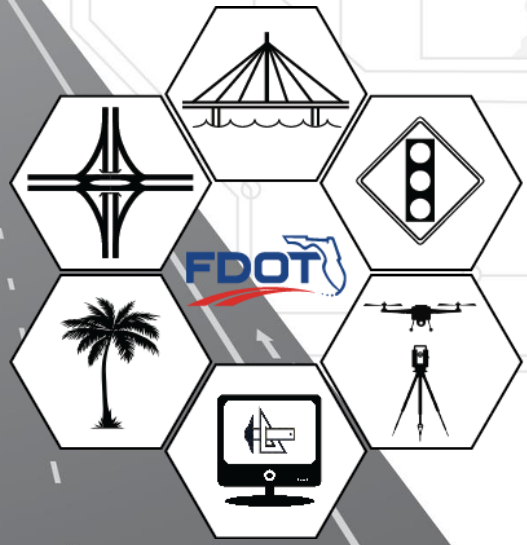


FDOT

TRANSPORTATION

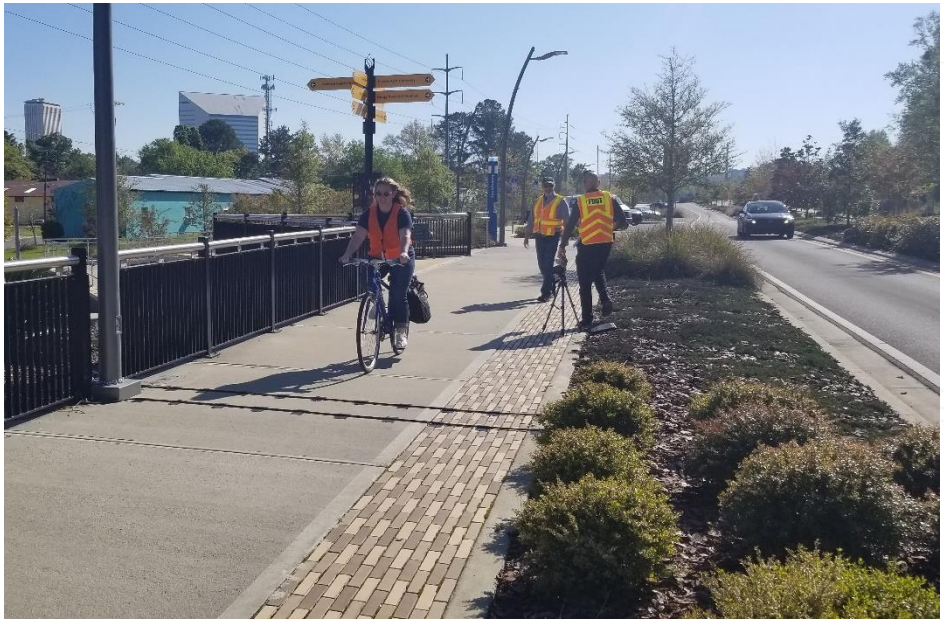
SYMPOSIUM

2019

FDOT Statewide Non-Motorized Traffic Monitoring Program

Agenda

- The Team
- Big Picture
- Year-1 in Review
- Next Steps
- Questions



Transportation Data and Analytics Team

Ed Hutchinson – Transportation Data and Analytics Office Manager
Steve Bentz – Traffic Monitoring Program Manager
Joey Gordon – Transportation Data and Analytics Supervisor
Eric Griffin – Telemetered Traffic Count Station Manager
Chris Francis – Project Manager, Marlin Engineering.com
Liz Stolz – Data Scientist, National Expert, Marlin Engineering Inc.
Eric Katz – Statewide Non-Motorized Traffic Monitoring Program Coordinator, Marlin Engineering

FDOT Central Office Working Group

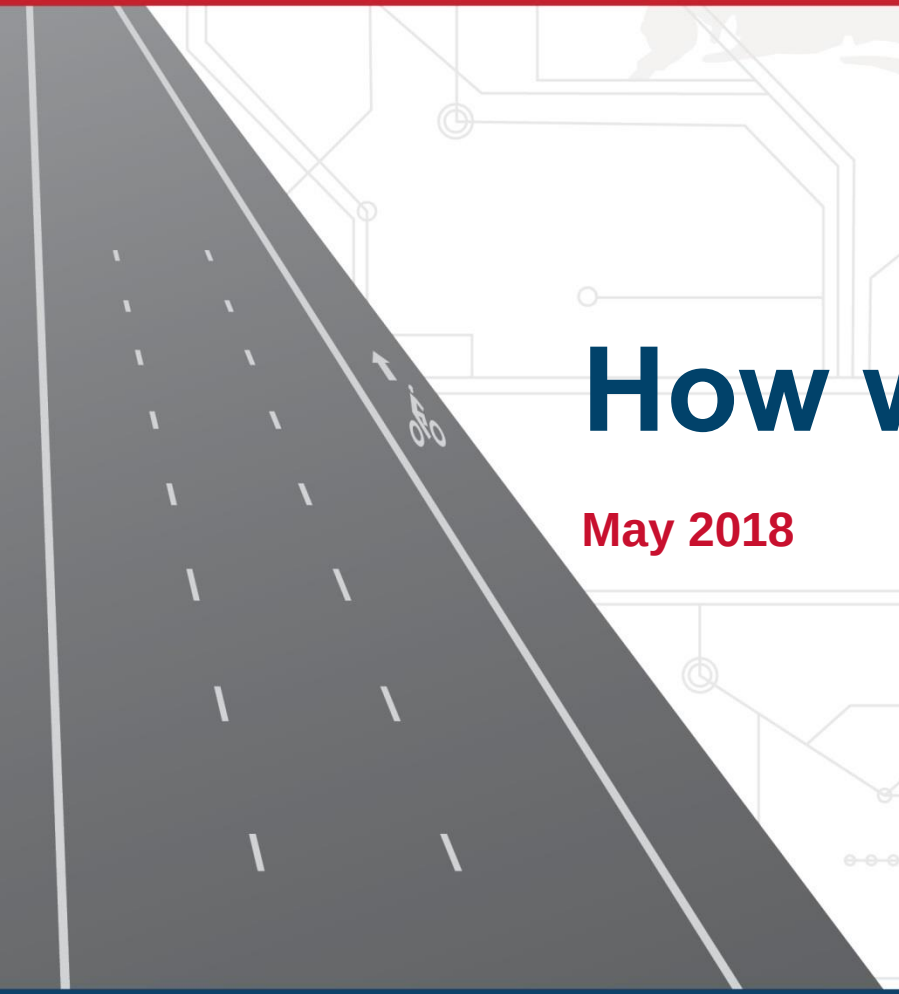
Safety Office – Joe Santos, Trends McPherson, Rupert Giroux
Transit Office – Gabe Matthews, Chris Wiglesworth
Systems Planning Office – Huiwei Chen, Robin Birdsong
Design Office – DeWayne Carver, Mary O'Brien
Policy Office – Martin Markovich
Traffic Operations – Alan El-Urfali, Javier Ponce

Big-Picture

Program Status

Current Status of Program

- We have a program!
- TDA is ready to begin formal non-motorized counts statewide
- TDA must stay focused on the fundamentals of high-quality data collection
  - Technology
  - Methodology
- Partnering FDOT offices and partnering agencies will apply that data for their own specific needs.

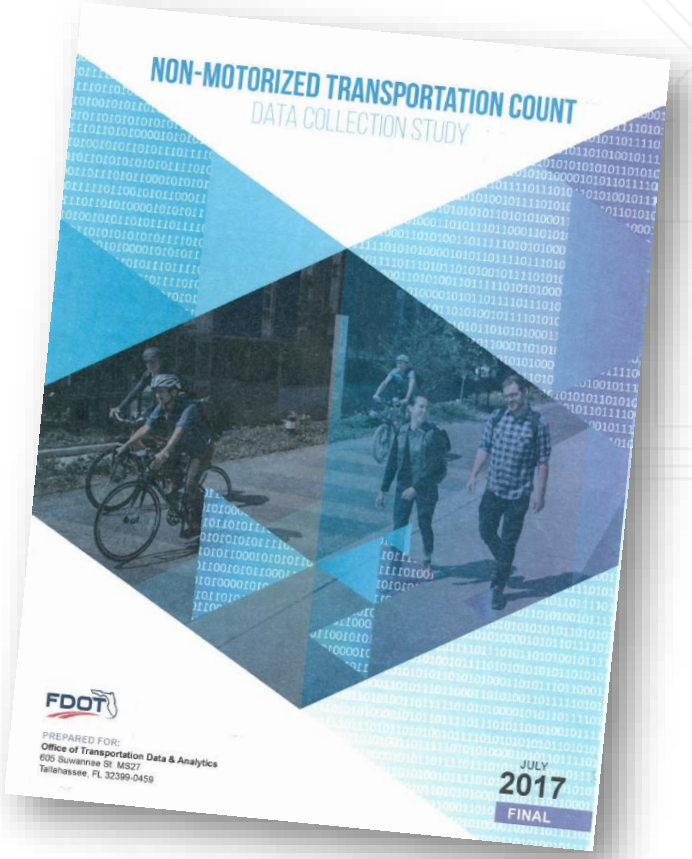


How we got here…

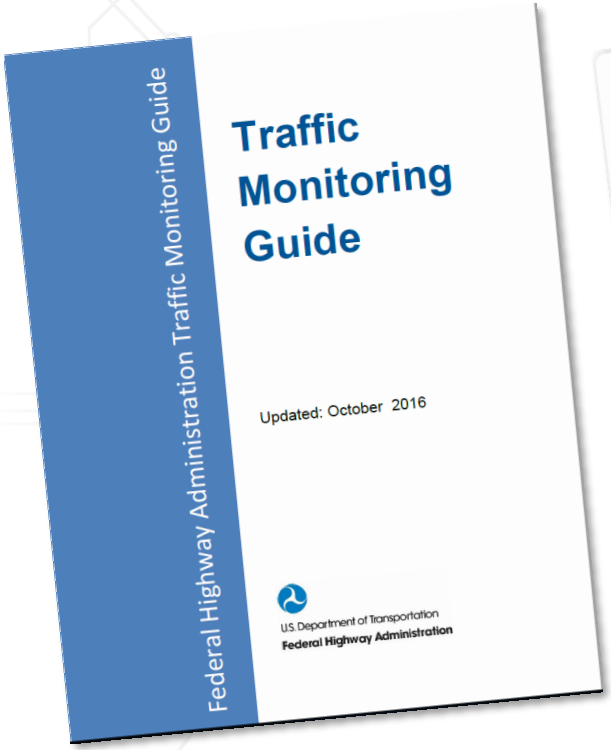
May 2018

Non-Motorized Pilot Study 2016-2017

- Transportation Data and Analytics Office
  - *“If it moves we count it.”* – Steve Bentz
- State of the Practice
  - Count Methodologies
  - Count Technologies
- 2016 Non-Motorized Pilot Study



Research


Federal Highway Administration Traffic Monitoring Guide
Traffic Monitoring Guide
Updated: October 2016
U.S. Department of Transportation
Federal Highway Administration

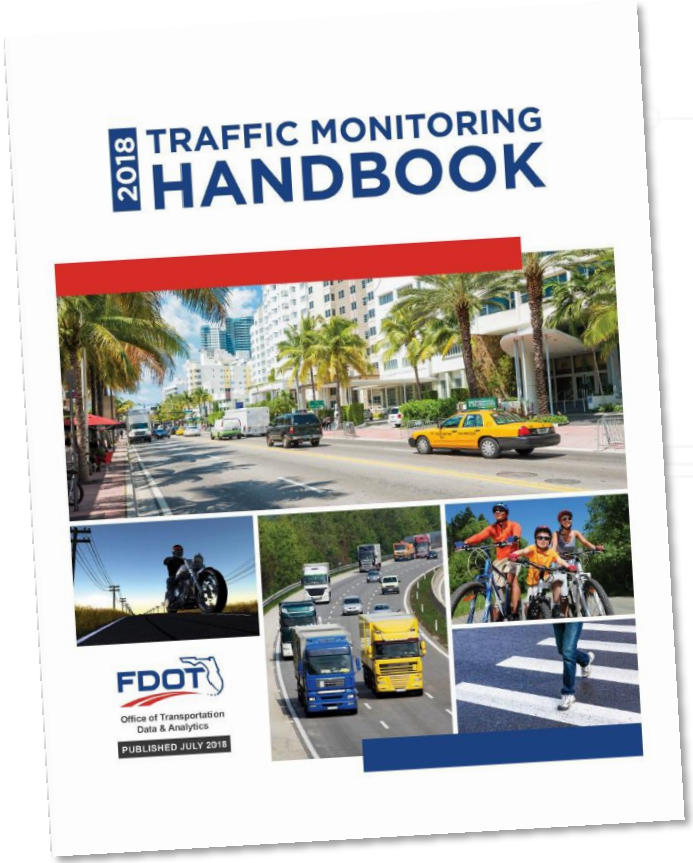

NCHRP
REPORT 797
NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM
Guidebook on Pedestrian and Bicycle Volume Data Collection
TRANSPORTATION RESEARCH BOARD


NOVEMBER 2016
CODING NONMOTORIZED STATION LOCATION INFORMATION IN THE 2016 TRAFFIC MONITORING GUIDE FORMAT
U.S. Department of Transportation
Federal Highway Administration

FDOT Traffic Monitoring Guide

The intent of this handbook is to provide guidance to those that collect, code, and use traffic data in an accurate and consistent manner statewide.

Handbook link below…
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/statistics/docs/traffic-monitoring-handbook.pdf?sfvrsn=e8a9f204_0



Traffic Monitoring Handbook Contents

- Introduction
- Methodology
- Non-Motorized Data Collection Challenges
- Continuous Count Practices
- Short-Term Count Practices
- Non-Motorized Data Collection Technology

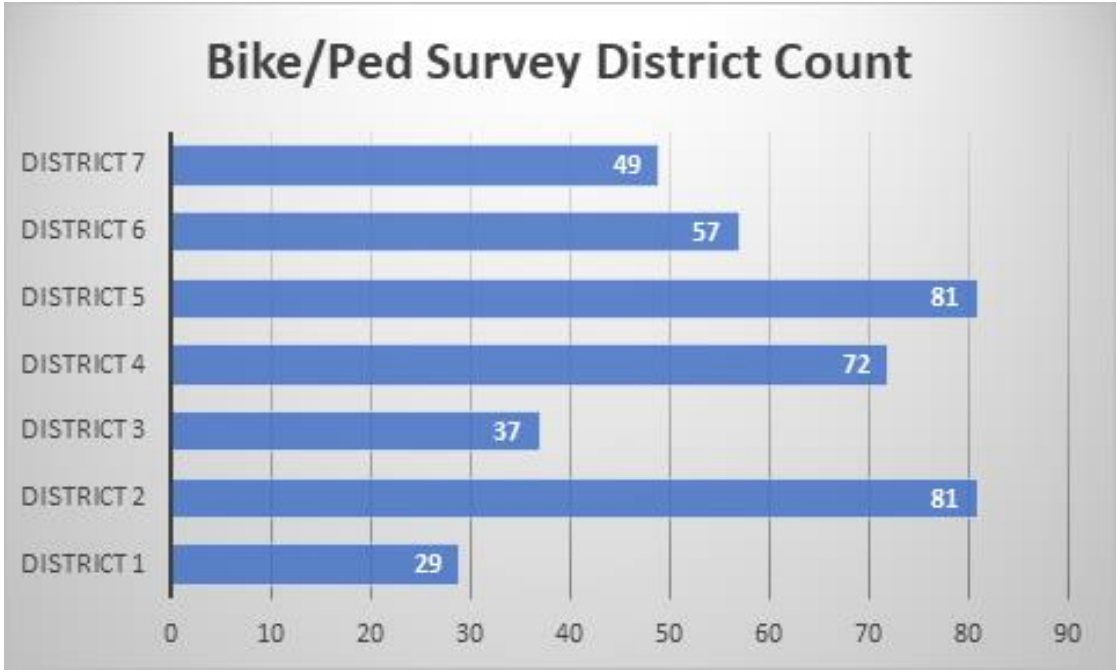
Outreach Survey

Released June 2018

Survey Results

- 240* emails
  - Districts, MPOs, Counties, Cities
    - Public Works; Planning Directors
  - Bike/Pedestrian advocacy organizations
  - Public Health organizations
  - Encouraged survey takers to share the survey link to their local networks
- 264 Total Survey Respondents
- 406 Locations recommended

Survey Results

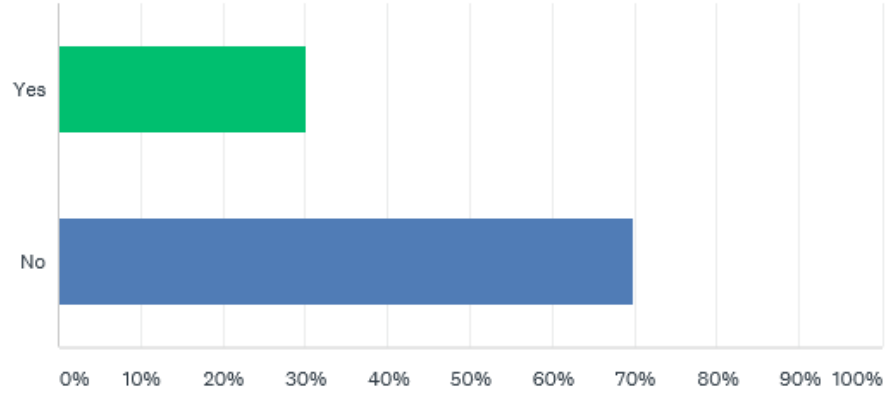


Survey Results

Q2

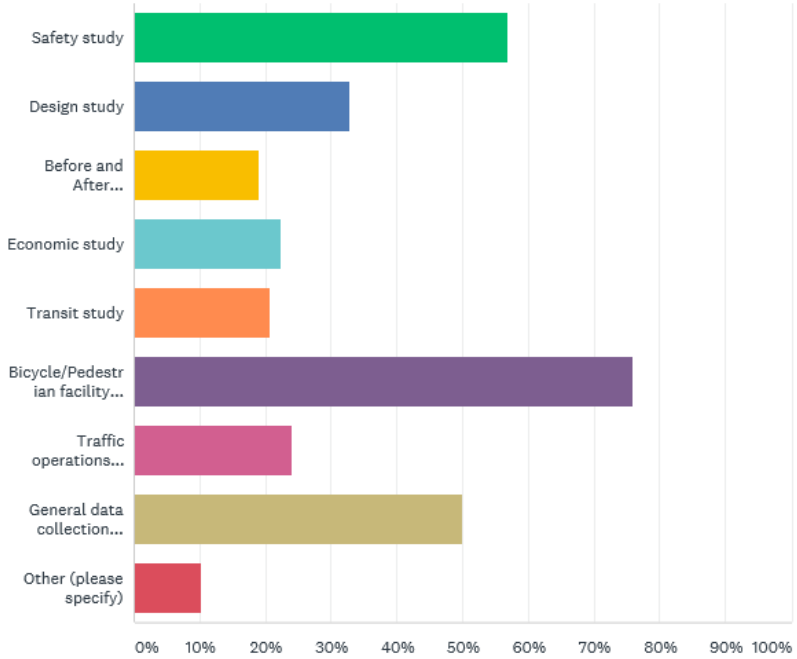
Customize Export

Are any bicycle and pedestrian counts being conducted by your agency?



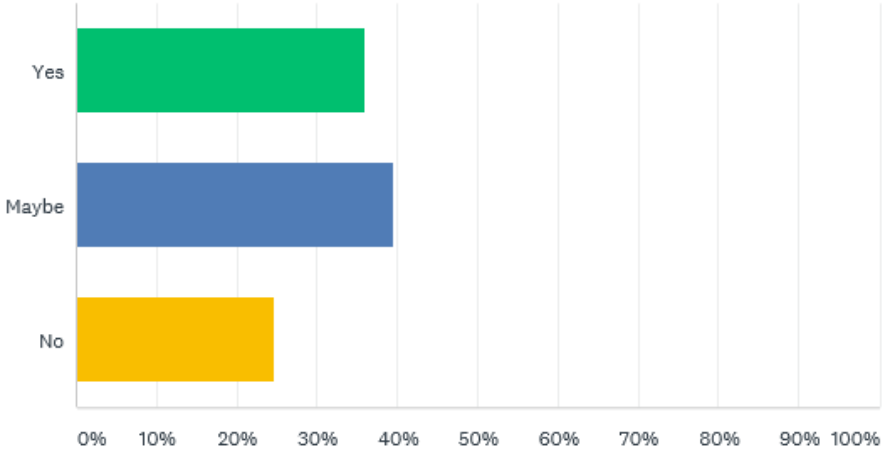
Survey Results

What is the purpose of collecting data at this location? Please click all that apply



Survey Results

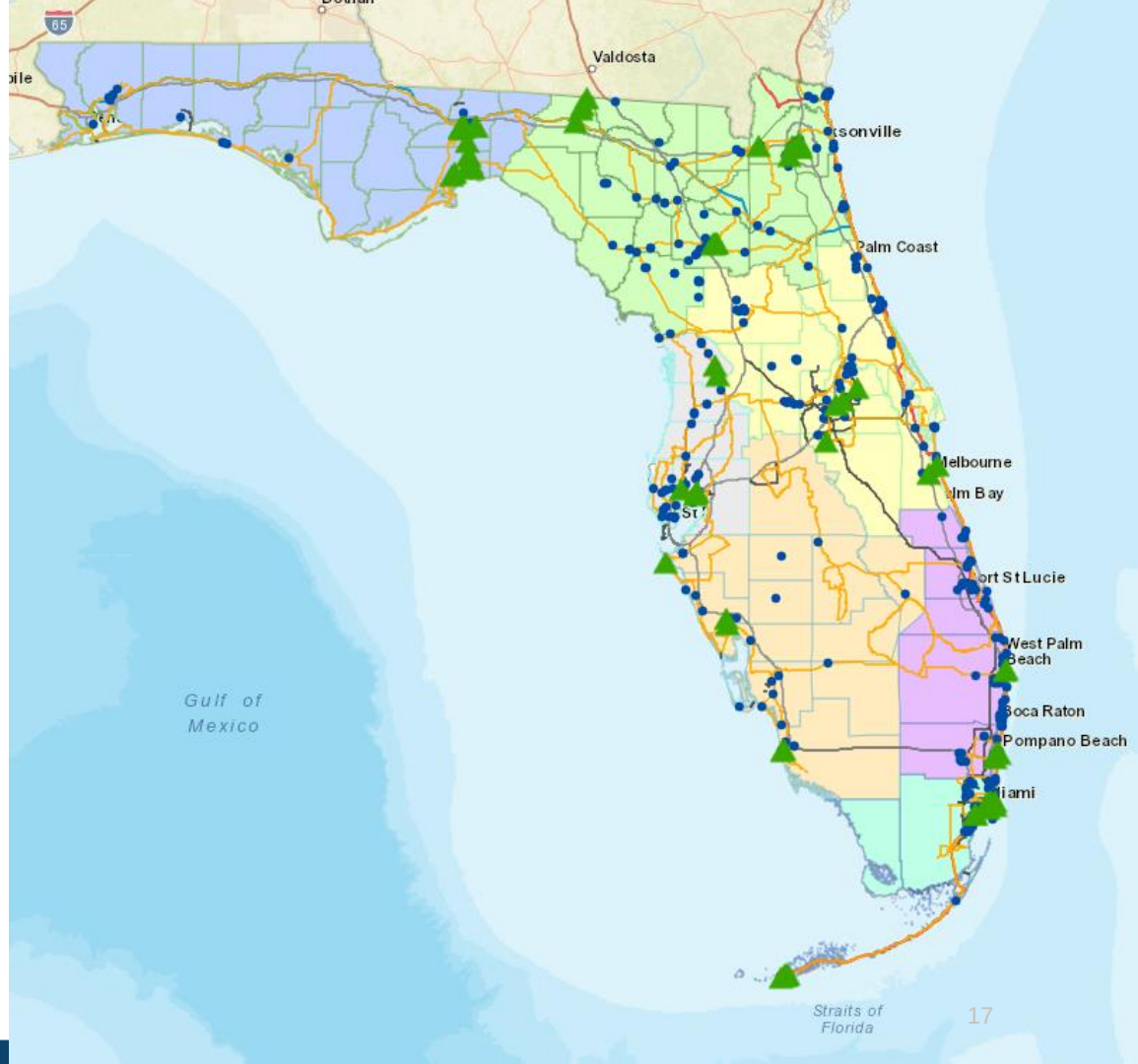
Is your organization willing to provide data collection funding/resources for data collection activities? For example, provide support as a data contributor, data tester, and/or data user? (A Yes answer does not constitute an obligation for support.)



Survey Results

Survey Map
https://fdot.maps.arcgis.com/apps/webappviewer/index.html?id=df6696c128514bb6b0c6710758fd050b

Survey Monkey Link
https://www.surveymonkey.com/r/FDOTBikePedDataCollectionSurvey



Field Visits

August/September 2018

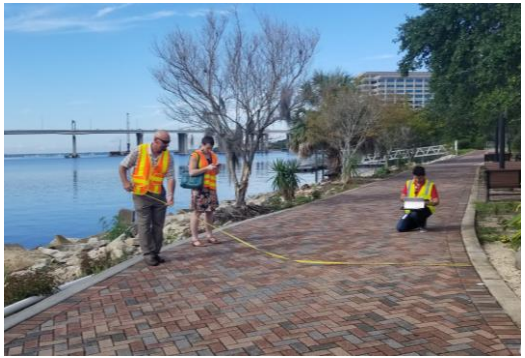
Field Visits = 55 site visits in 2 weeks

Metroplan Orlando

District 7, Tampa DDA

City of Gainesville

Collier County MPO, City of Naples



City of Jacksonville

Madison County

Evaluation Forms

On-Site Visit Form

SITE NAME:	St. Marks Trail @ J. Lewis Park	**DATE OF SITE VISIT:**	12/5/2018
LOCATION:	St. Marks Trail @ J. Lewis Park	**WEATHER CONDITIONS:**	Cool and cloudy
FACTOR GROUP:	Rural Recreational	**PICTURES TAKEN:**	Yes
GPS:	30.3365743, -84.254507	**CITY AND DOT DISTRICT:**	Tallahassee; District 3
LANE WIDTH:	12	**# of LANES**	
SIDEWALK WIDTH:		**# of SIDEWALKS**	
		COUNT TYPE:	Short-term
		SITE RANKING:	2
		RANKING NOTE:	Good short-term location

NOTES: ON-SITE VISIT #56; Met with CRTPA and FDOT CO staff on 12/04/18 on-site at 3:00pm.

1 - ON-SITE CHARACTERISTICS

Step 1 - Evaluate On-Site Characteristics. Below are some guidelines and things to look for when choosing sites for continuous counting purposes. Check the boxes as applicable below.

1. Avoid power lines	☑ Good Mid-Block Location ☐ Curves ☑ Special Events Nearby ☐ Powerlines ☐ Hills ☐ Water Bodies ☑ Choke Points ☐ School or University Nearby ☐ Motorized Traffic Present ☑ Parks and/or Recreation Facility Nearby ☐ People Hanging Around Area (milling around)
2.Avoid water bodies	
3. Avoid installation of counters that points towards traffic (Infrared counters)	
4. Avoid areas where people stop and mill around an area	NOTES: Witnessed bicyclists on trail during visit.
5. Avoid curves	
6. Avoid hills	
7. Select locations with pinch points that allows a counter to capture all travelers	
8.Avoid counting at the intersection, preferred counting locations are mid-block	

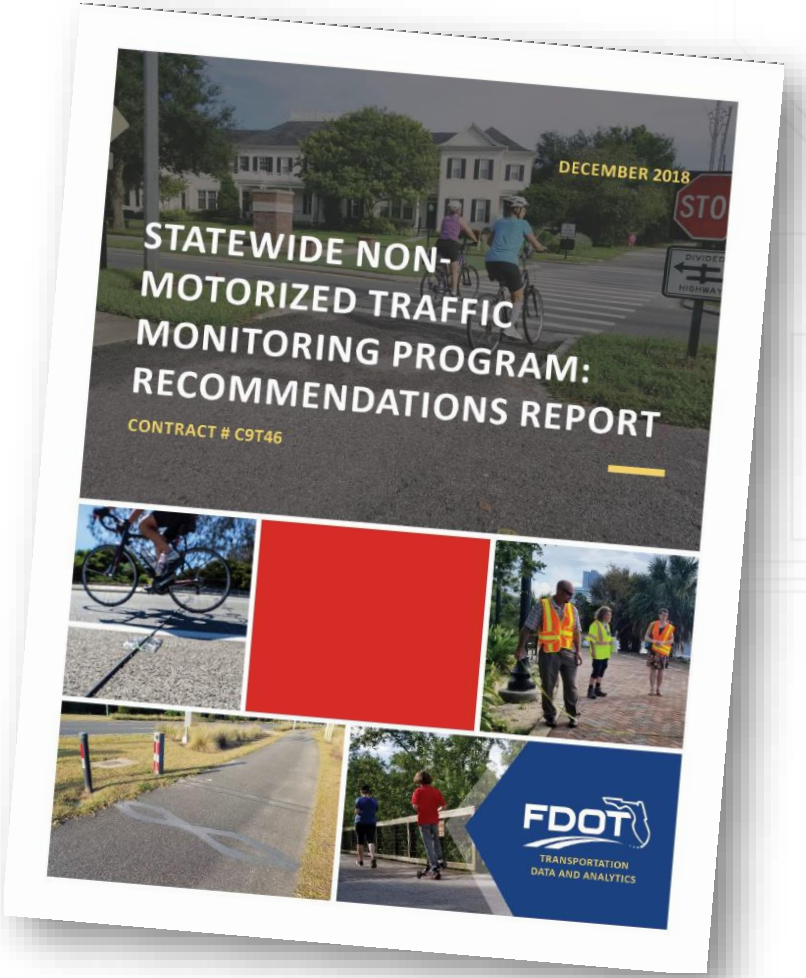
2 -SITE SPECIFIC OBSERVATIONS and BEHAVIORS

Step 2 -- Determine Baseline Activity Levels and Evaluate Site Specific Observations and Behaviors. When on-site, evaluate conditions and baseline activity levels using the checklist below. If the site has no bicycle and/or pedestrian activity during the site visit and there is no evidence to substantiate activity may occur at other time periods at the site, note that further investigation would be needed before investing in CCS equipment. Activity and behavioral observations on-site can influence and potentially increase the site's ranking such as a diversity of users from differing perceived socioeconomic status to a diversity of bicyclist types (commuter, recreational, mixed).

1. Determine Baseline Activity Levels and Behaviors	NOTES: Medium
2. Test for Interference, are there visible power lines	NOTES:
3. Watch Traffic, Look for Origin and Destinations	NOTES:
4. Look for Choke Points (natural funneling point such as bridges, tunnels or overpasses)	NOTES:
5. Note all Observations during the On-Site visit	NOTES:
6. Gather additional information from recommending Agency	NOTES:
7. Search for data sources such as Strava	NOTES:
8. Other sources of information	NOTES:
9. Perform Short Duration Counts at potential CCS!!!	NOTES:

Recommendations Report

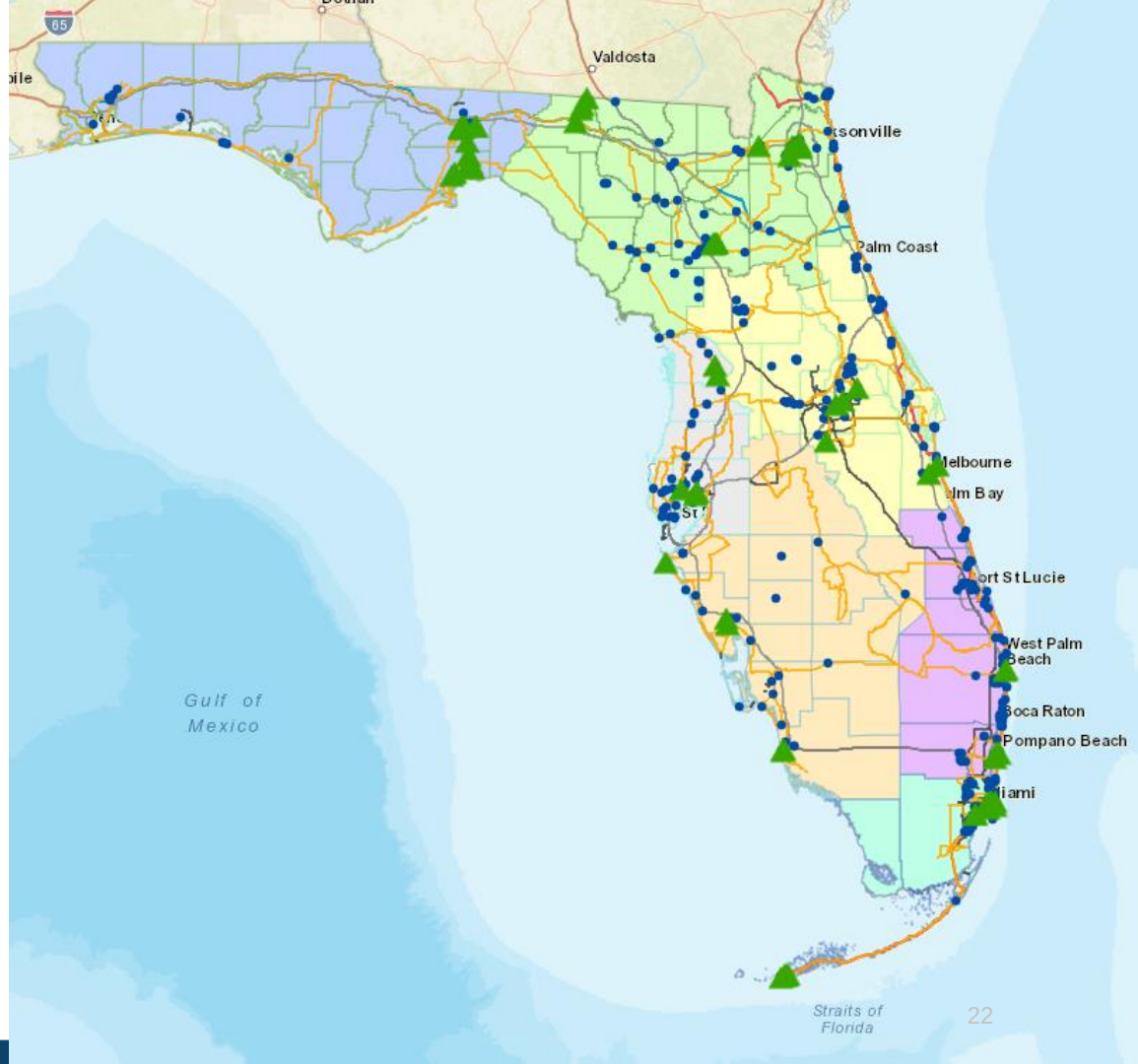
- Recommendations Report submitted in December 2018
  - Outlines direction of Program
    - 4 Pillars
  - Review of survey results
  - Review of statewide on-site visits



Evaluation Forms

Survey Map

https://fdot.maps.arcgis.com/apps/webappviewer/index.html?id=df6696c128514bb6b0c6710758fd050b



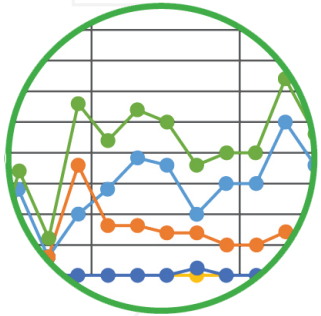
FDOT Non-Motorized Traffic Monitoring Program

1. CONTINUOUS COUNT PROGRAM

FDOT's goal is to install 1-2 continuous count stations per district, per year. The data will be published and shared on Florida Traffic Online

2. SHORT-TERM COUNT LOANER PROGRAM

FDOT is providing partnering agencies with short-term count equipment and installation training. In return, FDOT will receive localized non-motorized count data.



3. STATEWIDE REPOSITORY

FDOT is accepting non-motorized data from agencies statewide. TDA will evaluate the data, identify trends, and submit the data to FHWA's brand new national non-motorized database.

4. STATEWIDE OUTREACH & PARTNERSHIPS

FDOT will actively share progress of the program through published reports, manuals, hosting periodic webinars, and one statewide meeting a year.

Statewide Data Repository

January 2019 - Present

Data Sharing

CITY OF FORT LAUDERDALE

- FDOT obtained data
  - FDOT TDA Non-Motorized Pilot Study
  - District 5 Non-Motorized Data Collection Study

Webinar #1

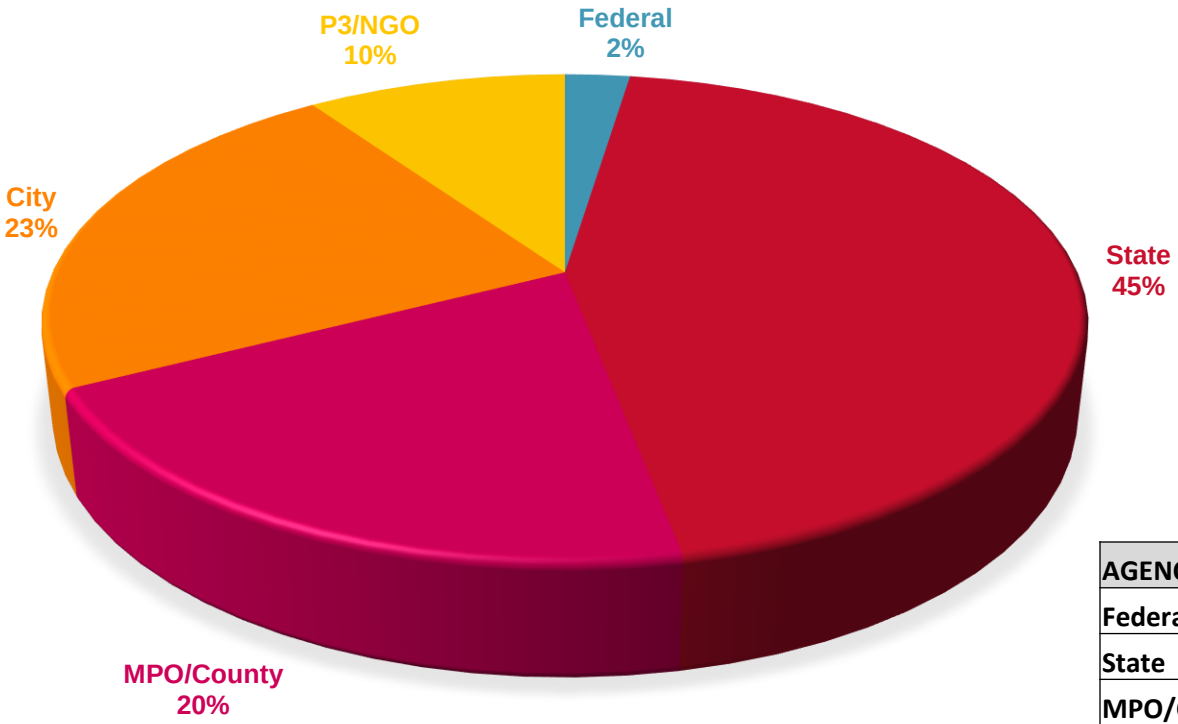
February 2019

Webinar Results

- Webinar #1
  - Follow-up with survey respondents
  - Update group about program
  - Formal invite to join Florida Non-Motorized Traffic Data Committee
  - Answer questions/gain feedback

- *Webinar Link below…*
- https://register.gotowebinar.com/recording/2101469483328667916

State of Florida Non-Motorized Data Collaboration



AGENCY TYPE	# of AGENCIES
Federal	2
State	37
MPO/County	17
City	19
P3/NGO	8

Short-Term Count Loaner Program

March/April 2019 - Present

City of Tallahassee/Leon County Partnership

- Devices will be placed in proposed locations for 2-week periods
- Device can be moved to other locations
- Program will start with local Tallahassee agencies
  - City of Tallahassee
  - Leon County

Site Visits

Signed Memorandum of Agreement

FDOT Non-Motorized Traffic Counting Hardware

Memorandum of Agreement

This Memorandum of Agreement, hereinafter referred to as the "Agreement" is made and entered into on the last date executed below, by and between the Florida Department of Transportation, an agency of the State of Florida, hereinafter referred to as the "Department", and the City of Tallahassee hereinafter referred to as the "COT".

WITNESSETH:

WHEREAS, the Department seeks to establish a statewide Non-Motorized Traffic Monitoring Program: and,

WHEREAS, the COT has agreed to participate in data collection needs and to assume certain responsibilities in the matter and to the extent as hereinafter set out; and,

NOW, THEREFORE, the parties hereto shall approve this Agreement within sixty (60) days of receipt of this Agreement. In the event the COT fails to approve said Agreement within sixty (60) days of receipt, the COT forfeits its access to the equipment and training offered by the Department as hereinafter stated.

This Agreement states the promises and undertakings of each party as herein provided, and the parties do hereby covenant and agree, each with the other, as follows:

1. GENERAL PROVISIONS

The Department and COT shall be responsible for administering all work performed and that all terms set forth in this Agreement are met and adhered to by the Department and COT and/or its agents. The Department and the COT may select any agent with which it has established agreements or contracts equal to the terms of the Agreement. Such agents may include a local government member of the COT or a contractor qualified and approved by the Department to perform the work described in this Agreement.

The Department and/or its agents will provide technical oversight to guide the COT and/or its agent. The COT and/or its agent must provide a primary contact for the program to the Department upon approving this Agreement.

The COT and the Department and/or its agent shall complete installation activities of the first non-motorized counter together as a form of training to the COT and its agent. The remaining counters will be installed by the COT and/or its agent, with support from the Department as needed.

Failure on the part of the COT to comply with any of the provisions of this Agreement will be grounds for the Department to terminate its participation, take the counter equipment back from the COT and if applicable, seek repayment for any damages done to the equipment beyond standard wear and tear.

Any administrative modifications to this Agreement or its terms will be agreed upon in writing by the Department and COT prior to being implemented. The Department may delegate the approval of these administrative modifications to the Manager of the Department's Transportation Data Analytics (TDA) Office.

2. SCOPE OF PROJECT

The COT and/or its agent is responsible for providing installation approval and access to the proposed short-term count locations. The COT, at their sole expense, shall install, monitor and inspect the equipment. All station locations must be identified and selected in accordance with the Department's Non-Motorized Traffic Monitoring Program. The COT will submit candidate sites to the Department for approval prior to the installation of any counter equipment. Both parties will provide access to data collected through the provided equipment. At the conclusion of the project, the COT will return the bicycle counter equipment, and other related hardware, to the Department.

The Department, at its sole expense, will provide the COT and/or its agents with the bicycle counter equipment and other hardware which adhere to the following specifications:

- Capture bicycles using bicycle only road tubes
- Measure the direction of travel of cyclists
- Transmit data wirelessly or are required to have data downloaded and sent to the Department
- Do not have any speed restrictions on capturing data
- Record count data at 1-hour intervals for a minimum of 2 weeks per location
- May be removed using readily available tools and street maintenance equipment
- Include necessary supporting installation equipment such as any enclosure box, screws, cables, nails, road tape etc.
- Include an enclosed secure box or structure with key entry or another unlocking device included
- Include any necessary cords to connect a field computer or other mobile device to the count device
- Include a minimum 1-year manufacturer's and/or seller's warranty for all equipment and software
- Include a manual describing installation procedures, specifications, and maintenance instructions
- Counters are contained by a waterproof design
- Counters have a battery life of 2 years minimum
- Counters have data compatibility with Microsoft Office Excel (v2010 or later)

3. CONTRACT TERM; TERMINATION

The useful life of this equipment can be up to ten (10) years. Any agreements entered into shall be for a period of five (5) years. Either party may terminate this agreement at any time with a 30-day written notice of intent to terminate.

4. ENCROACHMENT AGREEMENT

If any part of the equipment is to be located on State Highway System right of way or property, the COT shall secure an Encroachment Agreement with the Department prior to performing any work or improvement on that right of way or property.

5. RIGHT TO INSPECT

The Department and/or its agent shall have the right to inspect, test, approve or reject, any portion of the work being performed by the COT or its agent(s) to ensure compliance with the provisions of this Agreement. Any deficiencies inconsistent with the Department's data collection protocols or Non-Motorized Travel Monitoring Handbook and specifications found during an inspection must be corrected by COT.

6. CONTRACTOR COMPLIANCE

The COT will be responsible for ensuring that its agent(s) and contractor(s) comply with all terms of the contract and any instructions issued by the Department as a result of any review or inspection made by said representatives.

AGENCY ROLES AND RESPONSIBILITIES

This section explains the general guidelines for agency roles and responsibilities related to short-term counting equipment installation for the Florida statewide Non-Motorized Traffic Data Collection Program. It clarifies roles and responsibilities between the Department and partner agencies and/or its contractors.

The Department, in coordination with statewide data partners, will select the installation site based on interference testing, feasibility, and the factor groups(s) it is expected to represent.

Data Partner (COT) Responsibility

1. Locate Utilities, if necessary, for equipment installation
2. Set up and manage traffic control, if necessary, for equipment installation
3. Clean up site
4. Approve equipment installation locations
5. Meet Department staff on site during installation
6. Install, inspect, and monitor equipment according to training
7. Retrieve and submit data to Department in accordance with training

Department Responsibility

1. Conduct equipment test prior to field deployment
2. Deliver counter equipment to be installed to Data Partner
3. Test for environmental interference with equipment
4. Determine final counter placement
5. Provide installation training to data partner and/or its agent
6. Conduct diagnostics/compile logger information after installation
7. Counter battery upkeep

Data Partner Responsibilities for both parties during installation of first counter device

1. Bring installation equipment, such as: hammer, tape measure, rake, broom, road tape, cones, safety vests, etc.
2. Provide bicycle for testing
3. Provide laptop for finalizing and testing equipment

IN WITNESS WHEREOF, each of the undersigned Parties has caused its duly authorized representative to execute this Memorandum of Agreement.

CITY OF TALLAHASSEE

SIGNED BY: _____

TITLE: Planning Director

DATE: 2/13/19

ATTEST TO:

By: _____
James O. Cooke, IV
City Treasurer-Clerk

Approved as to form:

By: _____
Kristen Coons McRae
Asst. City Attorney

DEPARTMENT OF TRANSPORTATION

SIGNED BY: _____

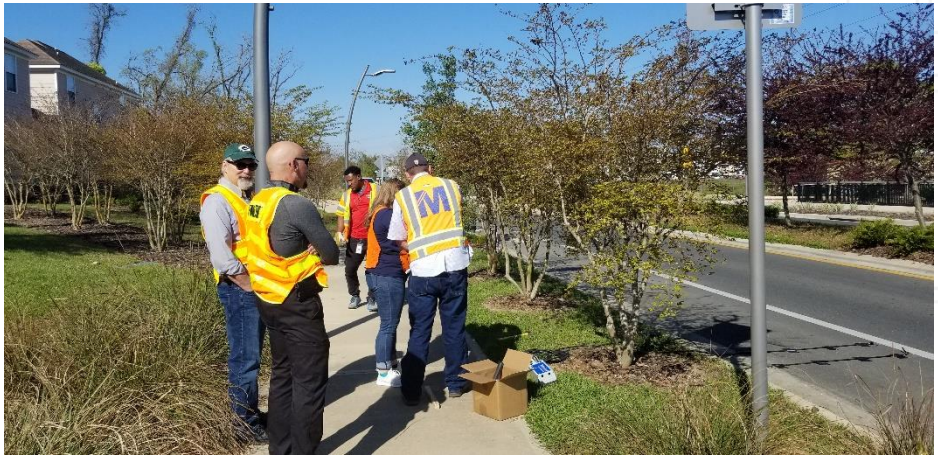
DATE: 2/27/19

APPROVED BY THE DEPARTMENT OF TRANSPORTATION TDA OFFICE MANAGER : _____ (Date)

2/27/19

Cascades Trail – Shared Path

Cascades Trail Bike lane and Sidewalk



Lafayette Greenway Bridge

Franklin Blvd Shared Use Path

Lake Bradford Road @ Hutchinson Street

St. Marks Trail Extension

Continuous Count Program

May 2018 - Present

St. Marks Trail – One Year Continuous Counter

https://www.fdot.gov/statistics/datalytics.shtm

Other Partnerships

On-going

Baptist Health

The Miami Foundation
For A Greater Miami

Miami Downtown Development Authority

SUN Trail Statewide Study

- Systems Planning Office
  - SUN Trail Statewide Data Collection Study
  - Provided assistance with non-motorized volume counts on 4 locations along Good Neighbor Trail in District 7

FHWA STIC Grant

STIC
State Transportation Innovation Councils

State-Based Innovation Deployment -
The STIC Network is about establishing a group of representatives from various levels of the highway community in each State to comprehensively and strategically consider all sources of innovation.

Outreach Events

On-going

Year-1 Outreach 2018-2019

- Institute of Transportation Engineers – Florida Chapter Annual Meeting (2018)
- Transportation Research Board (2018)
- Baptist Health South Florida – Leadership Development Institute (2019)
- FDOT Statewide Bicycle and Pedestrian monthly conference calls (On-going)
- FDOT Statewide SUN Trail monthly conference calls (On-going)
- FDOT Statewide Bicycle and Pedestrian Partnership Quarterly meetings (On-going)
- FDOT Statewide Bicycle and Pedestrian Quarterly Safety Coalition Meetings (On-going)
- FDOT Transportation Symposium (2019)

Quick Review

Program Structure and Current Resources

FDOT Non-Motorized Traffic Monitoring Program

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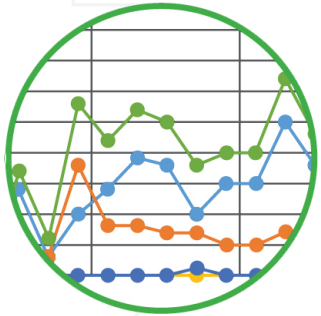

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4. STATEWIDE OUTREACH & PARTNERSHIPS

FDOT will actively share progress of the program through published reports, manuals, hosting periodic webinars, and one statewide meeting a year.

Available Resources

- Traffic Monitoring Handbook - https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/statistics/docs/traffic-monitoring-handbook.pdf?sfvrsn=e8a9f204_0
- Survey Link - https://www.surveymonkey.com/r/FDOTBikePedDataCollectionSurvey
- Survey Results Map - https://fdot.maps.arcgis.com/apps/webappviewer/index.html?id=df6696c128514bb6b0c6710758fd050b
- Short-Term Loaner Program - Eric.Katz@dot.state.fl.us
- Statewide Repository - Eric.Katz@dot.state.fl.us

Moving Forward

Year-2 Official Kick-off

Statewide Meeting #1

JUNE 18 - 20
2019

STATEWIDE NON-MOTORIZED TRAFFIC MONITORING PROGRAM

STATEWIDE MEETING #1

WHERE:
FDOT Central Office Auditorium
605 Suwannee Street
Tallahassee, FL 32308

Learn the latest developments regarding non-motorized data collection methodologies, technologies, best practices, and how your agency can partner with FDOT's Transportation Data and Analytics Office.

MEETING SCHEDULE

18 TUE

1:00 PM-2:00 PM	Welcome & Introductions
2:00 PM-2:45 PM	Statewide Non-Motorized Traffic Monitoring Program Year in Review
2:45 PM-4:15 PM	FDOT Statewide Non-Motorized Data Needs
4:15 PM-5:00 PM	Non-Motorized Data Application Examples

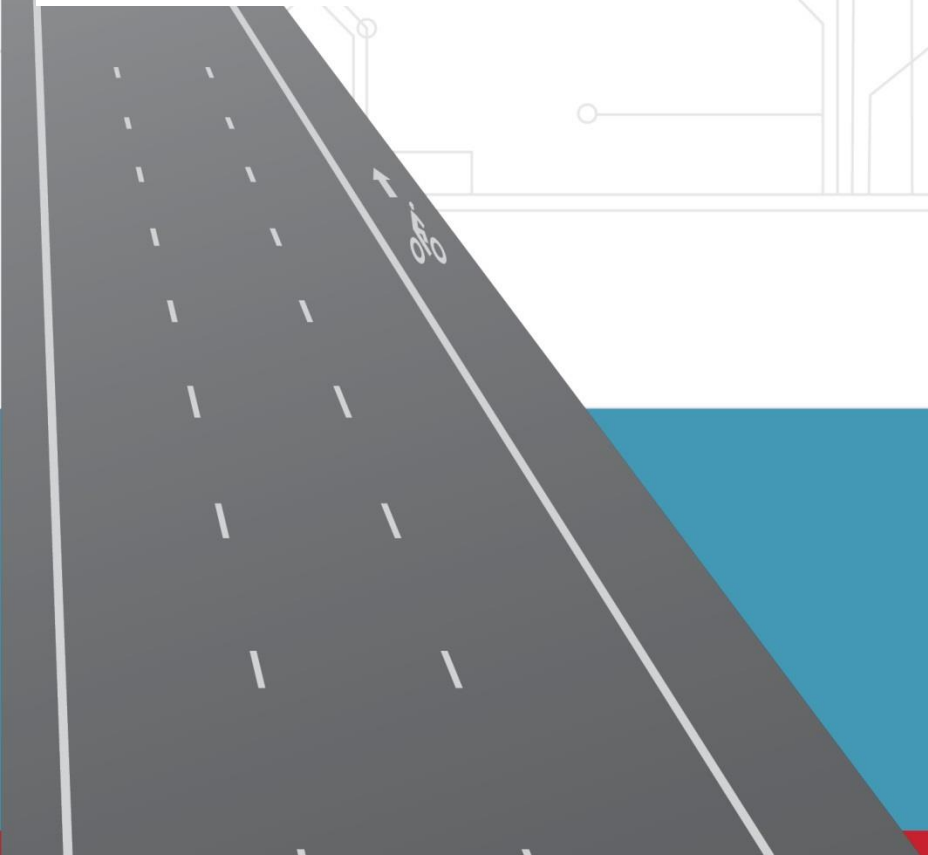
19 WED

9:00 AM-10:00 AM	Continuous Count Program Presentations & Discussion
10:00 AM-11:00 AM	Short Term Count Program Presentations & Discussion
11:00 AM-12:00 PM	Statewide Repository Presentations & Discussion
12:00 PM-1:00 PM	Lunch
1:00 PM-2:00 PM	Local & Regional Non-Motorized Data Collection Initiatives
2:00 PM-3:00 PM	Count Site Deployment Workshop
4:00 PM-5:00 PM	Data Collection Vendor Introductions

20 THU 9:00 AM - 12:00 PM — **Non-Motorized Technology Mini-Expo**
Mini-Expo will be held at FDOT Non-Motorized Test-Site located on Capital Circle Southeast

** Schedule subject to change*

RSVP Deadline: June 3rd, 2019 | Email Eric.Katz@dot.state.fl.us to reserve your space



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Transportation Data and Analytics
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CO - Transportation Monitoring Program Manager
Office: (850) 414-4738
steven.bentz@dot.state.fl.us

Joey Gordon, FCCM
CO-Transportation Data Analysis Supervisor
Office: (850) 414-4005
Joey.Gordon@dot.state.fl.us

Eric R. Katz, AICP
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