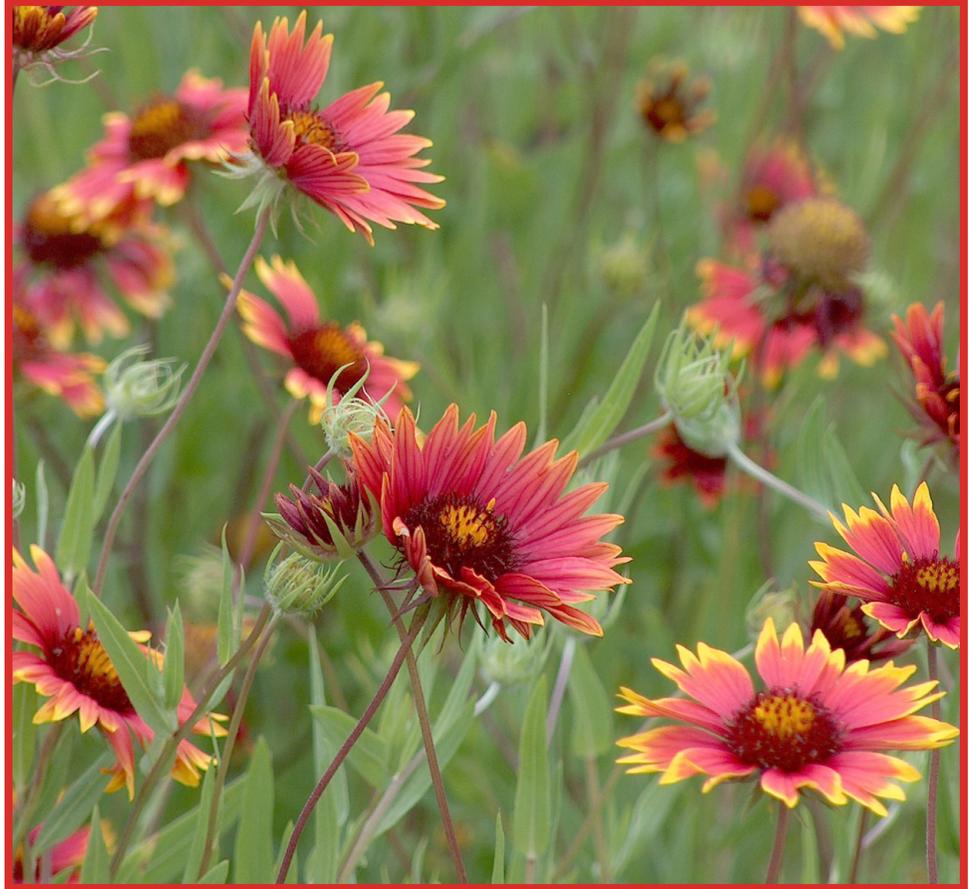


FLORIDA DEPARTMENT OF TRANSPORTATION



QUALITY OF LIFE &
ENVIRONMENTAL STEWARDSHIP

2014 PERFORMANCE REPORT

QUALITY OF LIFE and ENVIRONMENTAL STEWARDSHIP

This report is part of the Performance-Based Planning and Programming Process used by the Florida Department of Transportation (FDOT). For a description of that process, updates to this report and other transportation performance reporting initiatives of FDOT, go to FDOTPerforms.org.

INTRODUCTION

The Florida Department of Transportation's (FDOT) decision-making process considers the varied impacts of alternative transportation investments. Transportation and environmental professionals use data and analytical tools to evaluate the environmental effects of transportation project alternatives.

FDOT's environmental review process considers the physical, social, cultural, natural, and human issues associated with each transportation project. This results in avoided or mitigated impacts, public input, and ultimately project advancement with environmental permits.

For maximum effectiveness, transportation planning should mesh with land use, development, and environmental resource planning. Transportation decisions should be made with attention to enriching quality of life while ensuring responsible stewardship of the natural, physical, and human environment.

2014 PERFORMANCE HIGHLIGHTS

FDOT delivers capital investments in transportation through the Work Program as stewards of financial resources and of our state's many environmental and community assets. Key performance highlights include:

- Between 2002 and 2013, air quality in Florida continued to improve. Maximum concentrations, measured by the statewide air monitoring network, of carbon monoxide (CO) decreased by 65 percent, nitrogen dioxide (NO₂) by 25 percent, ozone (O₃) by 15 percent, and fine particles (PM_{2.5}) by 32 percent.
- Between 2003 and 2014, 617 transportation projects were screened through the Efficient Transportation Decision Making (ETDM) process which identifies and evaluates potential environmental impacts and opportunities to avoid or mitigate such impacts.

- FDOT increased the tonnage of recycled pavement from about 570 thousand tons in 2005 to over 940 thousand tons in 2013—an approximately 65 percent increase in less than a decade.
- By 2014, FDOT had 1,023 alternative fuel vehicles in its vehicle fleet. Ten years earlier FDOT's fleet had only 335 alternative fuel vehicles. This three-fold increase translates into fuel savings and improved air quality.
- FDOT takes seriously its leadership platform for environmental stewardship. Through 2014 FDOT installed 515 noise barriers with an equivalent mileage length of 165 miles. This is a significant financial investment in noise mitigation and community quality of life.
- Over the past 15 years, Florida advanced more than 1,400 transportation alternative / transportation enhancement projects such as trails, bicycle, and pedestrian facilities.
- Six of Florida's 24 Scenic Highways (1,499 miles), have been designated National Scenic Byways and one (the Florida Keys Scenic Highway) has been awarded the special All-American Road designation. In 2004 Florida had 485 miles of designated Scenic Highways—the three-fold increase by 2014 underscores the state's natural beauty.
- In 2013 nearly 50 million trips were provided to transportation disadvantaged people across Florida. These trips provide vital access to medical services, employment, and education. They also helped by providing access to job training, day care facilities, and nutritional and other life sustaining activities.
- An Aging Road User Survey is conducted every year (with 2011 as the baseline). Based on the survey, more aging road users have heard of the Safe Mobility for Life Coalition (11 percent in 2013 as compared to 10 percent in 2012). Fifteen percent of survey respondents are preparing for when they can no longer safely drive.

AIR QUALITY



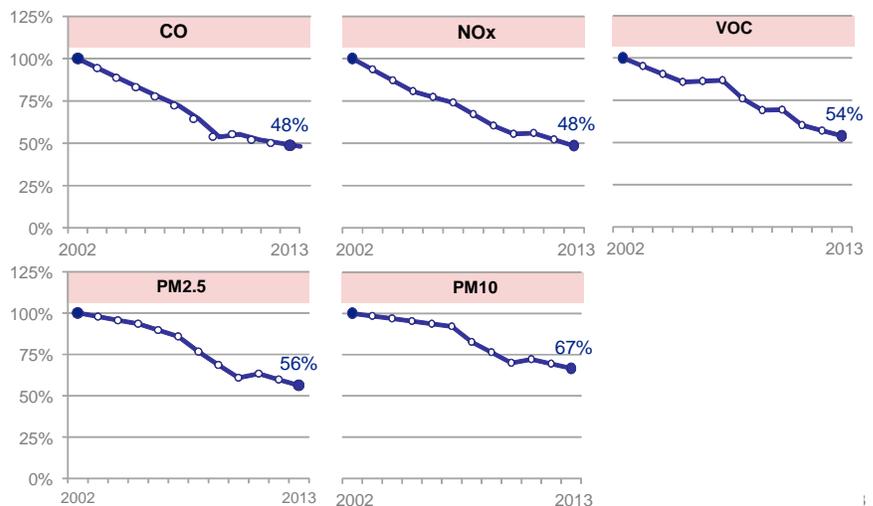
FDOT has identified a core measure related to the quality of life and environmental stewardship of the transportation system, which is a primary goal of FDOT. FDOT has a long-standing commitment to maintaining air quality attainment levels.

Air quality is FDOT’s core measure for quality of life and environmental stewardship. How we move people and goods can impact air quality. Fortunately, vehicles are now far less polluting than in the past. Technology has played a major role in the reduction of transportation-related air pollution. Public transportation, bicycle/pedestrian transportation, intermodal freight movement, transportation system and demand management, and congestion reduction also help to improve air quality. Because of its leadership role for Florida’s transportation system, FDOT is committed to doing what it can to ensure clean air.

Motor vehicle pollutant emissions from the combustion of fuel have long been tied to air quality. The primary air pollutants associated with highway motor vehicles are carbon monoxide (CO), nitrogen oxides (NO_x), and volatile organic compounds (VOC), and to a lesser degree particulate matter (PM₁₀ and PM_{2.5}). Emissions of NO_x and VOC also contribute to the formation of ozone, the primary component of what is commonly referred to as smog. As shown in **Figure 1**, vehicle emission standards and continued improvement in traffic flow have reduced fleet-wide pollutant emissions over the past several decades. Further reductions are expected with the implementation of the U.S. Environmental Protection Agency’s Tier 3 Standards for passenger cars and trucks, even as the number of vehicles on the road increases.

Florida is in compliance with the CO, NO₂, O₃, PM_{2.5}, and PM₁₀ National Ambient Air Quality Standards.

Figure 1: Emissions Trends for Highway Vehicles (Relative to 2002)



KEY STRATEGIES TO IMPROVE AIR QUALITY

FDOT will pursue its targets related to the core measure of air quality through these actions:

- Congestion reduction and mitigation
- Improved and expanded public transportation and increased use of bicycle and pedestrian modes

SUPPORTING MEASURES AND INFORMATION

In addition to its air quality core measure, FDOT has identified a supporting measure:

- Carbon Dioxide – CO₂

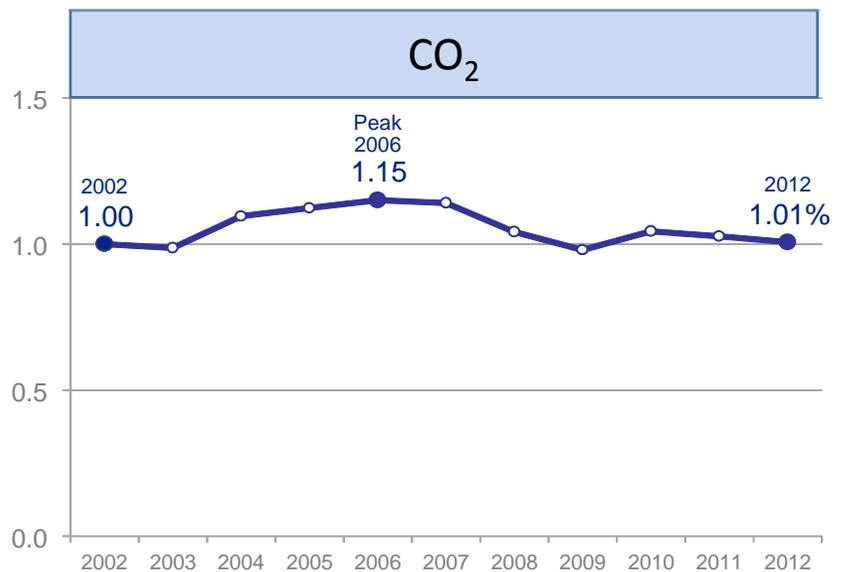
Carbon Dioxide (CO₂)



The combustion of fuel in motor vehicles results in the release of carbon dioxide (CO₂). Given the large number of motor vehicles on the road, a significant portion of the total statewide CO₂ emissions are from this source. Figure 2 shows transportation related CO₂ emissions in Florida from 2002 through 2012. CO₂ emissions from motor vehicles can be reduced through vehicle fuel efficiency improvements, increased use of public transportation, and traffic flow improvements.

CO₂ emissions from motor vehicles can be reduced through vehicle fuel efficiency improvements, increased use of public transportation, and traffic flow improvements.

Figure 2: CO₂ Emissions from Florida Transportation Sector
(Relative to 2002)



ENVIRONMENTAL INITIATIVES

FDOT has identified additional supporting measures and indicators of progress that provide further detail and context about the performance of Florida's transportation system. For environmental initiatives, the supporting measures are:

- Project Screenings
- Recycled Pavement
- Alternative Fuel Vehicles

SUPPORTING MEASURES AND INFORMATION

As a leading Florida employer, FDOT strives to be resource efficient in terms of finances, processes, materials usage, and environmental stewardship responsibilities. The following sections highlight three varied initiatives that reflect environmental stewardship by FDOT relating to transportation project delivery, resource recycling, and fleet management.

Project Screenings



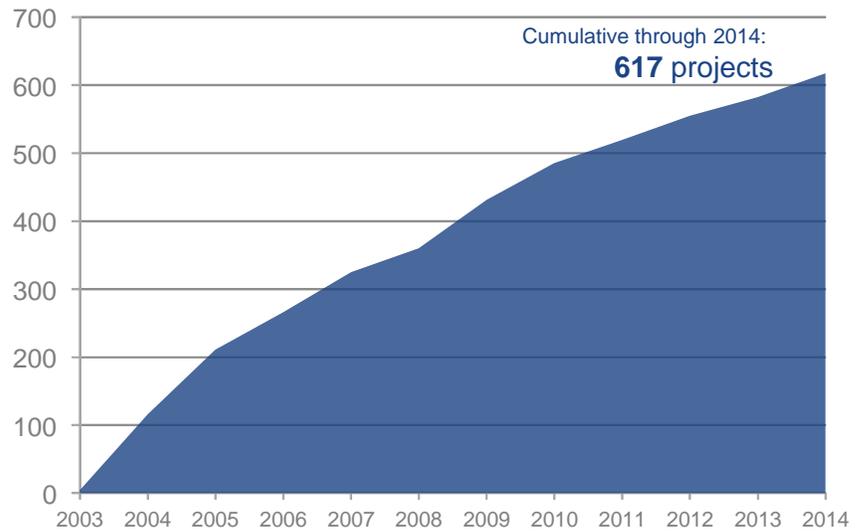
FDOT strives to reconcile transportation improvements with surrounding environmental assets as effectively and efficiently as possible. FDOT has made significant progress through our Efficient Transportation Decision-Making Process (ETDM) project screening. ETDM occurs in planning and Project Development & Environment (PD&E) process as an integral part of project delivery. Collaborating with environmental resource agencies these processes help to avoid, minimize, and mitigate potential environmental effects of proposed transportation projects. It also helps preserve and enhance Florida's natural, physical, cultural, and social environment as FDOT develops, implements, and maintains transportation facilities as cost-effectively as possible.

Process improvements have also translated into project improvements. Such improvements range from early identification of environmental concerns (leading to avoidance or minimization of potential impacts to resources that preserve important historic assets) to adding project features such as roadway lighting schemes that minimize impacts to protected wildlife species. Mobility that respects the environment will enhance and protect Florida's unique quality of life for the long-term.

FDOT works with environmental resource agencies to create linkages between land use, transportation, cultural, and environmental planning initiatives. Along with agency-specific data, comments from the agencies and the public are used to augment identification of and subsequently avoid or minimize potential impacts to natural and cultural resources. As shown in **Figure 3**, between 2003 and 2014, 617 transportation project screenings occurred through the ETDM process.

Between 2003 and 2014, 617 projects have been screened through FDOT's ETDM process.

Figure 3: Projects Screened Through ETDM



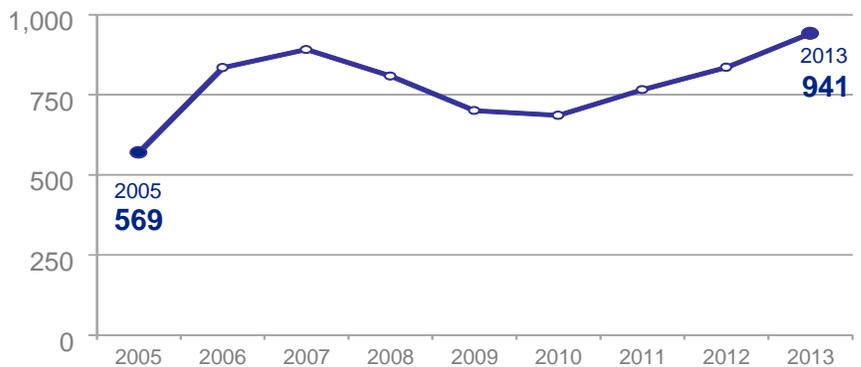
Recycled Pavement



Recycled asphalt pavement has increased over 65 percent since 2005.

Roadway construction and reconstruction are increasingly using recycled materials for cost savings and environmental benefits. The estimated annual amount of recycled asphalt pavement has increased over 65 percent since 2005. As **Figure 4** shows, in 2013 nearly 941 tons of recycled asphalt pavement were applied to Florida highways. This was about a 13 percent increase over the prior year and the highest annual tonnage since FDOT started tracking this measure in 2005. In addition, steel, concrete, fill and other materials are occasionally recycled in construction projects.

Figure 4: Tons of FDOT Recycled Pavement



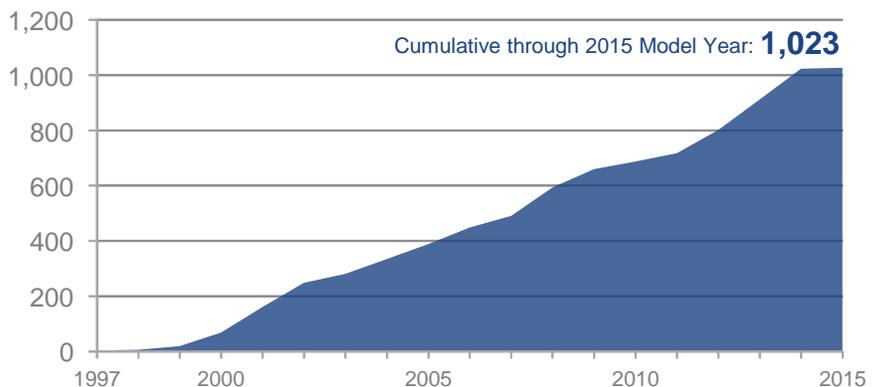
Alternative Fuel Vehicles



FDOT has over 1,000 alternative fuel vehicles in its fleet.

As an environmental steward, FDOT strives to be environmentally responsible in its business practices and operations. As shown in **Figure 5**, by 2014 FDOT had 1,023 alternative fuel vehicles in its fleet. By comparison, ten years earlier the FDOT fleet had 335 alternative fuel vehicles. This three-fold increase translates into fuel savings and demonstrates FDOT's active leadership as a major Florida employer for improving air quality. The vast majority of FDOT's alternative fuel vehicles can be powered by either gasoline or ethanol.

Figure 5: Alternative Fuel Vehicles in FDOT Fleet



ENVIRONMENTAL AND WILDLIFE PROTECTION

FDOT has identified supporting measures and other indicators of progress that provide further detail and context about the performance of the transportation system. For environmental and wildlife protection, they are:

- Miles of Noise Walls
- Wildlife Crossings

SUPPORTING MEASURES AND INFORMATION

FDOT continues to improve the transportation system in ways that demonstrate care for Florida’s unique wildlife resources as well as the needs of people. This section highlights FDOT’s noise wall investments to mitigate highway noise (typically associated with projects that expand capacity) and consideration of wildlife crossings which has resulted in approaches to facilitate the movement of wildlife safely over, under or around transportation facilities.

Miles of Noise Walls



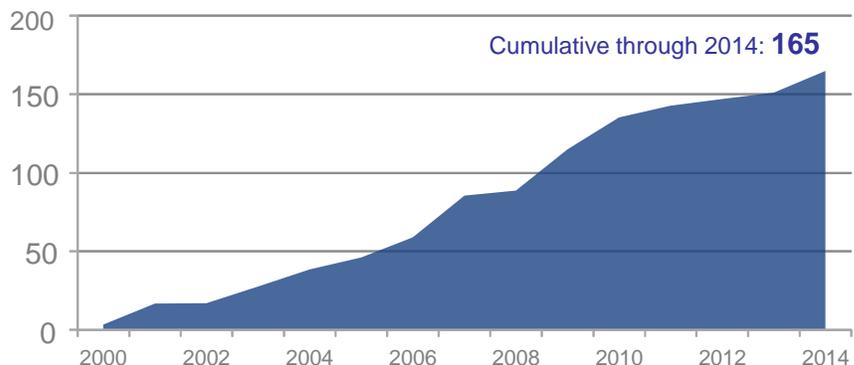
FDOT has made strides mitigating noise impacts where it has been warranted, reasonable, and feasible to do so. All proposed highway capacity improvement projects are evaluated for potential noise impacts. Where noise impacts are predicted, mitigation normally in the form of noise walls, is considered.

As shown in **Figure 6**, through 2014 FDOT installed 515 noise barriers with an equivalent mileage length of 165 miles. Over the past ten years, on average, FDOT installed 12 additional miles of noise walls per year. This is a significant investment in noise mitigation and community quality of life.

Noise walls are not the only strategy for addressing highway noise. The motor vehicle industry, for example, continues to make major advances with noise containment and reduction. Trucking companies have successfully deployed technologies that reduce vehicle idling/fuel consumption and the associated noise and pollutant impacts.

FDOT has installed more than 500 noise barriers totaling 165 miles.

Figure 6: Miles of FDOT Constructed Noise Walls



Wildlife Crossings



SUPPORTING
MEASURE

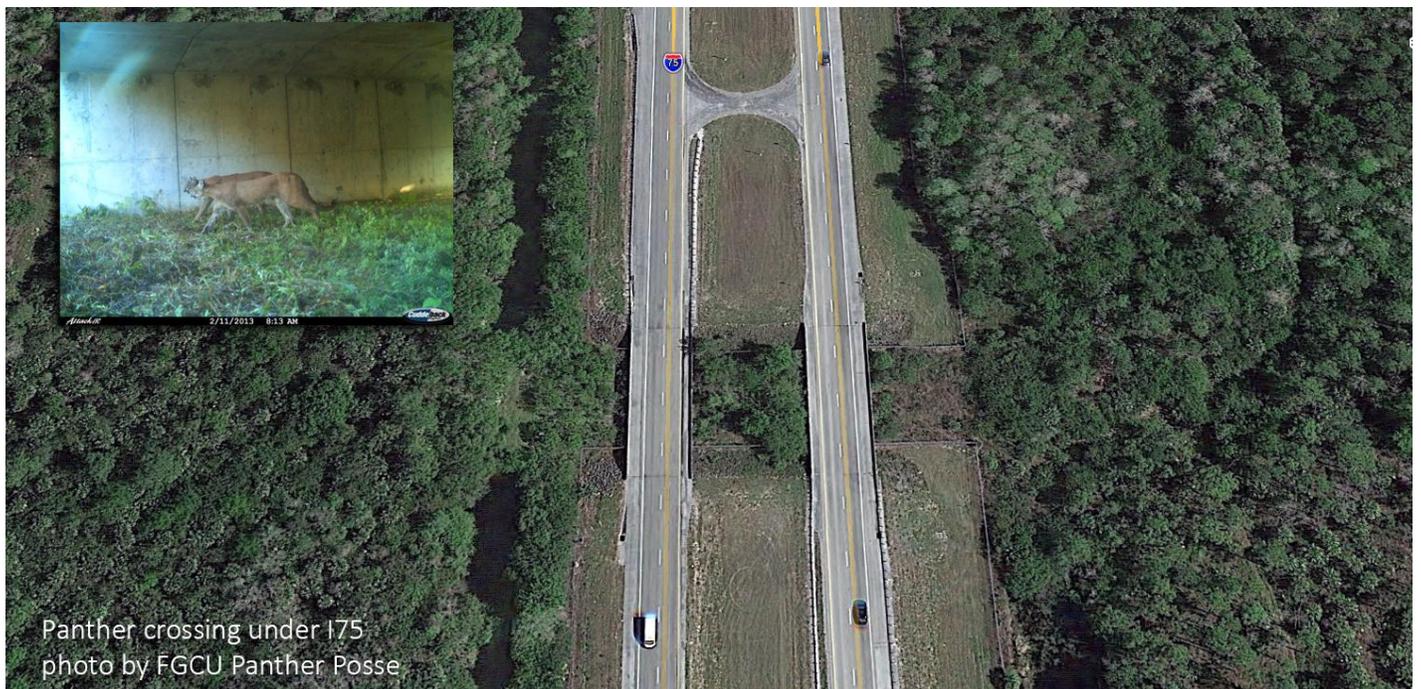
Florida's natural beauty and quality of life have much to do with its vast diversity of wildlife. The state is recognized as a national leader in developing wildlife crossing structures. FDOT has provided safe crossings for a wide range of indigenous Florida wildlife. Its innovative program includes numerous types of crossings including:

- Pipe and culvert systems
- Modified box culverts with ledges for wildlife
- Modification of existing bridges to provide dry passage on wood or earthen shelves along edges
- Other methods to enhance motor vehicle/wildlife safety, such as the installation and ongoing evaluation of a Radio-Activated Detection System on a portion of U.S. 41 to warn motorists of the potential presence of the Florida Panther

FDOT routinely seeks out and evaluates innovative approaches to wildlife species protection for potential application to state transportation facilities.

FDOT established guidelines for statewide consistency in determining the appropriateness of wildlife crossings/exclusionary devices. The guidelines also help to provide consistency in the criteria to be considered when designing transportation projects.

FDOT has provided safe crossings for of a wide range of indigenous Florida wildlife.



Panther crossing under I75
photo by FGCU Panther Posse

VIBRANT AND ATTRACTIVE COMMUNITIES

SUPPORTING MEASURES AND INFORMATION

Highway Beautification

FDOT has identified supporting measures that provide further detail and context about the performance of the transportation system for vibrant and attractive communities, they are:

- Designated Scenic Highways
- Roadside Attractiveness
- Roadsides Kept Litter Free
- Transportation Alternatives/Transportation Enhancements
- Transportation Disadvantaged Trips

This section provides examples of the range of FDOT programs and activities that promote vibrant and attractive communities. We make a consistent effort to keep roadsides litter free as well as pleasing to the eye through various landscaping and beautification efforts. Some of our roadways traverse scenic vistas and have so been designated as scenic highways. Further, FDOT invests in transportation alternative/enhancement projects that provide tremendous community benefits. Finally, our support of transportation disadvantaged trips helps many people connect with their communities who otherwise would have limited or no mobility options.

It is the policy of FDOT to conserve, protect, restore, and enhance Florida's natural resources and scenic beauty. The state strives to have the nation's most beautiful highways with safe roadsides that are durable, and ecologically and economically sustainable.

FDOT is implementing roadside beautification projects using large trees, and few if any shrubs. With thoughtful site specific design, this approach will produce a high visual impact with a distinctive sense of place at a low design, construction, and maintenance cost. Tall trees generously and safely placed at the most highly traveled interchanges and gateways into and through Florida communities (the state's most visible landscapes) create a welcoming and enjoyable experience, a first and lasting impression of the state and individual communities.

As FDOT's highest priority roadside landscapes are completed, beautification can be routinely integrated into the processes used to plan, design, construct, and maintain roadways—roadways that accommodate bold performing landscapes that enhance private enterprise and public health, safety, and welfare. Roadside landscape projects, in addition to being aesthetically pleasing, can mimic natural processes that manage stormwater, filter air, shade pedestrians, conserve energy, and provide wildlife habitat.

Designated Scenic Highways



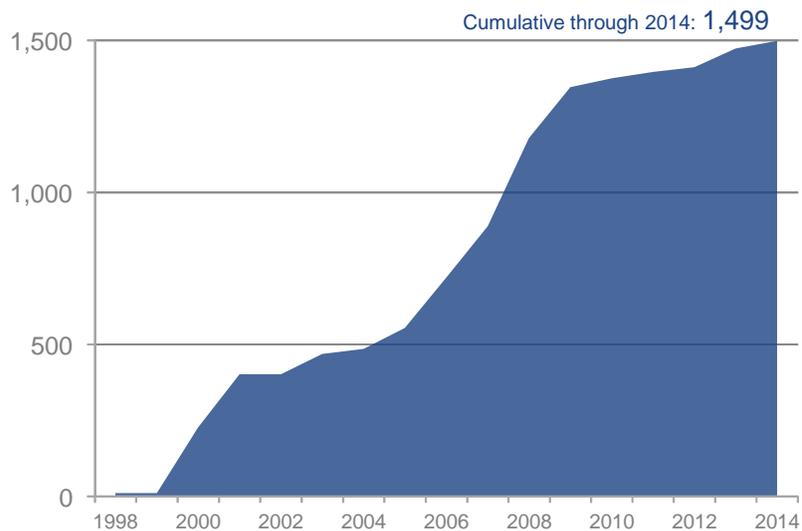
FDOT's Scenic Highways Program promotes Florida as an attractive destination for travelers, with cultural, historical, archeological, recreational, natural and scenic qualities. As shown in **Figure 7**, among the 24 Florida Scenic Highways (a total of 1,499 miles), six have received National Scenic Byway designation and one (the Florida Keys Scenic Highway) was awarded the special All-American Road designation. For more information go to www.floridascenichighways.com.

Florida's designated scenic highways promote a heightened awareness of the state's exceptional resources and unique history through educational and visual experiences. FDOT's Scenic Highways Program was established to showcase outstanding cultural, historic, archaeological, recreational, natural and scenic resources along the state's highway system. The program promotes awareness of unique resources valued by Florida residents and visitors. It also focuses on community-based support while seeking to promote regional economic benefits that may result from scenic highway designations.

Scenic highway designation is only awarded to transportation routes with unique assets that enhance the experience of travelers, including scenic vistas and portals to other unique community features. To be considered for designation a community must demonstrate why a route is truly significant, exceptional and distinctive, and how their proposed route will complement the current set of designated scenic highways.

Of Florida's 24 Scenic Highways, six have received National Scenic Byway designation, while one was awarded the special All-American Road designation.

Figure 7: Miles of Designated Scenic Highways



CUSTOMER SATISFACTION SURVEYS

More than 6,830 customers provided feedback through FDOT's most recent customer satisfaction survey.

Since 2000, FDOT has periodically surveyed Florida residents, visitors, commercial drivers, and public officials about our transportation products and services. The survey results help FDOT track its progress in improving customer satisfaction.

FDOT conducted its most recent biennial customer satisfaction surveys in 2014. More than 6,830 FDOT customers responded, including Florida residents (3,189), visitors to Florida (403), public officials (432), and commercial drivers (2,806).

The following highlights from the customer satisfaction survey provides resident and visitor impressions of the quality of Florida's roadsides. For a complete review of FDOT's customer survey results, please visit the Florida Customer Satisfaction Survey webpage at:

www.dot.state.fl.us/planning/customers. For customer satisfaction, FDOT's supporting measures are:

- Roadside Attractiveness
- Roadside Kept Litter Free



Roadside Attractiveness

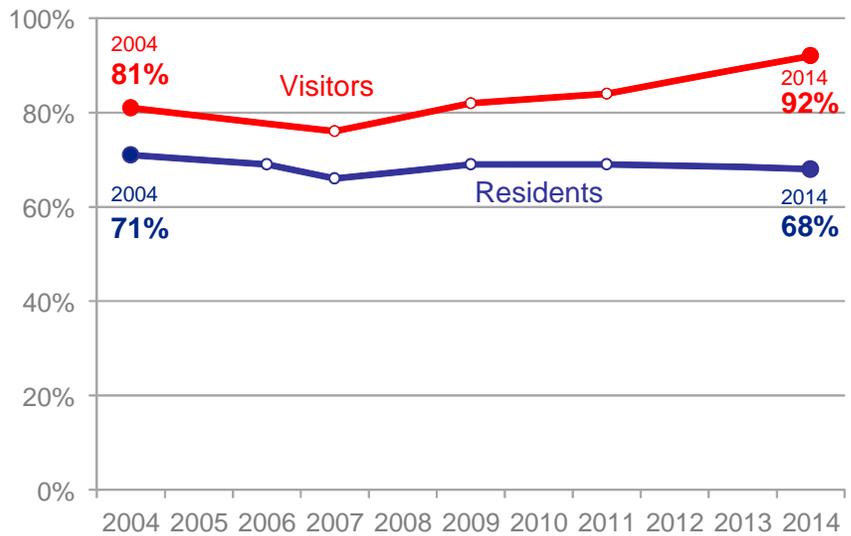


SUPPORTING MEASURE

FDOT realizes that the travel experience itself has significant value for transportation system users, particularly in light of Florida’s great natural beauty. This focus on enhancing the Florida travel experience is opportunity laden and provides an important reminder that performance—at its core—is very much in the eye of the traveler/system user.

As shown in **Figure 8**, the perception of surveyed Florida residents on roadside attractiveness for the State Highway System (SHS) decreased between 2000 and 2014 from 72 percent to 68 percent. Conversely, visitors indicated an improved perception of roadside conditions with 92 percent agreeing that SHS roadsides are attractive. The large difference in perception between residents and visitors suggests that Florida’s roadside conditions are probably better than in many other states.

Figure 8: Percent of Residents and Visitors that Feel the Roadside on the State Highway System are Attractive



92 percent of Florida visitors feel that State Highway System roadsides are attractive.

Roadside Kept Litter Free



SUPPORTING MEASURE

FDOT manages an Adopt-A-Highway program and installs signage to discourage litter. In addition to the Adopt-A-Highway and its volunteer resources, FDOT maintenance crews routinely remove highway litter. Various county-level efforts to discourage litter are also undertaken.

Under the Adopt-A-Highway Program volunteers enter into a two-year agreement with FDOT, agreeing to conduct litter removal at regularly scheduled intervals. Many miles of highway are adopted statewide by various organizations, allowing civic-minded people to make a difference in their communities. This eases the load of FDOT work crews, enabling them to devote more time to other road maintenance and special highway projects.

Volunteers enter into a two-year agreement with FDOT, agreeing to conduct litter removal at regularly scheduled intervals.

Volunteers agree to:

- "Adopt" a two-mile section of a state highway
- Dedicate two years to the program
- Follow specified DOT safety regulations
- Remove litter a minimum of four times each year

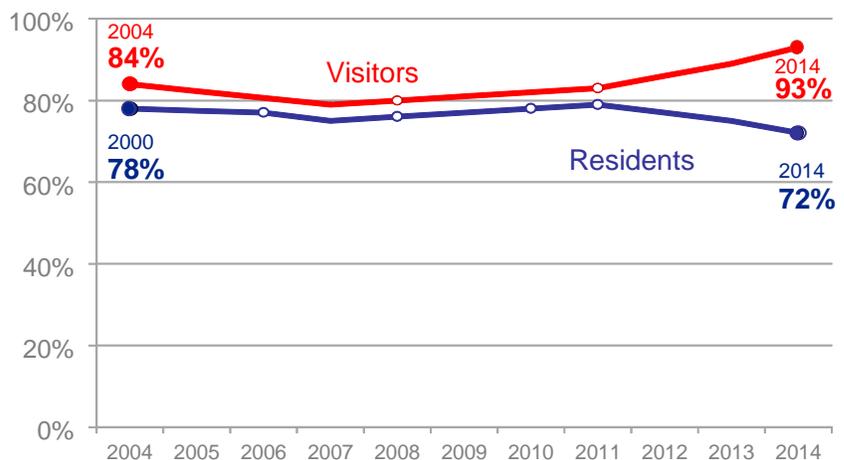
FDOT agrees to:

- Assist with safety meetings
- Provide safety vests and litter bags
- Pick up litter at specified locations
- Post Adopt-A-Highway signs commending organizations at the beginning and end of their sections.

A litter-free roadway is a highly ambitious goal with littering occurring daily. As shown in **Figure 9**, over 93 percent of visitors to Florida perceive SHS roads to be litter free, while 72 percent of Florida residents have a similar perception. This is a high positive rating when considered in light of the aspirational goal of being "litter-free."

Over 93 percent of Florida's visitors feel that State Highway System roads are litter free.

Figure 9: Percent of Residents and Visitors that Feel the Roadside on the State Highway System are Litter Free



FDOT, in partnership with the Federal Highway Administration, has launched a multi-year litter prevention education campaign against roadside litter. The message “DRIVE IT HOME...Keep Our Paradise Litter-Free” is promoted across the state on billboards, TVs, radios, buses and social media. Sports and entertainment celebrities have been tapped to promote the message and challenges have been created to tackle the little problem.



Transportation Alternatives/Enhancements

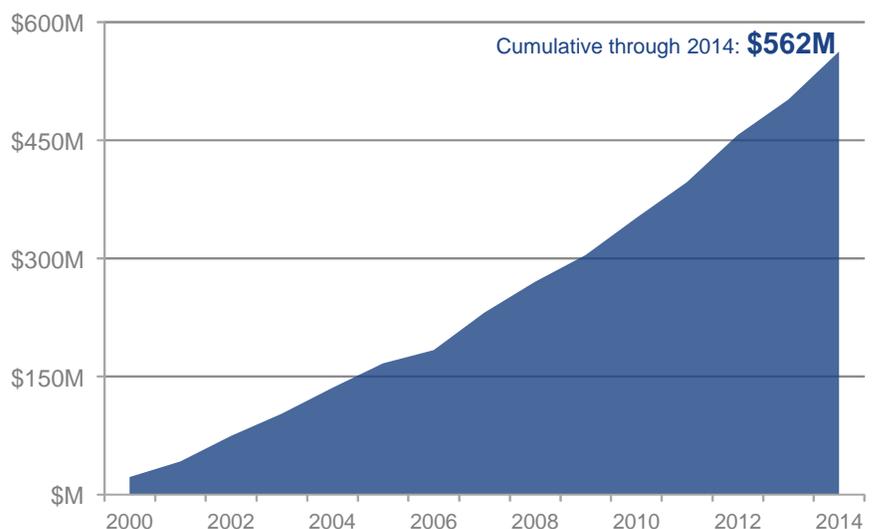


Community visions and values are being supported through implementation of projects under the federally-funded Transportation Alternatives (TA) program (formerly the Transportation Enhancement, Recreational Trails, and Safe Routes to School programs). FDOT currently receives an average allocation of federal funding of about \$50 million per year under the program. TA projects can be community-based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic and environmental aspects of the transportation system. They can expand travel choice, strengthen the local economy, improve the quality of life, and protect the environment. On- and off-road pedestrian and bicycle facilities, improved access to public transportation, community improvement activities, environmental mitigation, recreational trails, and safe routes to school projects are examples of TA projects.

FDOT has collaborated with numerous local governments over the past two decades to provide opportunities to enhance community visions and interests through TE and now TA projects. As shown in **Figure 10**, since 2000, these coordination efforts have resulted in the completion of 1,406 TA and TE projects totaling more than \$562 million. This is a tremendous investment contributing to quality of life across Florida.

Figure 10: Transportation Alternatives & Transportation Enhancement Project Funding

FDOT has programed over a half billion dollars for Transportation Alternatives and Transportation Enhancement projects since 2000.



Transportation Disadvantaged Trips



Lack of transportation is often cited as one of the greatest barriers to community engagement for people with mobility challenges. The transportation disadvantaged (TD) are those that are unable to transport themselves or purchase transportation because of physical or mental disability, income status, or age. The provision of transportation services is their means for accessing employment, health care, education, and participation in community and religious events and activities. These services include both fixed route and demand response transportation.

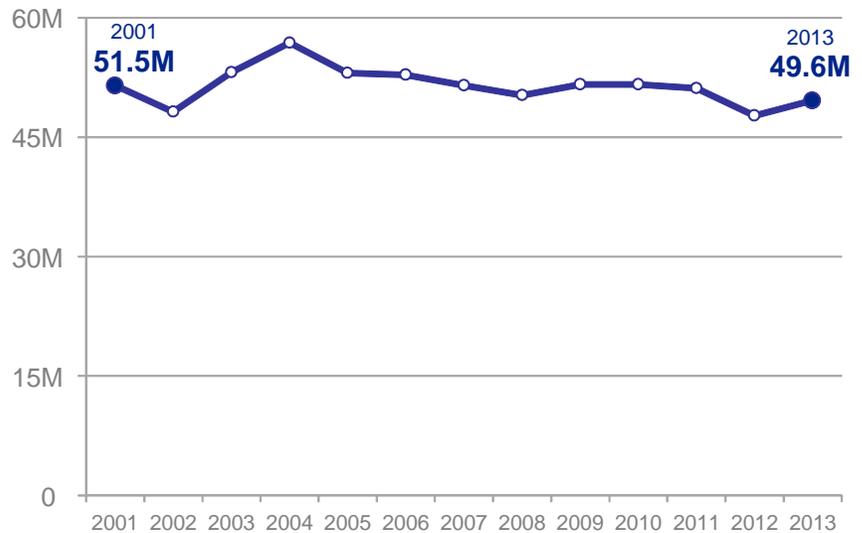
Transportation disadvantaged trips fall into five categories:

- Medical
- Employment
- Education / Training / Day Care
- Nutritional
- Life Sustaining / Other

As shown in **Figure 11**, in 2013 nearly 50 million transportation disadvantaged trips were provided across Florida. The growth in trips provided to transportation disadvantaged citizens has remained relatively flat over the 12 year period between 2001 and 2013, however, during this same period Florida’s population grew slightly more than 18 percent.

Approximately 50 million transportation disadvantaged trips are provided each year.

Figure 11: Transportation Disadvantaged Trips (millions)



According to the Florida Commission for the Transportation Disadvantaged, medical trips are the top purpose for people riding the Coordinated Transportation System. Medical trips account for 36 percent of all trips followed by nutritional trips at 21 percent; education, training and day care trips at 20 percent; trips to other life-sustaining activities at 14 percent; and employment trips at 9 percent. FDOT's Secretary is an ex-officio member of the Commission.

HEALTHY COMMUNITIES

In addition to its core and supporting measures, FDOT has identified several topics that provide further context about the performance of Florida's transportation system for healthy communities, these topics are:

- Safe Mobility for Life
- Public Health and Transportation

Safe Mobility for Life Program

FDOT participates in the Safe Mobility for Life Program (formerly The Elder Road Use Program) which promotes transportation safety for seniors. Recent progress is particularly significant in light of Florida's large and growing senior population:

- An Aging Road User Survey is conducted every year (2011 is the baseline)
- More aging road users have heard of the Safe Mobility for Life Coalition (11 percent in 2013 as compared to 10 percent in 2012)
- 15 percent of survey respondents are preparing for when they can no longer safely or comfortably drive

Public Health and Transportation

The U.S. Department of Transportation and other agencies and stakeholder organizations are focusing on the connection between public health and transportation, recognizing that community design and active transportation (e.g., walking and bicycling) can contribute to wellness and reduced costs associated with chronic disease. See the following website www.fhwa.dot.gov/planning/health_in_transportation/.

Health in Transportation



The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) promote health through their policies and programs. FHWA, FTA and FDOT have made significant investments in transit infrastructure; bicycle and pedestrian plans, coordinators, and facilities; Safe Routes to School programs; road safety; air quality improvements and congestion reduction; and the management and operations of regional transportation systems. FDOT is an active participant in these funding programs.