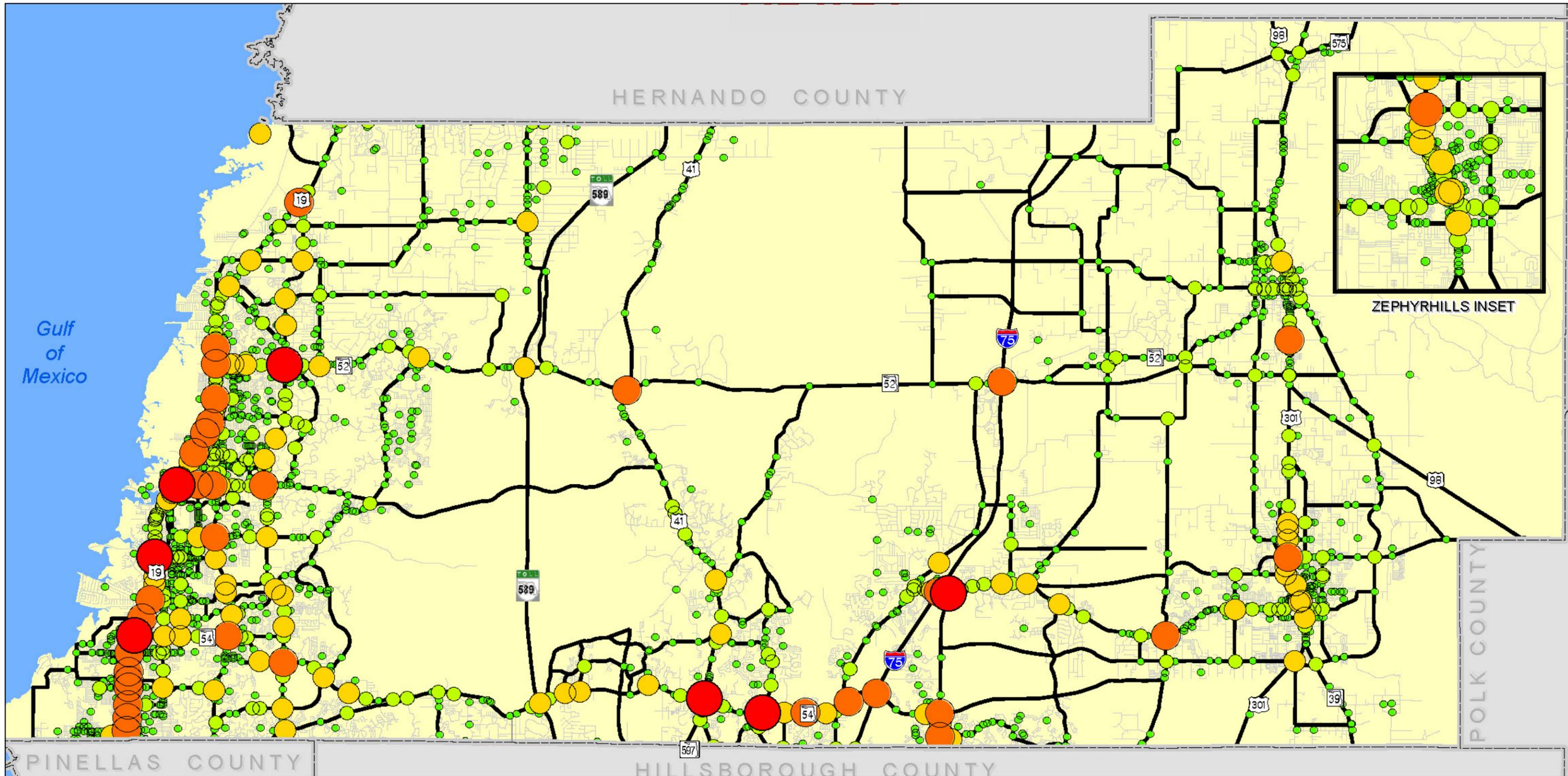




**Map 13-1: Corridors with High Crash Frequency Occurring at Intersections**  
 Source: Pasco County Crash Data Management System (CDMS) 2006-2008

- Corridors with High Crash Frequency Occuring at Intersections
- Other Roadways



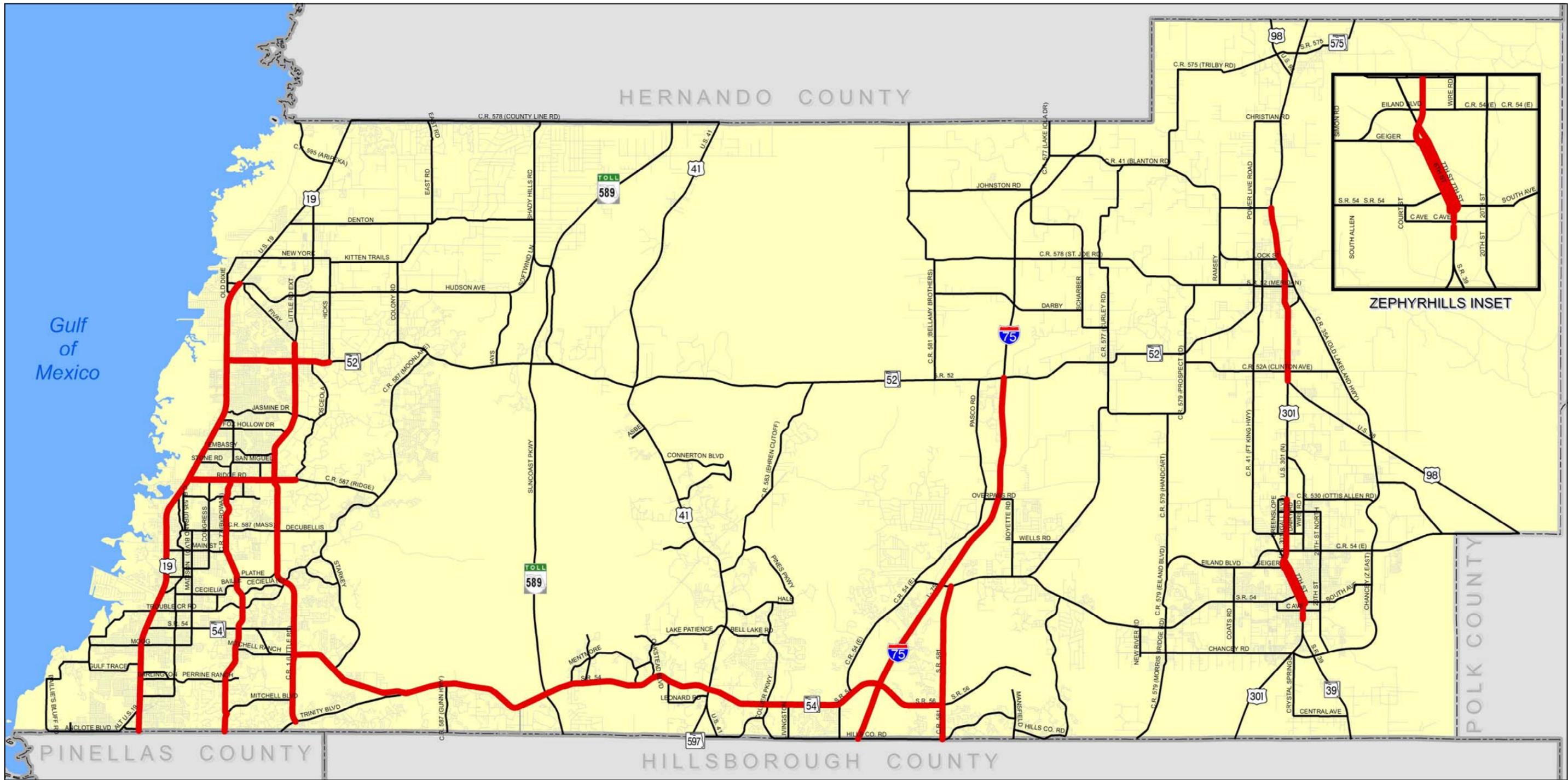


Map 13-2: Intersections with High Crash Frequency  
 Source: Pasco County CDMS 2006-2008

**Crashes**

- > 60
- 31 - 60
- 16 - 30
- 6 - 15
- 1 - 5
- Major Roads
- Local Roads

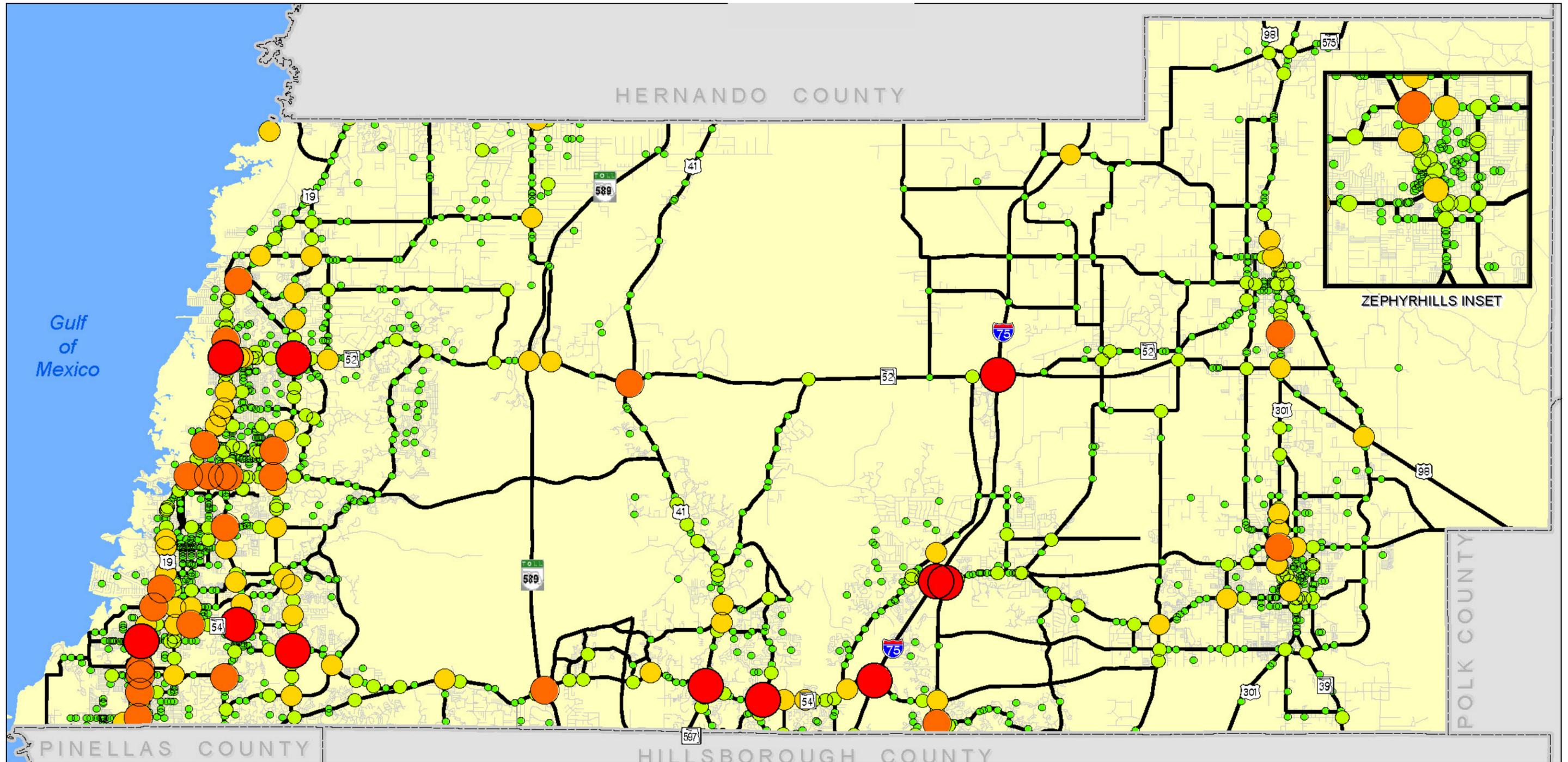




Map 13-3: Corridors with High Crash Frequency Due to Aggressive Driving  
 Source: Pasco County CDMS 2006-2008

- Corridors with High Crash Frequency Due to Aggressive Driving
- Other Roadways



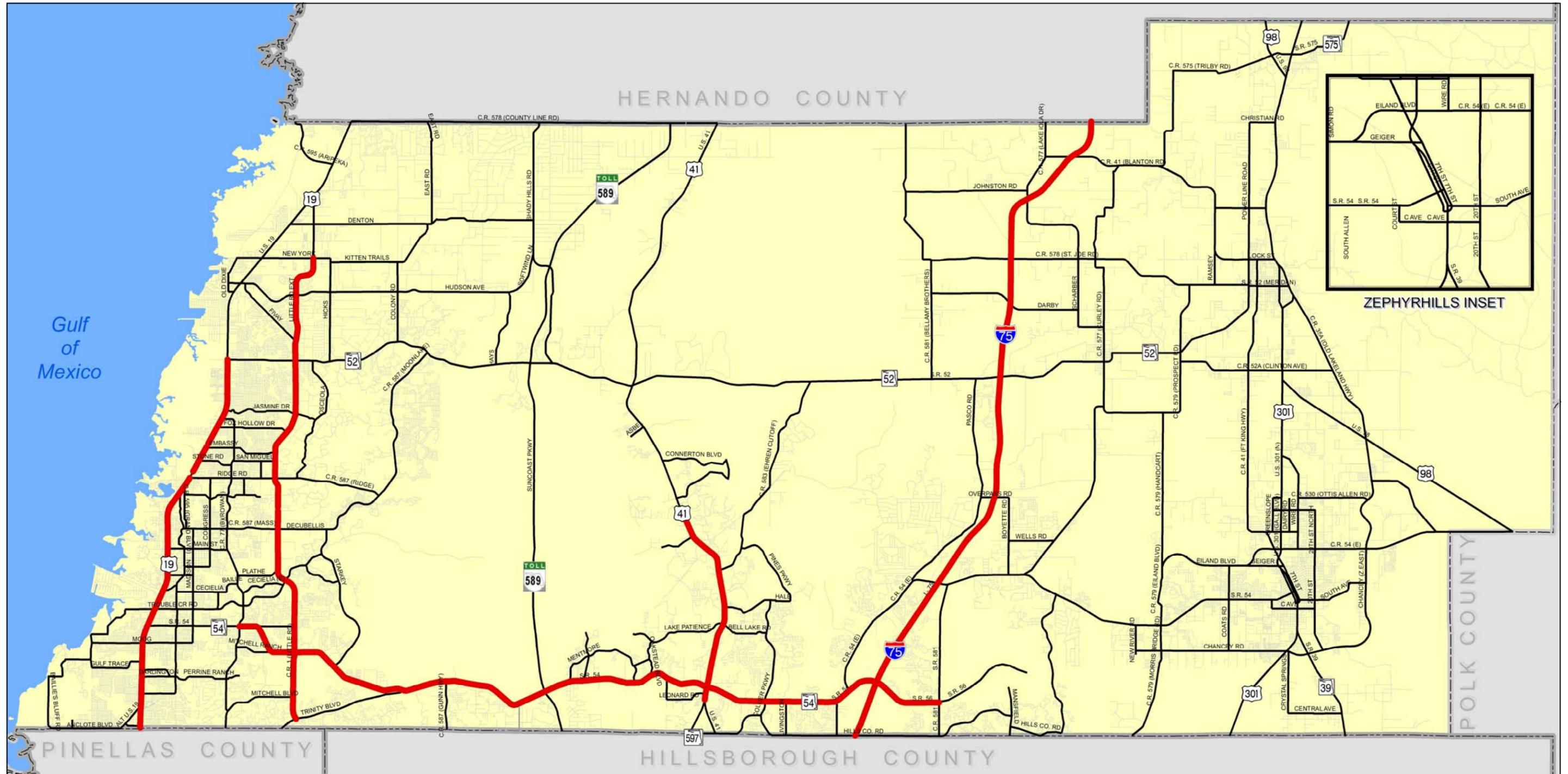


Map 13-4: Intersections with High Crash Frequency Due to Aggressive Driving  
 Source: Pasco County CDMS 2006-2008

**Crashes**

- > 60
- 31 - 60
- 16 - 30
- 6 - 15
- 1 - 5
- Major Roads
- Local Roads

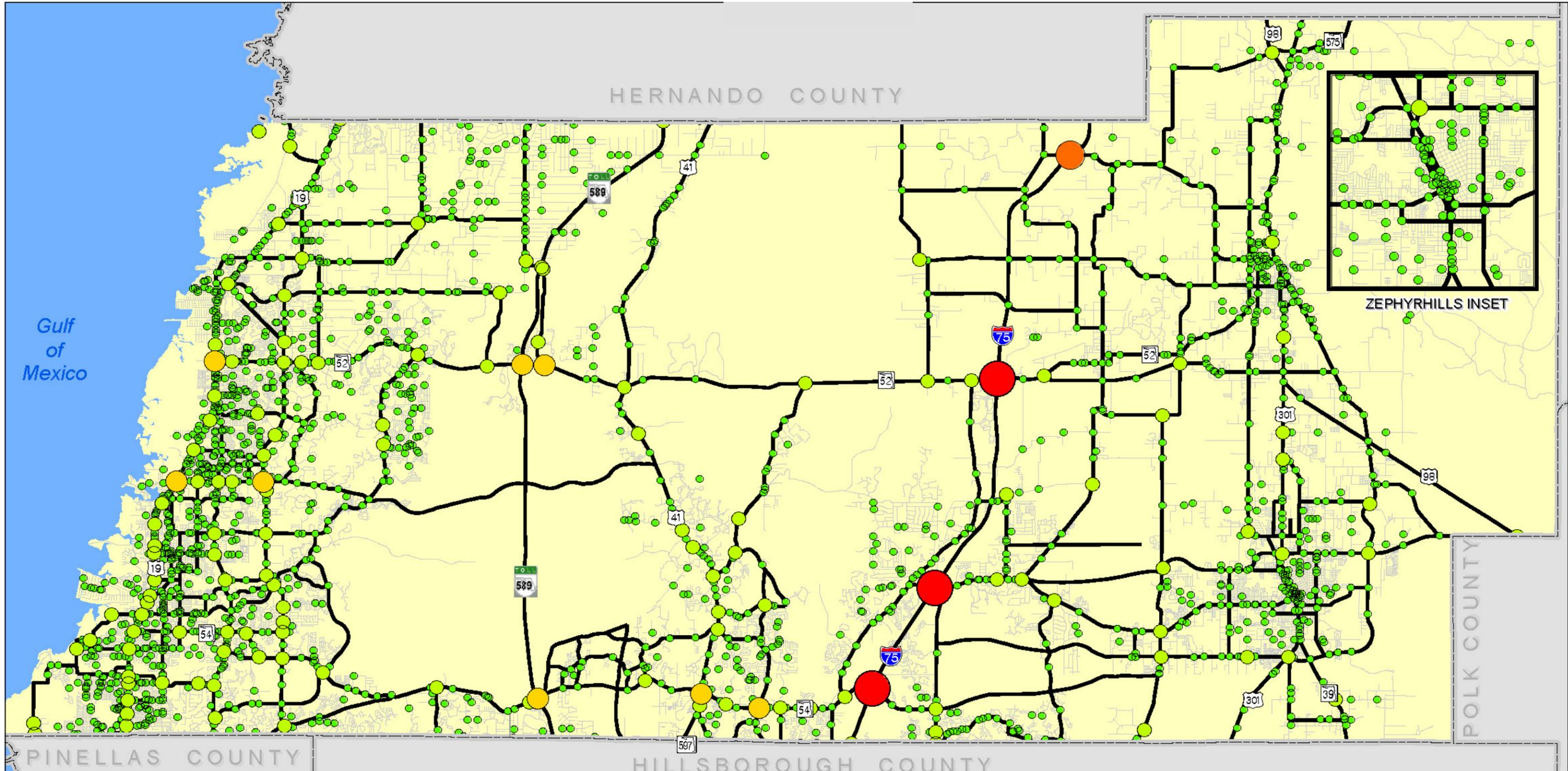




**Map 13-5: Corridors with High Crash Frequency Due to Lane Departures**  
 Source: Pasco County CDMS 2006-2008

- Corridors with High Crash Frequency Due to Lane Departures
- Other Roadways



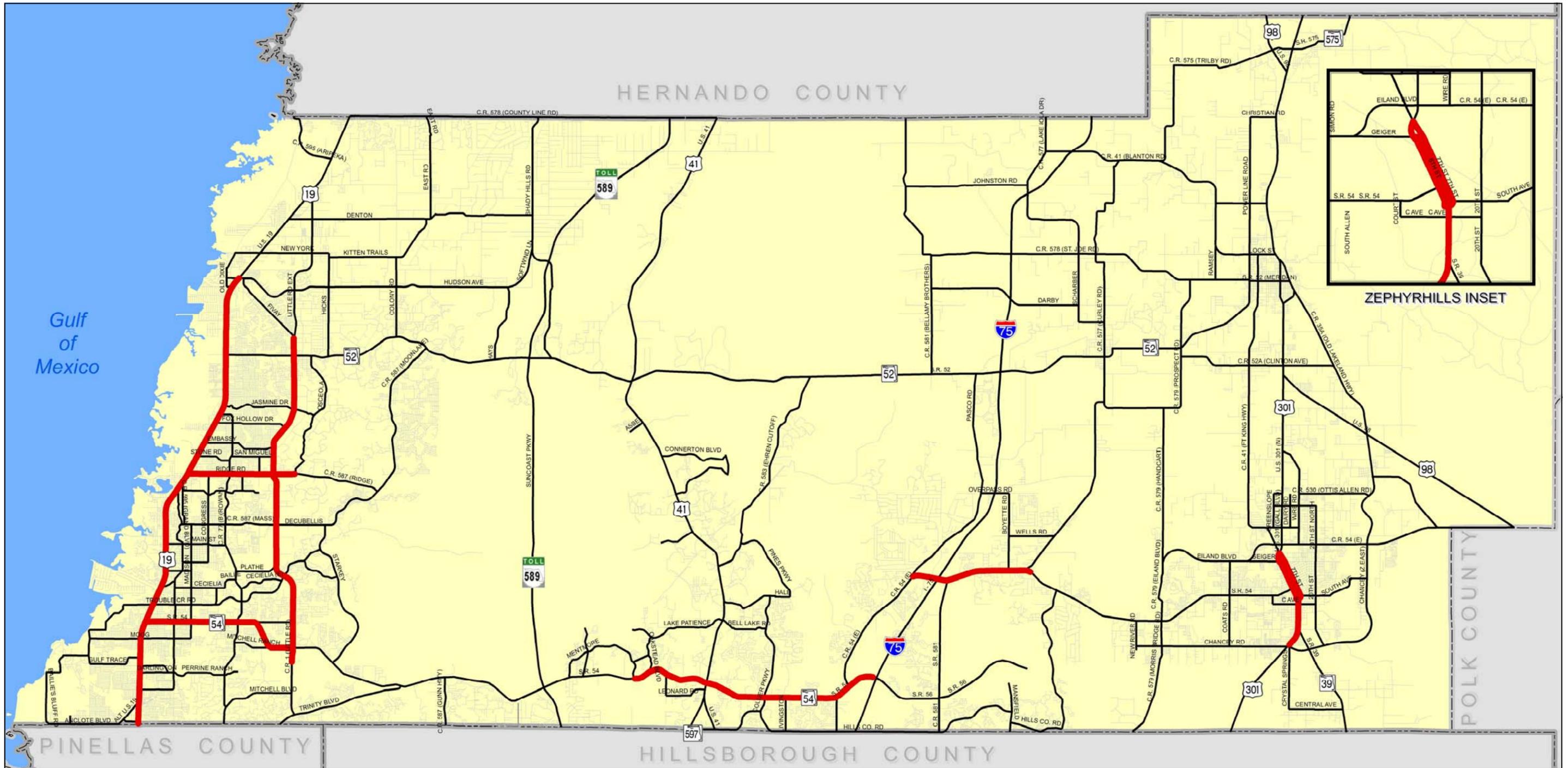


Map 13-6: Intersections with High Crash Frequency Due to Lane Departures  
 Source: Pasco County CDMS 2006-2008

Crashes

- > 75
- 51 - 75
- 26 - 50
- 6 - 25
- 1 - 5
- Major Roads
- Local Roads

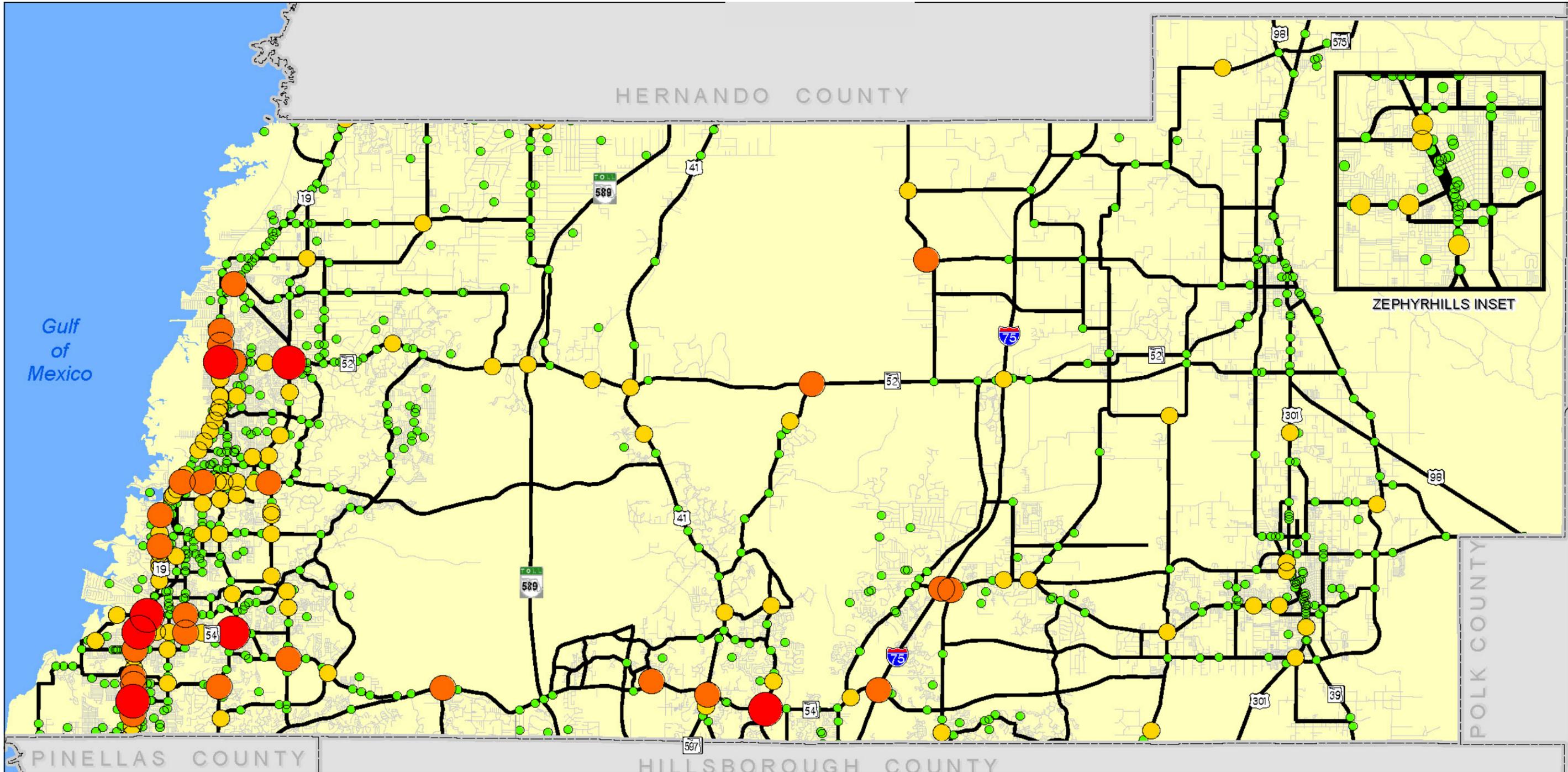




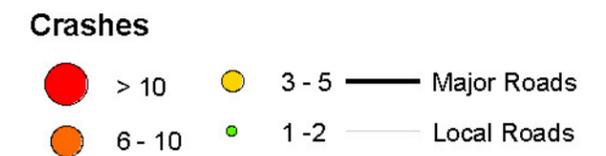
Map 13-7: Corridors with High Crash Frequency Due to Vulnerable Users  
 Source: Pasco County CDMS 2006-2008

- Corridors with High Crash Frequency Due to Vulnerable Users
- Other Roadways





**Map 13-8: Intersections with High Crash Frequency Due to Vulnerable Users**  
 Source: Pasco County CDMS 2006-2008



### TRANSPORTATION SECURITY

Transportation security is generally defined as those activities undertaken to prevent, mitigate, respond to, or recover from an intentional act which may threaten the traveling public or transportation infrastructure. A key concern of transportation security has generally been focused on terrorist activities which may impact key target hazards such as seaports, airports, tunnels, bridges, intermodal yards, etc. or the use of the transportation infrastructure by the terrorists to transport dangerous goods. Pasco County does not have significant target hazards within the county boundaries but does have major regional assets in the form of Interstate 75, the Suncoast Parkway, and CSX Transportation Rail. In the case Interstate 75 and the Suncoast Parkway, these facilities can be provided an increased level of security through ITS surveillance which is one of the LRTP's measures of effectiveness.

Pasco County may also be impacted by threats within the region such as the Port of Tampa, Tampa International Airport, etc. however the direct security of these assets is outside of the scope of agencies in Pasco County. As Pasco County expands its public transportation service it will need to consider transportation security into the design and operations of those facilities and services and may be able to build upon the experience and capabilities of other regional public transportation providers. Agencies which may respond to transportation security threats included but are not limited to the major agencies identified below.

#### Inventory of Transportation Security or Other Responding Agencies

##### Law Enforcement

- Florida Highway Patrol
- Motor Carrier Compliance
- Pasco County Sheriffs Department
- CSX Transportation Railroad Police
- Dade City Police Department
- New Port Richey Police Department
- Port Richey Police Department
- Zephyrhills Police Department
- Division of Law Enforcement, Department of Environmental Protection (DEP)





#### **Federal Agencies**

- US Coast Guard
- Transportation Security Administration (No Direct Presence In Pasco-County)
- U.S. Customs and Border Protection (No Direct Presence In Pasco County)
- Federal Emergency Management Agency (No Direct Presence In Pasco-County)

#### **Fire Rescue**

- Pasco County Emergency Services
- Dade City Fire Rescue
- New Port Richey Fire Department
- Port Richey Fire Department
- Zephyrhills Fire Department
- Land o' Lakes Volunteer Fire Department
- Tri Community Fire Association

These agencies have mutual aid agreements coordination activities in place to address local transportation security concerns.

#### **The MPO's Role in Transportation Security**

A key area for the Pasco MPO to get involved in transportation security is inform the public as to what risks the community faces and what the public can do to assist law enforcement in providing transportation security. One of the sometimes overlooked aspects of transportation security is the railroad network which is protected primarily by CSX Transportation Railroad Police (or local law enforcement) which indicated that one of their key concerns is apathy on the part of the public which may lead them into not reporting events or activities to law enforcement which may impact the transportation system. Railroad security should become one of the education focuses of the Pasco MPO in future public outreach activities as it relates to transportation security.

Other ways the MPO is able to influence Transportation Security is through

Intelligent Transportation System (ITS) surveillance, the development of a Continuity of Operations Plan or a COOP and providing safe and secure transit shelters, each of which are discussed below.

#### **Intelligent Transportation System (ITS) Surveillance**

ITS technologies play an essential role in transportation security. ITS surveillance can be used for incident detection, emergency management, and travel time collection.

#### **Continuity of Operations Plan (COOP)**

The COOP is a document developed for Pasco County Public Transportation (PCPT) that identifies what actions should be taken in the event of an emergency to ensure the agency can still deliver its most essential services in a smooth and timely manner, as well as ensure the safety of all transit users and agency staff and personnel. The document includes precautionary measures, as well as a detailed plan of action for a variety of possible events. The document is not available publicly due to the security sensitive nature of its contents. It should be reviewed by staff frequently and updated periodically to ensure familiarity and relevance.

#### **Transit Shelters**

It is important that transit shelters be safe and secure for transit riders in order to keep the system viable. Security cameras, nighttime lighting, and good visibility can all make transit shelters more secure.

