

SHARED-USE NONMOTORIZED (SUN) TRAIL TRANSPORTATION USE STUDY



Cady Way Trail



Orlando Urban Trail



West Orange Trail



Good Neighbor Trail



Pinellas Trail

The Florida Department of Transportation's (FDOT or Department) primary statutory responsibility is to coordinate the planning and development of a safe, viable, and balanced state transportation system serving all regions of the state, and to assure the compatibility of all components, including multimodal facilities. Furthering the state's commitment of improving mobility, the Florida Legislature passed measures in 2014 and 2015 to fund and develop multi-use trails. Specifically, The SUN Trail program was established in 2015, under Section 339.81, Florida Statutes (F.S.). Administered by FDOT, the SUN Trail program provides funding for closing gaps in the statewide system of paved non-motorized for bicyclists and pedestrians (SUN Trail network). This SUN Trail network is a refined version of the Florida Greenways and Trails System (FGTS) Plan's Land Trail Priority network; it includes high priority (strategic) trail corridors and connections.

SUN TRAIL TRANSPORTATION USE STUDY

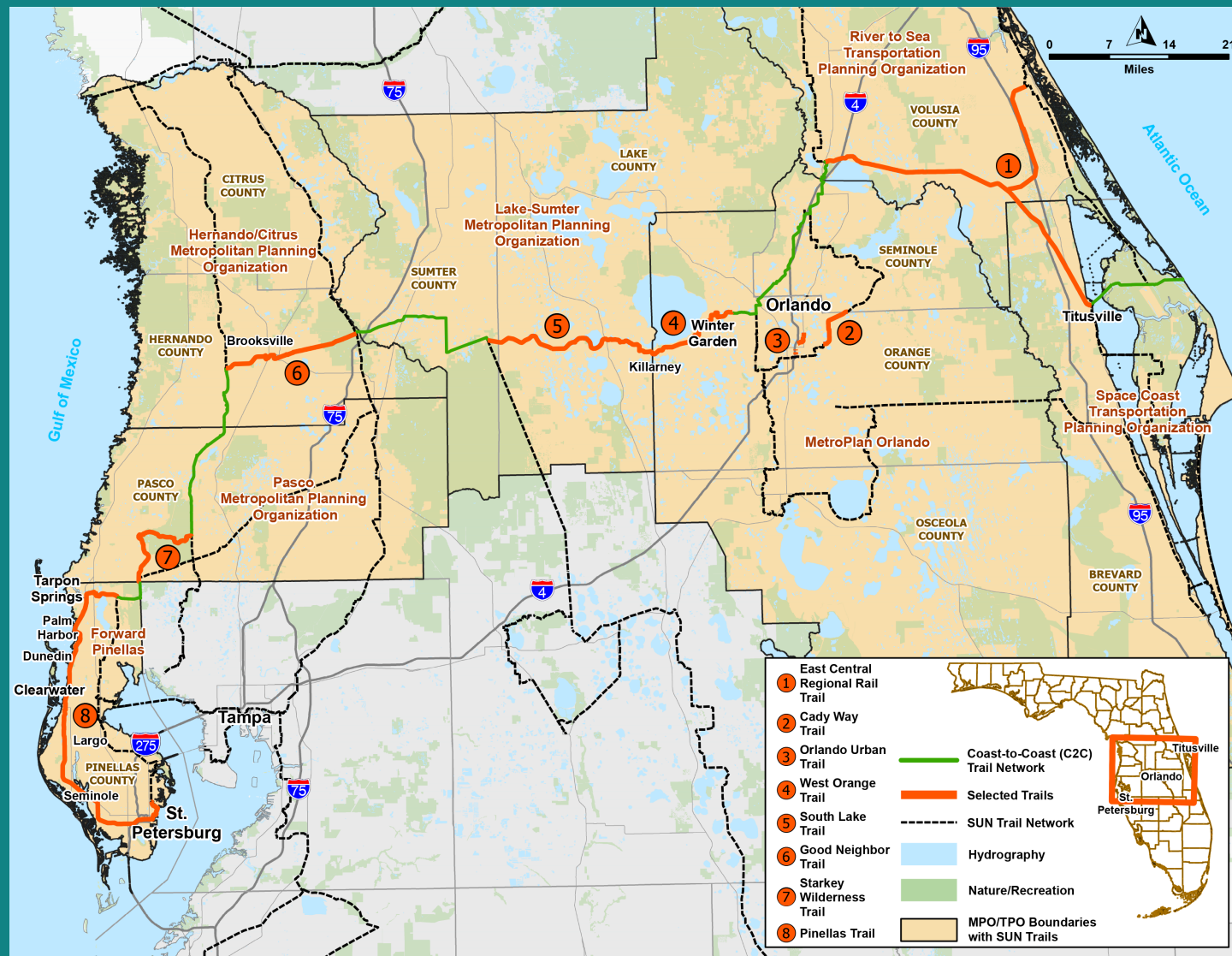
PROJECT SUMMARY

FDOT identified a need to develop consistent and objective procedures to collect, evaluate, examine, analyze, report, and store information on multi-use trails including transportation trips, trail traffic, trail characteristics and percentages of trail travelers to determine how (paved) multi-use trails support place-to-place/destination-to-destination travel and how travelers utilize and access the SUN Trail network. This study explores five trails in Central Florida with urban and rural conditions. Specifically, the study analyzes trail usage and data collected from the Cady Way Trail, the Orlando Urban Trail (not on SUN Trail network), the West Orange Trail, the Good Neighbor Trail, and the Pinellas Trail.

Several additional trails were identified as contributing to this study, these include: the Starkey Trail, the Lake Minneola Scenic Trail, the East Central Regional Rail Trail and the South Lake Trail.

The study defines concepts and datasets associated with trail transportation usage, establishes a scalable and repeatable methodology framework, and develops implementation guidelines to objectively quantify performance measures that can be used to evaluate trail-related performance measures.

Study Trail Locations



METHODOLOGY STEPS

1 Literature Review



- Trail Use Data Programs
- Benefits and Economic Analysis of Trails
- Reporting and Visualization

2 Data and Information Gathering



- Stakeholder Surveys and Interviews
- Gather available data from stakeholders
- Conduct trail user survey and trail user counts
- Leverage other available datasets as needed

3 Transportation Use Measures

	TOTAL NUMBER OF VISITS		GENDER RATIO OF TRAIL USERS
	PRIMARY TRAVEL MODES TO TRAIL		AGE SHARE OF TRAIL USERS
	PRIMARY TRAVEL MODES ON TRAIL		AVERAGE AMOUNT SPENT ON A TYPICAL TRAIL VISIT ON SOFT GOODS
	DIFFERENT ACTIVITIES ON THE TRAIL		AVERAGE AMOUNT SPENT ON A TYPICAL VISIT ON HARD GOODS
	FREQUENCY OF TRAIL USAGE		AVERAGE AMOUNT SPENT ON ACCOMMODATION IF INCLUDES OVERNIGHT STAY
	POPULAR DAYS OF TRAIL USAGE		HEALTH BENEFITS
	POPULAR TIME OF DAYS FOR TRAIL USAGE		RECREATION BENEFIT
	DURATION OF TRAIL VISIT		REDUCED AUTO USE BENEFIT
	DISTANCE TRAVELED IN A TRAIL VISIT		USER EXPENDITURES

Data and Information Gathering Included the Following:

- Trail characteristics;
- Trail user counts;
- Trail user demographics and behavior;
- Other trail related datasets;
- Trail benefits and impacts;
- Trail data analysis; and
- Visualization and analytics tools.



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GUIDELINES FRAMEWORK

Comprehensive guidelines help establishing or enhancing trail traffic data collection processes, data maintenance and management techniques, trail performance measures, trail trend analysis, factors impacting trail usage and reporting, which can be used by the following:






- Trail agencies
- Cities and Counties
- Other stakeholders

The guidelines below include information on following two major topics:

- Trail Use Data Collection
- Trail User Survey

There are few additional tips on the next page.

Trail Use Data Collection

1. What are you Counting?								
2. What is the Count Duration?	Technology	Bicyclists Only	Pedestrians Only	Pedestrians & Bicyclists Combined	Pedestrians & Bicyclists Separately	Cost		
How long determines complexity of installation.	Continuous Count	Piezo/Inductance Loops	+	-	-	✓	\$\$	
	↑	Magnetometer	✓	-	-	-	-	\$-\$
		Pressure Sensor	✓	✓	✓	✓	✓	\$\$
		Radar Sensor	✓	✓	✓	-	-	\$-\$
		Seismic Sensor	✓	✓	✓	-	-	\$\$
		Automated Camera	✓	✓	✓	✓	✓	\$\$
		Infrared Sensor	✓	+	+	✓	✓	\$-\$
		Pneumatic Tubes	+	-	-	✓	✓	\$-\$
Short-term Count	Manual Counts	+	+	+	+	\$\$\$-\$		

Trail User Survey

	Online Survey	Dropbox Survey	Personal Intercept Survey (with online survey option)
Market Penetration	Low	Medium	High
Cost	\$	\$\$	\$\$\$*
Duration	Unconstrained	Unconstrained	Unconstrained

- ✓ Indicates that counting with this technology is possible
- +
- ✓ Indicates a common or preferred practice
- ✓ Indicates a common practice, but technology must be combined with other technology to differentiate between the two modes

*Cost will be lower if volunteers are available.

DATA GATHERING

Stakeholder Engagement:









A stakeholder kick-off meeting was conducted to introduce the study goals and approach to everyone. This stakeholder kick-off meeting was followed up with a post meeting feedback survey and stakeholder interviews. The table below lists the agencies that were invited to be part of this study.

Stakeholder Agencies

Bike Florida, Inc. - Get In Touch!	Florida Bicycle Association
City of Brooksville	MetroPlan Orlando
City of Orlando	Orange County
City of Titusville	Pasco County
Florida Department of Environmental Protection	Pasco Metropolitan Planning Organization
Florida Department of Transportation	Pinellas County
East Central Florida Regional Planning Council	Rails-to-Trails Conservancy
Florida Bicycle Association	River to Sea Transportation Planning Organization
Forward Pinellas	Space Coast Transportation Planning Organization
Hernando/Citrus Metropolitan Planning Organization	Tampa Bay Area Regional Transit Authority
Lake County	Tampa Bay Regional Planning Council
Lake-Sumter Metropolitan Planning Organization	Volusia County

Stakeholder survey and interviews were conducted to gather information from the stakeholders about their existing approaches and resources to gather information on trail characteristics, trail user counts, trail user demographics and behavior, other trail related datasets, trail benefits and impacts, trail data management, trail data analysis, and visualization and analytics tools.

Summary of Survey Responses – Trail Use Counts and Trail User Surveys






Agency	User Count Data	Count Frequency	User Survey Data	User Survey Method
City of Orlando		Short-term counts	-	-
City of Titusville		Short-term counts	User Demographics	Personal intercept/Welcome Center staff interview
Florida Department of Environmental Protection		Continuous counts	-	-
Forward Pinellas		Continuous counts	User Demographics and User Behavior	In-Person/Field Intercept and Postcards
Lake County Office of Parks and Trails		Continuous counts	-	-
MetroPlan Orlando		Short-term counts	-	-
Orange County Government		Continuous counts	-	-
Rails-to-Trails Conservancy		Continuous counts	-	-

SUN TRAIL TRANSPORTATION USE STUDY

DATA COLLECTION EFFORT

The trail user counts for all trails (Exception: Good Neighbor Trail) were acquired from different stakeholders. These counts are adjusted to compute the annual visit volumes. Good Neighbor Trail does not have any count sites. Hence, it was deemed necessary to conduct short-term counts on Good Neighbor Trail. These short-term counts were conducted by the newly established Florida Department of Transportation (FDOT) Non-motorized count program. The table below summarizes specific details on the count sites.

Trail Use Data Collection

Trail Name	Counts Manager	Count Types	Users	Number of Sites
Cady Way Trail	Orange County	Continuous Counts		2
Orlando Urban Trail	City of Orlando	Short Term Counts		1
West Orange Trail	Orange County	Continuous Counts		9
Good Neighbor Trail	Florida Department of Transportation	Short Term Counts		4
Pinellas Trail	Forward Pinellas	Continuous counts		8

Trail user surveys are needed to understand the trail user demographics and behavior. A personal intercept (field-based) trail user survey was conducted on the Good Neighbor Trail. For Orlando Urban Trail and Pinellas Trail, a personal intercept survey and web-based survey was conducted. For the remaining two trails (West Orange Trail and Cady Way Trail), a web-based survey was conducted. The table below provides specific details on the surveys.

Trail User Survey

Trail Name	Survey Administrator	Personal Intercept Survey Date and Time	Number of Sites	Web-based Survey
Cady Way Trail	Florida Department of Transportation	Not applicable	Not applicable	June 7-14, 2019
Orlando Urban Trail	Florida Department of Transportation	May 11, 2019 (7:00 am to 7:00 pm)	2	June 7-14, 2019
West Orange Trail	Florida Department of Transportation	Not applicable	Not applicable	June 7-14, 2019
Good Neighbor Trail	Florida Department of Transportation	May 4, 2019 (7:00 am to 7:00 pm)	1	Not applicable
Pinellas Trail	Forward Pinellas	April 26-27, 2019 (7:00 am to 7:00 pm)	6	April 26-May 17, 2019

Additional Tips:

- Conduct a reconnaissance survey and do background research to select sites for field user survey and trail count locations.
- Include local stakeholders to get better understanding of the sites.
- For additional pedestrian and bicyclist counts information, contact non-motorized counts program managed by FDOT Transportation Data and Analytics Office.
- Use trail profiles developed under this project as reference materials for different analyses.
- For comprehensive economic impact and benefit analysis, Region Economic Models, Inc. (REMI) modeling services are available with Regional Planning Councils for a nominal price.

TEMPLATE FOR TRAIL USER SURVEY

NO.	QUESTION	RESPONSES (CIRCLE ALL THAT APPLY)									
1	Zip code of your residence(s):										
2	Typical travel mode to get to the trail:	Walk	Bicycle	Car	Transit	Other					
3	Typical primary activity on the trail:	Walking/Hiking	Running/Jogging	Bicycling	Skating	Other					
4	Primary reason for using trail:	Exercise/Health	Recreational Activity	Going to Work	Going to School	Going to Restaurant	Going to Shopping	Site Seeing	Other		
5	Average trail usage frequency:	Daily	2 days per week	3-4 days per week	5-7 days per week	Few times per month	Few times per year	Other			
6	Typical day(s) of the week you use the trail:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday			
7	Time of day you use the trail most often:	Morning (before 10 AM)	Midday (10 AM-2 PM)	Afternoon (2 PM-6PM)	Evening (after 6 PM)						
8	Average time spent on the trail each visit:	Less than 30 minutes	30 minutes to 1 hour	1 to 2 hours	2 to 4 hours	4 to 8 hours	More than 8 hours				
9	Average distance traveled on the trail each visit:	0-2 miles	2-10 miles	10-20 miles	More than 20 miles						
10	Combined amount (\$) spent on a typical trail visit on beverages, snacks and meals:										
11	Combined amount (\$) spent annually to visit the trail (purchasing shoes, clothing, bicycle-related expenses, and other trail-exercise equipment):										
12	Money (\$) spent on accommodations (hotel/motel/campground) annually to enjoy this trail (if it includes overnight stay):										
13	Combined amount (\$) spent on a typical trail visit on grocery shopping:										
14	Trail needs/issues (Examples: safety, security, amenities, cleanliness, maintenance):										
15	Age:										
16	Gender:										
17	Group Size:										
18	How did you find out about the trail?	Word of mouth	Roadside signage	Driving past	Newspaper	Parks Department	Bicycle shop	Convention and Visitors Bureau	Internet web site	Other	

INSTRUCTIONS FOR TRAIL USER SURVEY VOLUNTEERS

Materials to be provided:

- Surveys
- Safety vests
- Assorted pens
- Clipboards
- Survey signs
- Online survey cards
- Water, table / chairs at each location
- Promotional items
- Trash bags

Instructions:

1. Meet the supervisor or staff at your scheduled shift time (preferably 15 minutes before your shift time).
2. Put survey signs in advance before and after location on trail.
3. Ask if trail user would like to help us by completing the survey (any age is okay).
4. If the trail user refuses, please be polite and ask other trail users.
5. If the trail users are a group, they can fill one survey for the whole group and add group size number (Question 17).
6. Use the script provided in the survey document to explain the purpose of the survey if asked by the trail user.
7. Ask if trail user wants you to read the questions or wants to fill the survey themselves.
8. Provide clarifications to the trail user about any questions. Avoid providing your own opinions about the trail and trail usage. If the user refuses to respond to a specific question, please clarify it with them.
9. After they complete the survey, offer one promotional item per person.
10. If trail user would prefer, offer an online survey card.
11. At the end of your shift, put all completed surveys in an envelope marked your shift time.
12. Please return clipboards, completed surveys and other materials and give them to staff/supervisor at that location.
13. Pick up any trash at the end of day.

Safety First:

1. Wear safety vest for whole duration of your shift.
2. Drink sufficient water/electrolytes.
3. Wear sunscreen if necessary.
4. Please do not loiter on the trail, for safety.
5. If you are driving to the location:
 - Obey all traffic laws.
 - Park outside of travelway.
 - Lock vehicle.
6. If you encounter bad weather:
 - Do not perform field work during heavy rain, lightning, tornado, or hurricane conditions.
 - Notify staff/supervisor that weather prohibits work.
 - Data can be collected in light rain only if surveys can be protected from getting any moisture on it.
 - Photos should be taken only in rain-free conditions.

For any concerns or more information call the staff/supervisor.

SUN Trail website: <http://floridasuntrail.com/>

Final Deliverables: <https://www.fdot.gov/planning/systems/SUNTrail/guidance.shtm>

Statewide Non-Motorized Traffic Monitoring

Program: <https://www.fdot.gov/statistics/trafficdata/florida-non-motorized-traffic-monitoring>



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