TSM&O CONSORTIUM MEETING SUMMARY

Meeting Date:	September 22, 2016 (Thursday)	**Time**: 10:00 AM – 12:00 PM
Subject:	TSM&O Consortium Meeting	
Meeting Location:	FDOT's Orlando Office 133 S. Semoran Blvd., Orlando, FL Lake Apopka B Conference Room	

I. OVERVIEW:

The purpose of this recurring meeting summary is to provide an opportunity for District 5 FDOT staff and regional agency partners to collaborate on the state of the TSM&O Program in District 5 and ongoing efforts.

The meeting was commenced with a brief introduction from David Cooke, FDOT D5 Planning Manager.

II. BIG DATA DISCUSSIONS

Clay Packard, Atkins, presented slides on the following topics relating to big data efforts within District Five:

- Big Data in TSM&O
  - Big Data can provide solutions toward TSM&O goals, synergizing various input data streams and providing real-time information to TSM&O operations as well as valuable analytics to users
  - Clay presented on lessons learned, and explained that the team needs data from agencies represented at the Consortium
  - The team will continue to share their experiences with Big Data
  - See attached presentation for more information
  - Big Data components: "Building the vision, one block at a time"
    - Big Data Analytics – University of Florida
    - Planning Dashboard – VHB
    - ITSIQA Data Cleansing – AECOM
    - Future: Connected Vehicle, Intersection Movement Counts, Signal Performance Measures

Jeremy Dilmore provided additional insights into the District's Big Data pursuits, and led a discussion with Consortium participants.

- Why does Big Data matter?
  - How do you get standalone data from a closed traffic signal network out to a planning platform (a "common backend")?
  - Getting different datasets to "talk" to one another is difficult, but necessary
  - May end up with several datasets that explain the same element (i.e. volumes at a traffic light)
    - These datasets require a lot of cleaning

        - Big Data allows for transitioning data from the "sandbox" to the production environment
            - Will also allow users to determine the project datasets that are most valuable
    - Jeremy was asked why public agencies are the "guinea pigs" for determining best-value datasets/processes. Why not let a university study the best options?
        - District Five has determined that university research tends to oversimplify data, making the research not applicable for real-world situations
        - Jeremy further explained that if the agencies that require the Big Data are not involved in the entire process, the data may be misunderstood by third-party support; there may be a disconnect with regard to technical language, situational understanding, informational needs, etc.
    - Jeremy was asked about the emergence of automated and connected vehicle technology, and the assumption that agencies will receive data from these vehicles
        - Connected vehicles have to broadcast their data in order to actively communicate with one another
            - If we implement receivers along the transportation network, we should be able to collect that data
            - This will produce an estimated 2 terabytes (1,024 gigabytes) of data per day
                - District Five is investing in IT infrastructure (servers) to support collecting and storing this data
                - The petabyte (1,024 terabytes) will eventually be the standard by which Big Data initiatives operate
        - We need to understand how and why we use this data
            - The TSM&O Implementation Plan will consider this
            - With regard to the Implementation Plan, stakeholder agencies need to provide feedback so that FDOT can ensure the data (output) will support agency planning efforts
    - Jeremy indicated that District Five sees MPOs / TPOs as the operators for much of the Big Data system
        - This does NOT mean "hosting" the data
            - FDOT will still be the IT source
        - The University of Florida is good at asking questions, but they need direction from the data users
            - MPOs / TPOs will need to interact with UF and lead the discussion
                - These agencies will have the most questions; in this respect, they need to use and "operate" the system
    - Jeremy explained that Big Data is not a decision-maker
        - It is meant to provide facts and information to the decision-makers
    - Jeremy was asked about the concept of "stacks" in Big Data?
    - By "stacking" datasets in a single data repository, an agency can send a single request to collect multiple datasets from the centralized location, rather than sending a request for

each dataset to various locations. The stack offers a more streamlined process than having individual datasets set apart from one another.

- In concluding the discussion on Big Data, Jeremy asked three questions for Consortium participants to consider moving forward:
  - What outcome delivers value to your agency?
  - What information does your agency want to know?
  - What are the use cases for Big Data?

III. ITS TRAINING SERIES

Jeremy presented an update on the ITS Training Series provided by FDOT. The following are some items he noted during the discussion:

- If you are not receiving training notices through "Eventbrite," e-mail Jeremy and he will include you in the mailing list
- Though the training sessions are generally open to any interested agency partner, please register if possible, so that Jeremy can reserve the appropriate room
- Let Jeremy know what kind of training you need, so that FDOT can schedule those trainings
  - Currently, training sessions are scheduled through June 2017, but the District intends to offer the training series beyond this time
- For training sessions that have already been scheduled, if there is a specific item within that topic that you would like the presenters to discuss, let Jeremy know
- For more information regarding the ITS Training Series and other components of ITS in District Five, visit www.CFLSmartRoads.com

IV. KDOT VISIT

Jeremy provided details relating to the Peer to Peer Exchange with KDOT that was held August 22 through August 24, 2016. He noted there is a contrast between KDOT and FDOT with regard to congestion along the transportation network, as well as in budget. For a full list of participants as well as topics covered during the exchange, please see the attached presentation.

V. CURRENT INITIATIVE UPDATES

Jeremy discussed current ITS migration efforts for the District. FDOT has enterprise-level access; would like to make that access available to agencies for use at their discretion. In addition, with the firewall move on October 24th, Jeremy noted that any agencies experiencing issues around this time should notify him. In those instances, it may be an issue with the firewall transition.

- iVDS – October 3, 2016
- BlueMAC – October 3, 2016
- CMS – October 17, 2016
- SolarWinds – October 17, 2016
- Firewall – October 24, 2016
- Domain Modifications – November 1, 2016
- MIMS – Not Set
- Sunguide 6.2 – March 10, 2016

- Jeremy was asked if iVDS was just for first responders
    - First responders are the 1st priority, but FDOT understands transit agencies are also interested in the data

Jeremy briefly discussed District Five grant pursuits.

- FAST Act Grant
    - FDOT expected to hear the results by now, but this has not yet happened
        - Jeremy has heard that the decision should be in by the end of September
- LYNX MOD
    - This grant would help LYNX better manager their paratransit service
        - It would study the transportation of dialysis patients using the paratransit service
- City of Orlando ATTRI Applications
    - Jeremy provided a brief explanation of the ATTRI applications

VI. ATTACHMENTS

A – Sign in sheets
B – Presentation Slides
C – Meeting agenda

END OF SUMMARY

This summary was prepared by David Williams and Melissa Gross, and is provided as a summary (not verbatim) for use by the Consortium Members. The comments do not reflect FDOT's concurrence. Please review and send comments, via e-mail:dwilliams@vhb.com so they can be finalized for the files.

TSM&O Consortium Meeting
September 22, 2016

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TSM&O Consortium Meeting
September 22, 2016

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TSM&O Consortium Meeting
September 22, 2016

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TSM&O Consortium Meeting
September 22, 2016

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TSM&O Consortium Meeting

September 22, 2016; 10:00 AM – 12:00 PM

FDOT District 5 Urban Office

133 S. Semoran Blvd.

Orlando, FL

Lake Apopka B Conference Room

Agenda

- WELCOME
  - David Cooke, FDOT D5 Planning Manager
- SYSTEMS AND TECHNOLOGY – EXISTING DISTRICT EFFORTS
  - Melissa Gross, VHB
- BIG DATA DISCUSSIONS
  - Clay Packard, Atkins
- TRAINGING PROGRAM OVERVIEW
  - Jeremy Dilmore, D5 ITS
- KDOT PEER EXCHANGE RECAP
  - Jeremy Dilmore, D5 ITS
- CURRENT INITIATIVE UPDATES
    - Grant Selection Updates (FAST Act Grant, LYNX MOD, and City of Orlando ATTRI Applications)
    - Data Project Updates
    - ITS Project Status Updates
    - Dashboard Development (AAM and Planning)
  - Jeremy Dilmore, D5 ITS

Welcome

David Cooke, FDOT D5 Planning Manager

Systems and Technology

Melissa Gross, VHB

Big Data Overview

Clay Packard, Atkins

Big Data Purpose in TSM&O

- TSM&O Goals:
  - To operate the arterial and freeway system more effectively, efficiently, and autonomously
  - To reduce transportation systems O&M cost
  - To identify and predict transportation issues earlier for prevention and resolution
- Big Data Solutions:
  - To synergize various input data streams and sources
  - To provide real-time information to TSM&O Operations
  - To provide TSM&O information **and valuable analytics** to users

TSM&O Data Sharing Concept

- Get Data
- Use Data
- Share Data
- Rinse, Repeat

TSM&O Data Sharing Architecture

TSM&O Big Data Components

- Building the vision,
  one block at a time
  - Feet wet
  - Maintain and improve Operations
  - Funding availability
  - Divide and Conquer

TSM&O Big Data Components

TSM&O Big Data Components

- Building the vision, one block at a time
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- Blocks
  - Big Data Analytics – Univ. of Florida
  - Planning Dashboard – VHB
  - ITSIQA Data Cleansing – AECOM
  - Future:
    - Connected Vehicle
    - Intersection Movement Counts
    - Signal Performance Measures

Lessons Learned

- It's a new language, for unstructured data
  - Pig, Hive and Jaql, etc. etc. etc.
- There are many companies in this space
- There is specialized/proprietary products
  - Companies try to find ways to provide a market advantage
- There are many components in this space
- It isn't free
  - Software can be free but support is not
- A lot of the research doesn't tie well to implementation
- ITSIQA summary vs equations we will be using

- PIG Example:

```
A = LOAD 'student'
USING PigStorage()
AS (name:chararray,
age:int, gpa:float);

X = FOREACH A
GENERATE name,$2;

DUMP X;

(John,4.0F)

(Mary,3.8F)

(Bill,3.9F)

(Joe,3.8F)
```

- Jaql Example:

```
introMessage = fn(input,
id) ( input -> filter
$.from == id ->
transform { mandatory:
$.msg } );
```

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Apache Zookeeper

Apache Pig

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TSM&O Big Data Takeaways – Where Are We?

- This seems like early days of ITS
  - Integrating new technology into ITS and now TSM&O space
  - New technology, lots of energy, new participants
- There is potential
- We are looking for the right stack of systems
- We are going to make mistakes
- Another aspect of applying technology

TSM&O Big Data Takeaways – How Will This Help Us?

- Proliferation of information
- Relevant questions that need to be answered
- Consensus building through data not opinion
- Create valuable services/assets for more users
- Enhance overall TSM&O operations
  - Analyze/strategize investments to be effective and efficient
  - Automate operations

TSM&O Big Data Next Steps

- We going to keep exploring
- We will share with you the outcome of stack selection
- We will share our experiences with the stack
- We will search for a sustainable model for implementation
- We need your data
- We need systems to be built with interfaces
- We see MPO and TPO being the operators for much of this system

Training Program

Jeremy Dilmore, D5 ITS

ITS Training Series

Date	Day of the Week	Training Course	Presented By
September 8th	Thursday	Maintenance Inventory and Management System (MIMS)	IBI Group (Neena/James)
September 21st	Wednesday	Intermediate Network	Brocade (Larry Matthews)
October 6th	Thursday	ITS FM	Kapsch (Tim Sapp)
November 10th	Thursday	Fiber Optic Cable	Corning (Carol Cannon)
December 8th	Thursday	Network Advanced	Brocade (Larry Matthews)
January 24th	Tuesday		
February 23rd	Thursday	Sunguide	FDOT Consultant (John Hope)
March 23rd	Thursday	Microwave Vehicle Detection System	Wavetronix
April 13th	Thursday	CCTV Camera	ITS Express (Mark Schulting)
May 11th	Thursday	DMS 101 (Dynamic Message Signs)	Daktronics (Leann Holler)
June 8th	Thursday	Sunguide Update	FDOT Consultant (John Hope)

Kansas Visit

Jeremy Dilmore

What, When, Where, and Why

- Peer to Peer exchange as result L06 effort
- Identified Collaboration as needed area of improvement
- August 22-24
- Requested understanding program status and collaboration examples
- Hosted at TMC

Visitors

- Chris Upchurch – WAMPO, Senior Planner
- Tom Hein – KDOT, Public Affairs Manager, Wichita Metro
- Dan Squires – City of Derby, City Engineer
- Slade Engstrom – TranSystems, Consultant Staff
- Chad Banka – TranSystems, Consultant Staff
- Glen Scott – Kansas Turnpike Authority, Design/Construction Engineer
- Paul Gunzelman – City of Wichita, Assistant City Engineer
- Mike Floberg – KDOT, Chief, Bureau of Transportation Safety & Technology
- Benny Tarverdi – KDOT, District 5 Engineer
- Davis LaRoche, FHWA, KS Division

Kansas Visit

- Transportation Needs
  - No significant congestion
  - Non-reoccurring/incident management only area of need
- Budget
  - $1.5M annually for state
- Centrally managed
- Struggling to get elected official support

Agenda

- Introduction
- AAM Operations Implementation
- New RTMC Plans
- Anticipated RTMC Operation Shift
- Achieving Buy-In
- ITS to TSM&O
- MetroPlan Orlando Long Range Plan/Florida's Strategic Plan
- Service Patrol Partnership
- RTMC Tour
- Express Lanes
- Integrated Corridor Management
- Elected Official Leadership
- ITS Training Program
- Planning for TSMO
- District Master Plan Activities
- Smart Cities
- Signal Performance Data
- Connected Vehicle Pilot

Speakers

- Public Agency
  - Eric Hill
  - Charlie Wetzel
  - Ricky Gonzalez
  - Charles Ramdatt
  - Eric Gordin
  - Tushar Patel
  - Jim Stroz
  - Jeremy Dilmore
- Consultants
  - George Gilhooley
  - Dale Cody
  - Shannon Watterson
  - Melissa Gross
  - Clay Packard

Message

- Technical Agenda

- Have regular meetings
- Work towards common goals – defined plan
- Develop consistency from technical level
- Know who is good at messaging up to leadership
- Be willing to support each other needs

Peer to Peer Program

- $13K left for us in L06 budget
- Interest in
  - DART ➔ True multimodal ICM lessons learned
  - SANDAG ➔ Planning and Operation use of meso-model for planning purposes
  - LA County ➔ Data Management
  - UDOT ➔ SPM integration

Current Intiatives

Jeremy Dilmore

NOT ON AGENDA

- When can I get
  - MIMS
  - Sunguide
  - Solarwinds
  - CMS
  - Etc
- Hardware upgrades to be complete Friday
- New Security Person starts Oct 3

Migration Dates

- iDVS – Oct 3
- BlueMAC – Oct 3
- CMS – Oct 17
- SolarWinds – Oct 17
- Firewall Moves Oct 24
- Domain Modifications Nov 1
- MIMS – Not Set
- Sunguide 6.2 - March 10

Contract Status

- Local Funding for IT Staff
  - In legal review
- Marion/Ocala Connection
  - In legal review
- Brevard O&M
  - Funds Added to contract TWO moving forward

Grants

- FAST Act Grant
  - SunStore
  - PedSafe
  - Greenway
- LYNX MOD
- City of Orlando ATTRI Applications

Data Projects

- Planning Dashboard
- ITSIQA
- UF Big Data
- ICM

Planning Dashboard

- Objective: Start Data Store Development; make traffic data available for consultants/agencies
- Big Data back of house
  - Looked at stack of Programs (Elastic Search, Mongo DB, HDFS)
  - Within Hadoop looking at support (Cloudera, Hortonworks)
- Started stakeholder engagement
  - MPO (Metroplan and Spacecoast)
  - County (Seminole)
  - City (City of Orlando)

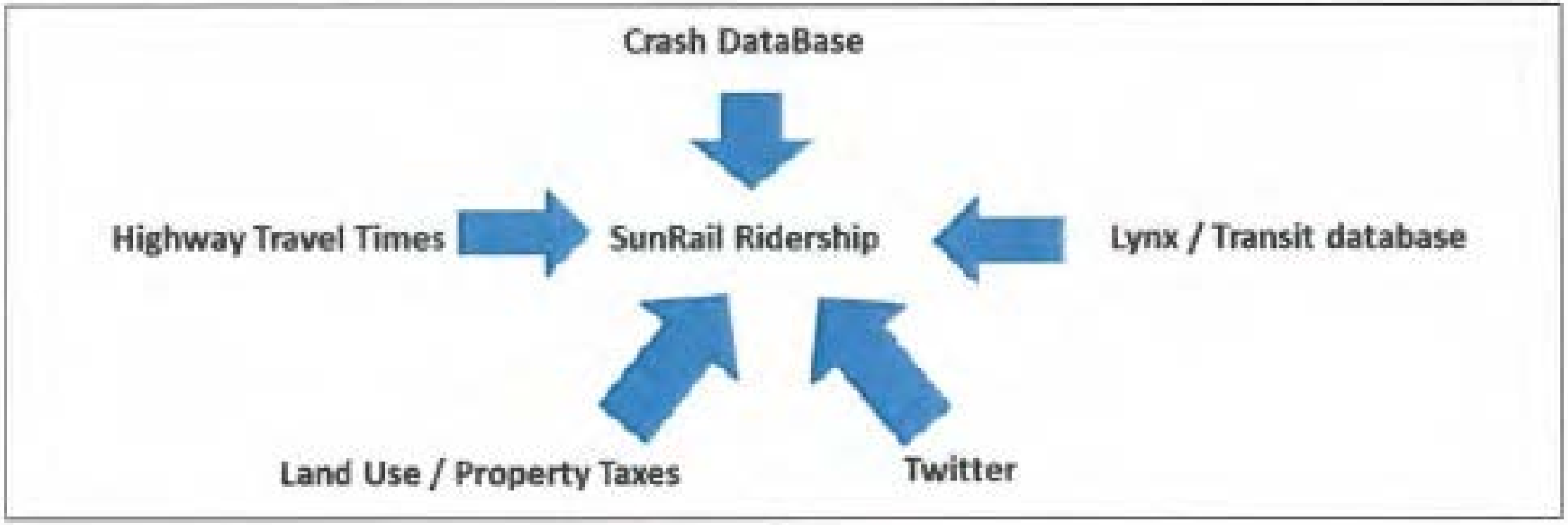
ITSIQA

- Objective: Develop a truth data set for travel time
- Outcomes:
  - Normalization
    - Spatial – Navtech base map?
    - Temporary – 1 minute base
  - Stream Quality Metrics
    - Develop 9 criteria for data cleaning for point source (MVDS, loops)
    - Relying upon data metrics built into probe data
  - Fusion
    - Criteria to be discussed next

UF Big Data

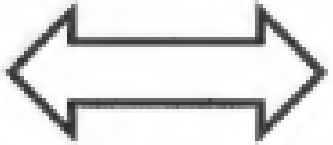
- Objective: Test the value and applicability of Business Intelligence; quantify operating costs
- Pedestrian/Bike - Result are In
- Sunrail effect on transportation patterns – under development
- Road Ranger Value - under development
- Opinion of transportation - starting up
- Project Quality – Not yet started

The public perception about Sunrail can be examined using Twitter data (will be undertaken as part of Use case 4)



Crash Data Base

Location
Roadway geometry
Date and time
Weather
Lighting
Pedestrian involvement
Injury Severity
Alcohol and Drugs
Work Zones
Contributing Factor / Harmful event
Narrative



Linkages Based on Space, Time, and Pedestrian Injured

Roadway Characteristics Inventory
Traffic Volume
Roadway geometry
Construction activity
lighting

SunGuide
Travel Times (congestion)

Signal
Signal Phasing

Transit Database
Transit Routes and Stops
Transit Ridership

Florida Department of Revenue
Parcel Level Land Use GIS files

EMS Records / Hospital Records
Response Time
True injury severity assessments
Medical expenses

STRAVA
Bike/ped usage?

Video Logs
Sidewalks

Twitter
User perceptions

- General Perceptions of the travelers about the central Florida transportation system (may be further classified into perceptions about safety, reliability, congestion, etc.)
- Perceptions about a specific roadway facility
- Perceptions about a specific transit facility
- Perceptions about Toll Roads
- Perceptions about Construction Zones

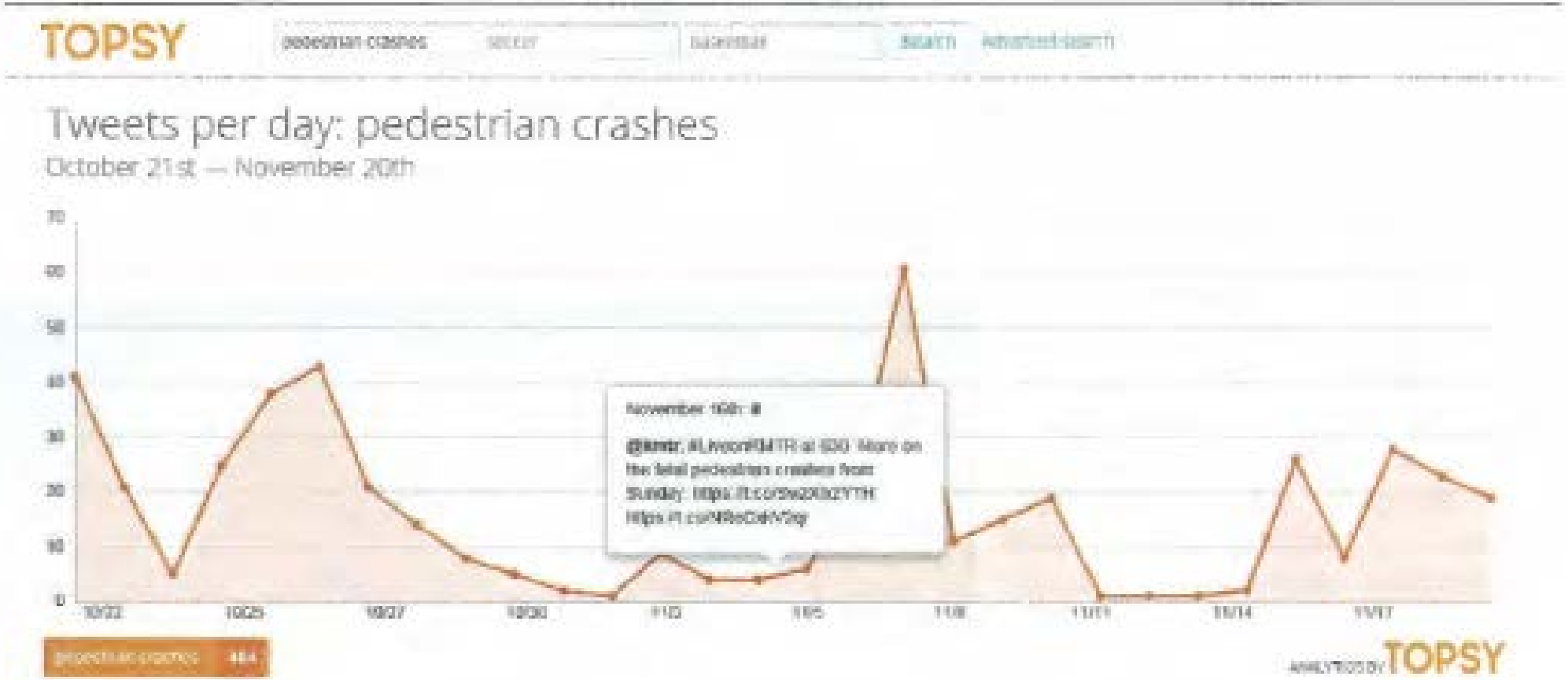
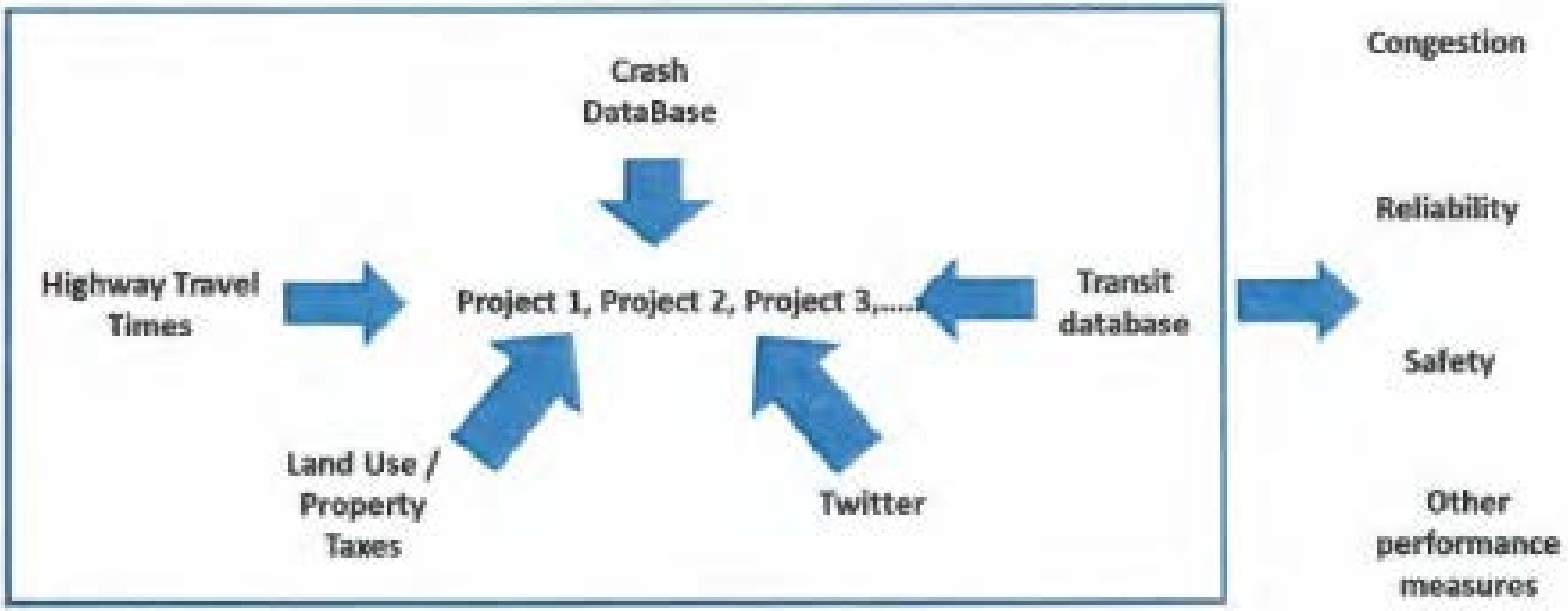


Figure: Snapshot from Topsy: Number of Tweets per day on "pedestrian crashes" (www.topsy.com)


Crash DataBase
Highway Travel Times
Project 1, Project 2, Project 3,....
Transit database
Land Use / Property Taxes
Twitter
Congestion
Reliability
Safety
Other performance measures

UF Big Data Continued

- Seeing convergence around Tableau
- Headed to Gainesville to look program stack
- Will be merged into the planning dashboard back end
- Showing promise as operational partner

ICM

Objective: Coordination of Freeway and Arterial Management

- ConOps complete
- Preliminary requirements complete
- Procurement Document to be developed
  - EIN
  - Tie to Data Store (a.k.a. SunStore)
  - Analytical Tools run on
    - SPM
    - IMC
    - Travel Time and Volume

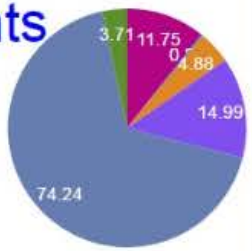
Dashboards

- Program
- Freeway
- AAM
  - Executive
  - Operator

Program

Road Ranger Assist

59614 events



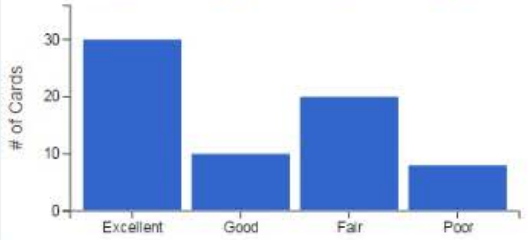
- 11.75 % - Abandoned Vehicle
- 0.28 % - Vehicle Fire
- 4.88 % - Debris on Roadway
- 14.99 % - Crash
- 74.24 % - Disabled Vehicle
- 3.71 % - Others

Period: Last 262 days Last Update: September 19th 2016, 2:36 pm

Road Rangers Assessment

92.5 cards

Excellent	Good	Fair	Poor
30	10	20	8

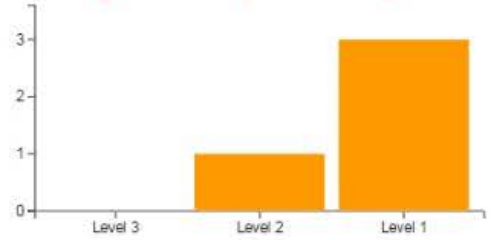


Period: Last 30 days Last Update: September 19th 2016, 3:05 pm

Number of Traffic Events

4 events

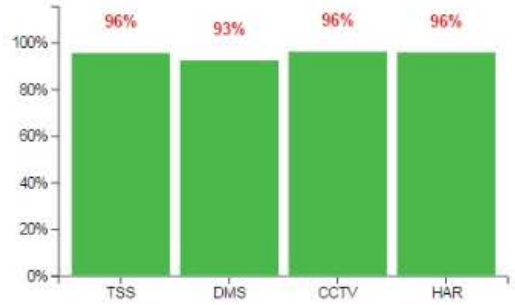
Level 3	Level 2	Level 1
0	1	3



Period: Active Events Last Update: September 19th 2016, 3:00 pm

Device Availability

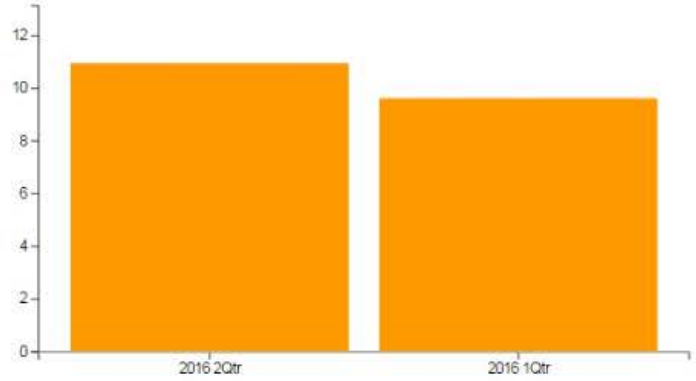
95.09 % - Average Uptime



Period: Last 30 days Last Update: September 19th 2016, 2:13 pm

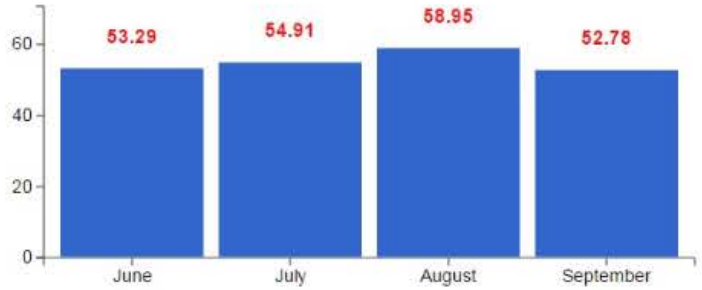
Benefit-Cost Ratio

2016 2Qtr	2016 1Qtr
10.95	9.63



Period: Quarterly Last Update: September 19th 2016, 2:57 pm

Incident Clerance Time Average (in minutes)



By Roadway

75	95	95 Express	595	US-27
49.5	47.16	58.33	0	0

Period: Last 2 days Last Update: September 19th 2016, 10:33 am

Maintenance and Inventory Management System Activity

Trouble Tickets	Broward ITS	Palm Beach ITS	N3C ITS
Generated Daily (# of tickets)	1	4	1
Completed Daily (# of tickets)	1	4	0
Average Response Time (min)	3280	1097	2715
Average Completion Time (min)	105	857	0

Period: Daily Last Update: September 19th 2016, 2:33 pm

Regional Travel Time Reliability

1.089	0.207	1.3
Travel Time Index	Buffer Index	Planning Time Index

Period: Last 30 days Last Update: September 19th 2016, 2:57 pm

For more information please visit

Freeway

Events

	Broward		
0	1	0	
Level 3	Level 2	Level 1	

	Palm Beach		
0	0	0	
Level 3	Level 2	Level 1	

	Treasure Coast		
0	0	0	
Level 3	Level 2	Level 1	

Last Update: September 19th 2016, 2:41 pm

Road Rangers Assists

59612 events

4.88 % - Debris on Roadway

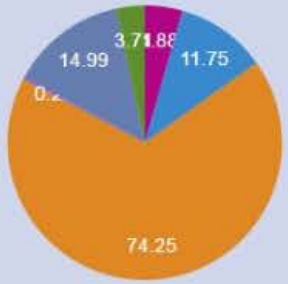
11.75 % - Abandoned Vehicle

74.25 % - Disabled Vehicle

0.28 % - Vehicle Fire

14.99 % - Crash

3.71 % - Others



Last Update: September 19th 2016, 2:06 pm

Failed Devices

22	4	0
Broward	Palm Beach	Treasure Coast

Period: Real Time Last Update: September 19th 2016, 2:41 pm

Generators

0	0	0
Broward	Palm Beach	Treasure Coast

Period: Real Time Last Update: September 19th 2016, 2:41 pm

Incident Duration YTD

Broward

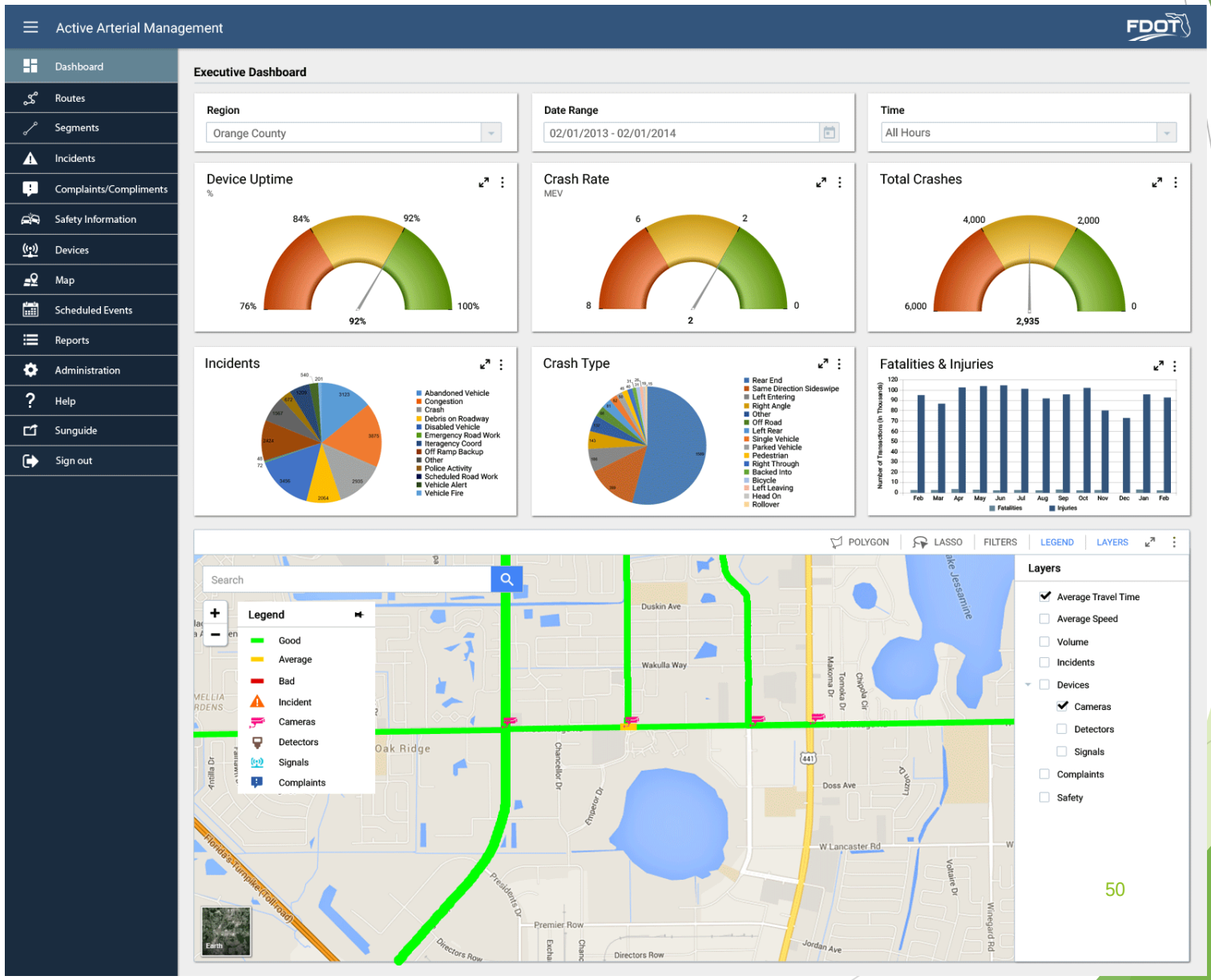
Palm Beach

Treasure Coast

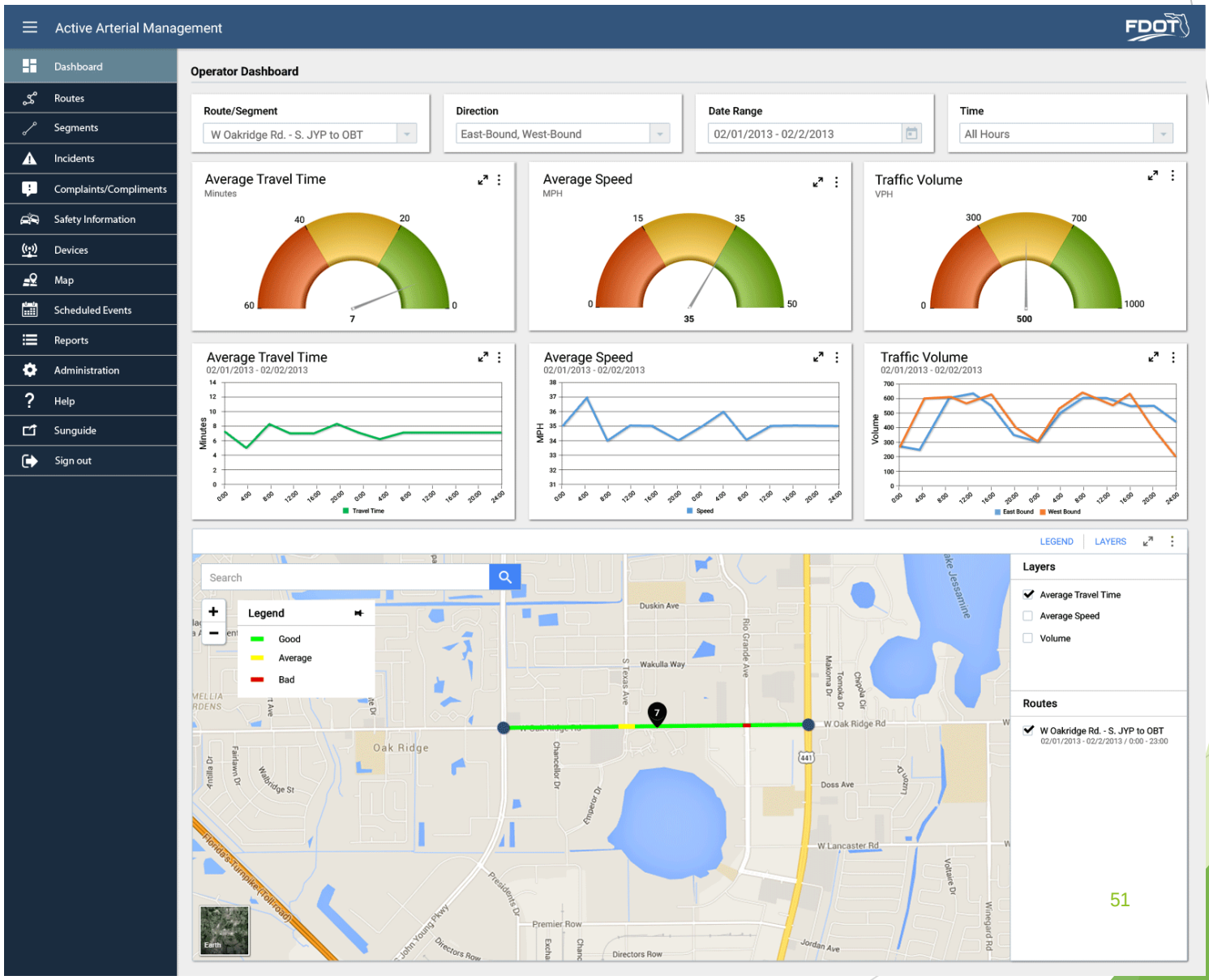
AAM

- Executive
  - Public Facing – used for elected officials, planning
- Operating
  - Used by Maintaining Staffing
- IEN
  - Part of ICM for operators
- Sunguide for Command and Control
- MIMS for Maintenance
- ITSFM for Inventory

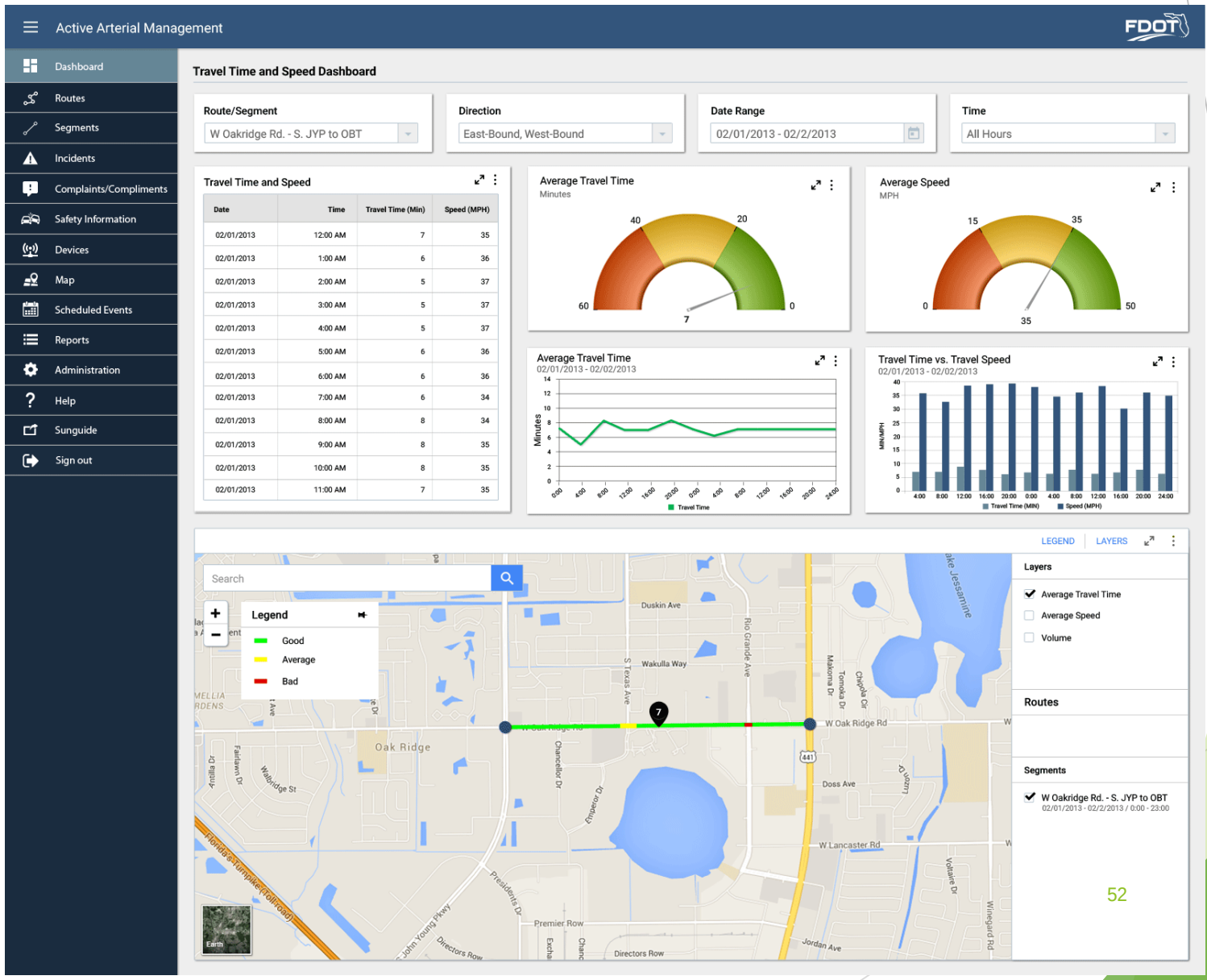
Public/Executive Dashboard



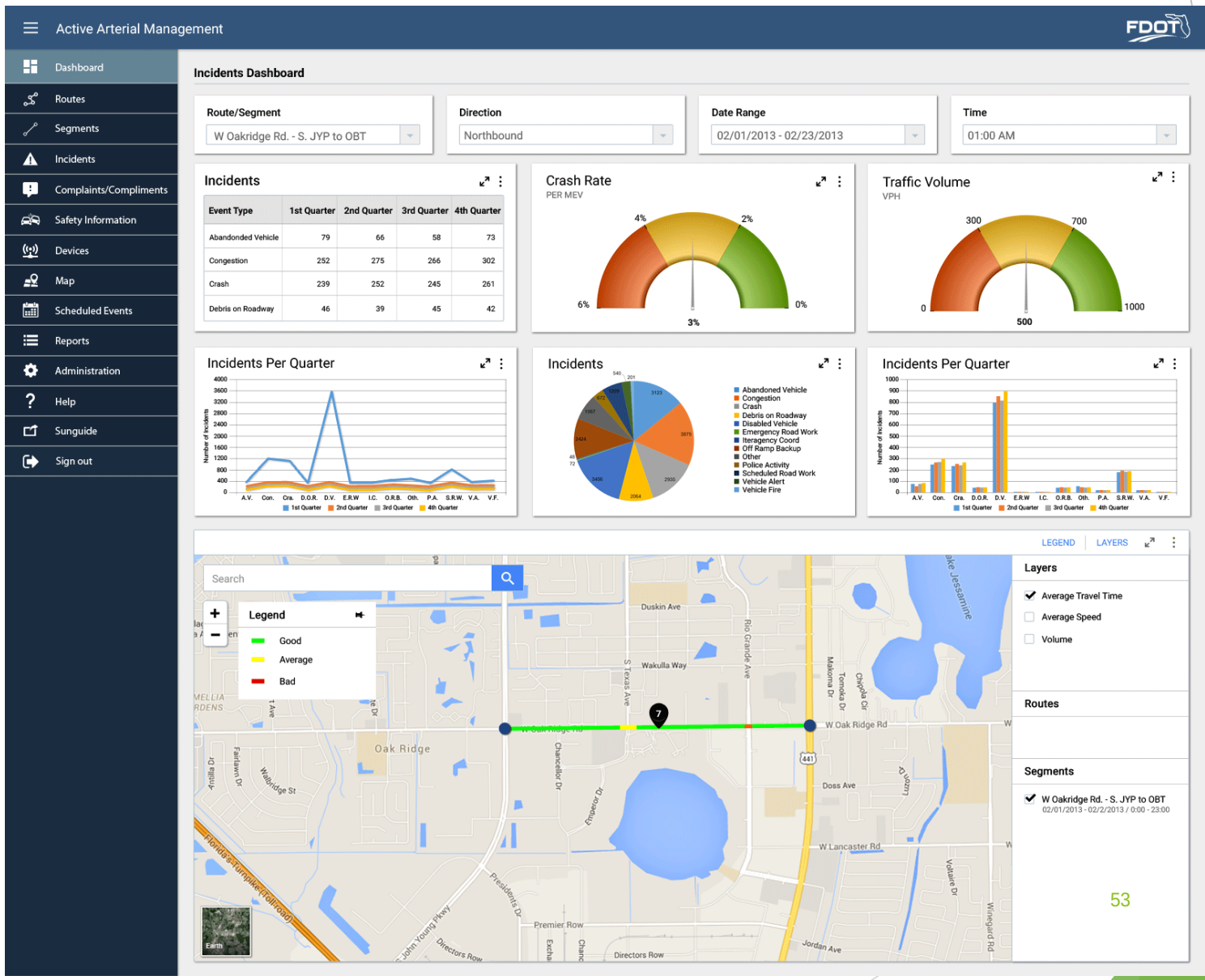
Operator/Manager Dashboard



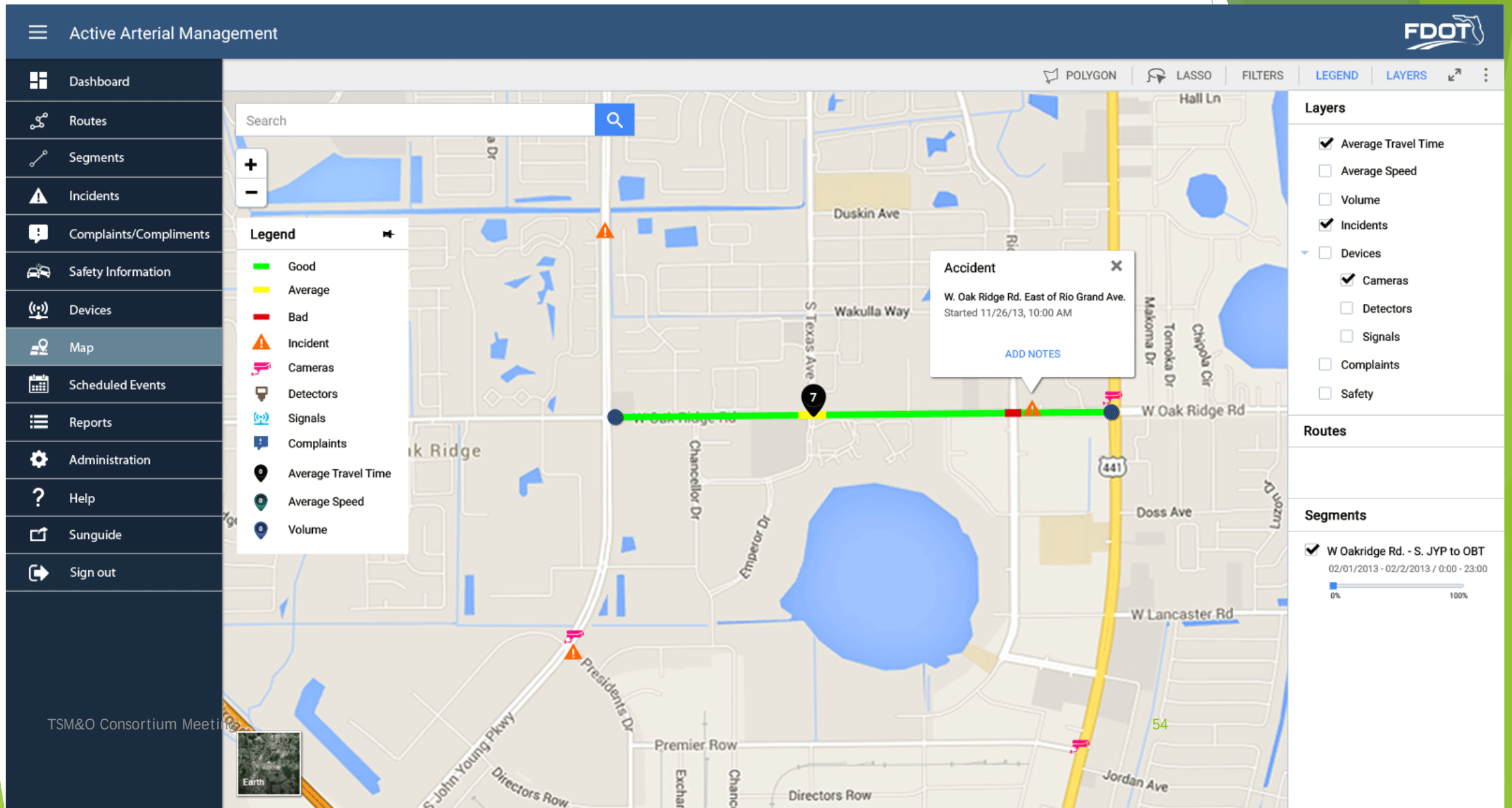
Travel Time and Speed Dashboard



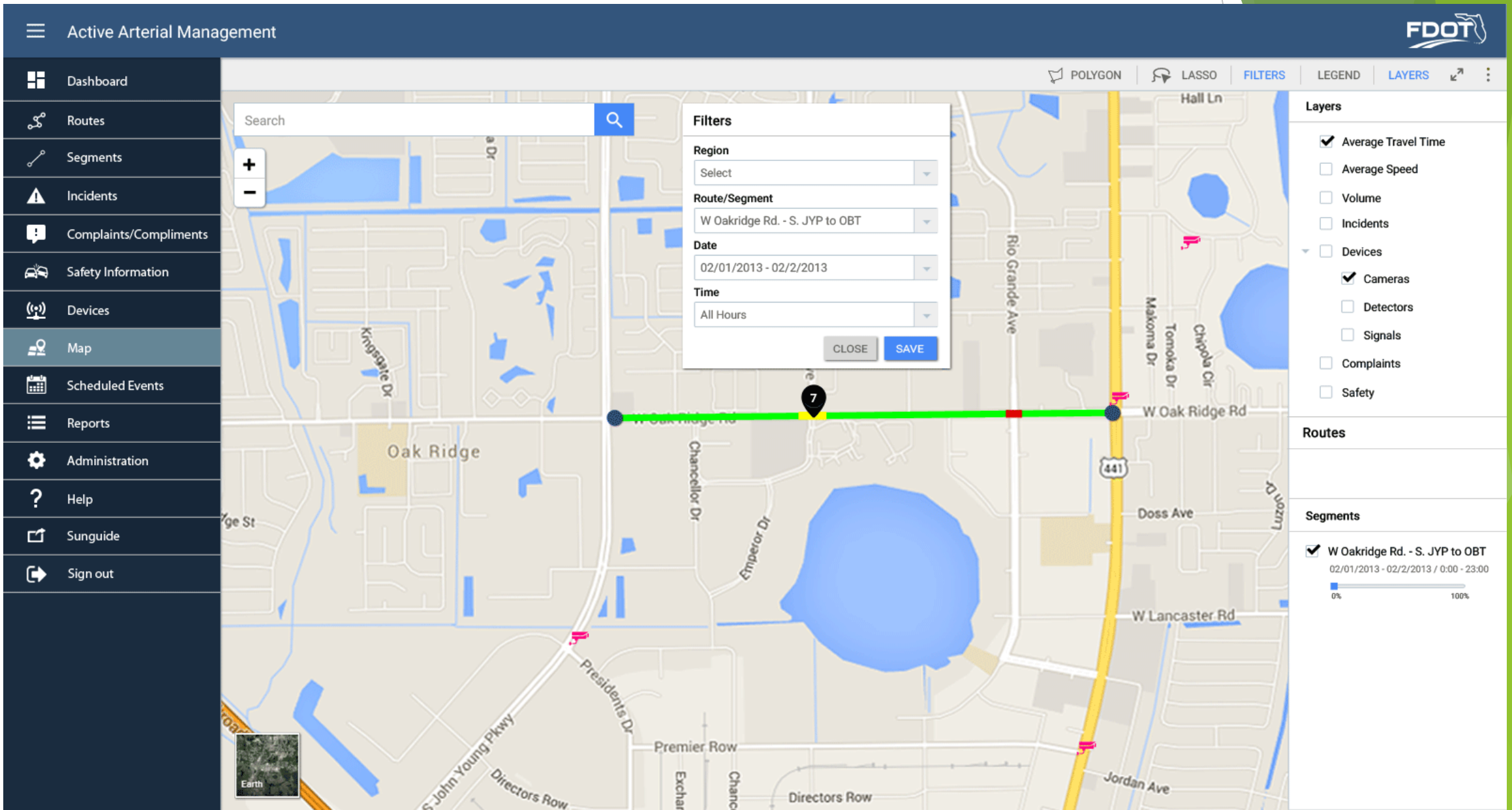
Incident Dashboard



Map View


Active Arterial Management
FDOT
Dashboard
Routes
Segments
Incidents
Complaints/Compliments
Safety Information
Devices
Map
Scheduled Events
Reports
Administration
Help
Sunguide
Sign out
POLYGON
LASSO
FILTERS
LEGEND
LAYERS
Search
Legend
Good
Average
Bad
Incident
Cameras
Detectors
Signals
Complaints
Average Travel Time
Average Speed
Volume
Accident
W. Oak Ridge Rd. East of Rio Grand Ave.
Started 11/26/13, 10:00 AM
ADD NOTES
Layers
Average Travel Time
Average Speed
Volume
Incidents
Devices
Cameras
Detectors
Signals
Complaints
Safety
Routes
Segments
W Oakridge Rd. - S. JYP to OBT
02/01/2013 - 02/2/2013 / 0:00 - 23:00
0%
100%
Duskin Ave
Wakulla Way
S Texas Ave
W Oak Ridge Rd
Chancellor Dr
Emperor Dr
Doss Ave
W Lancaster Rd
Presidents Dr
Premier Row
Directors Row
Jordan Ave
Hall Ln
Makoma Dr
Tomoka Dr
Chipola Cir
441
Earth

Map Filters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Reports
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Sunguide
Sign out
POLYGON
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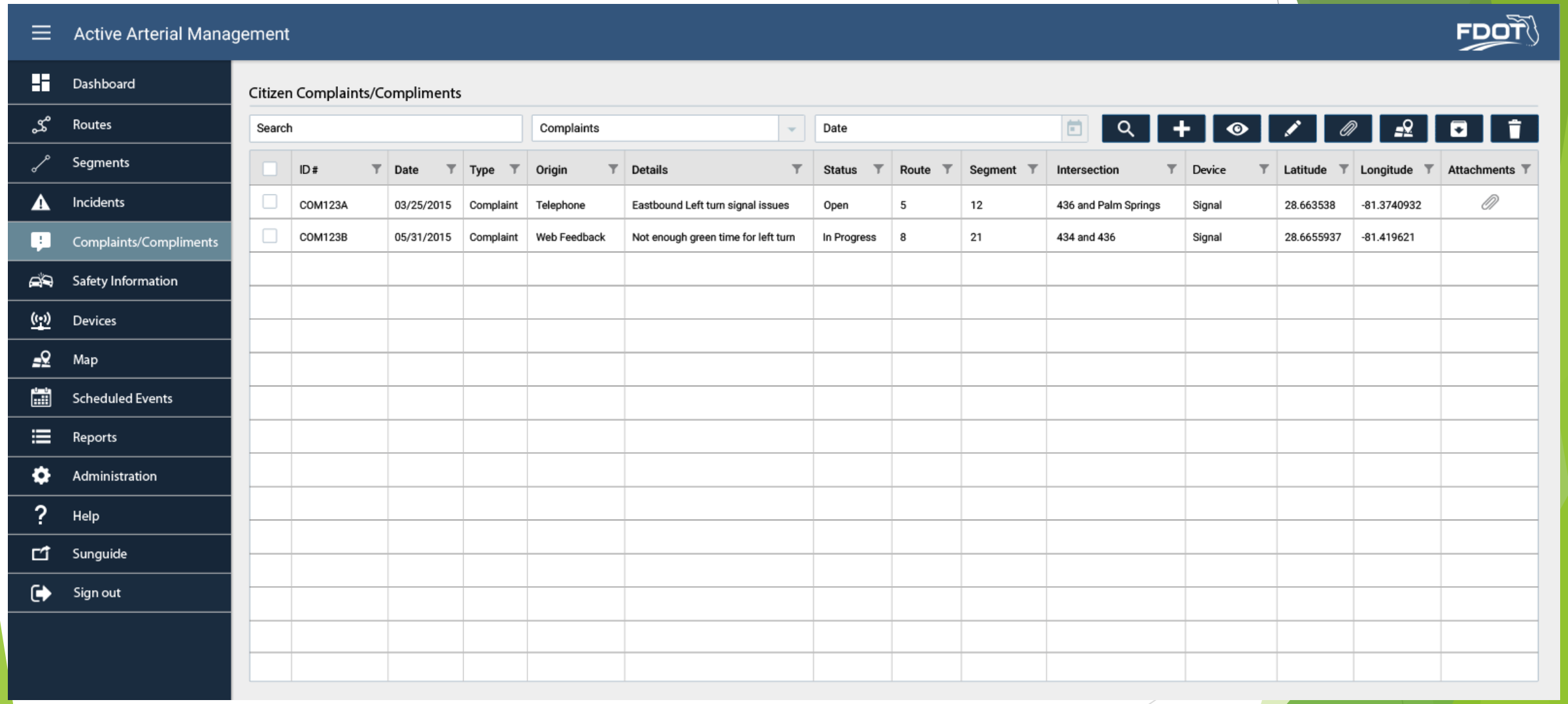
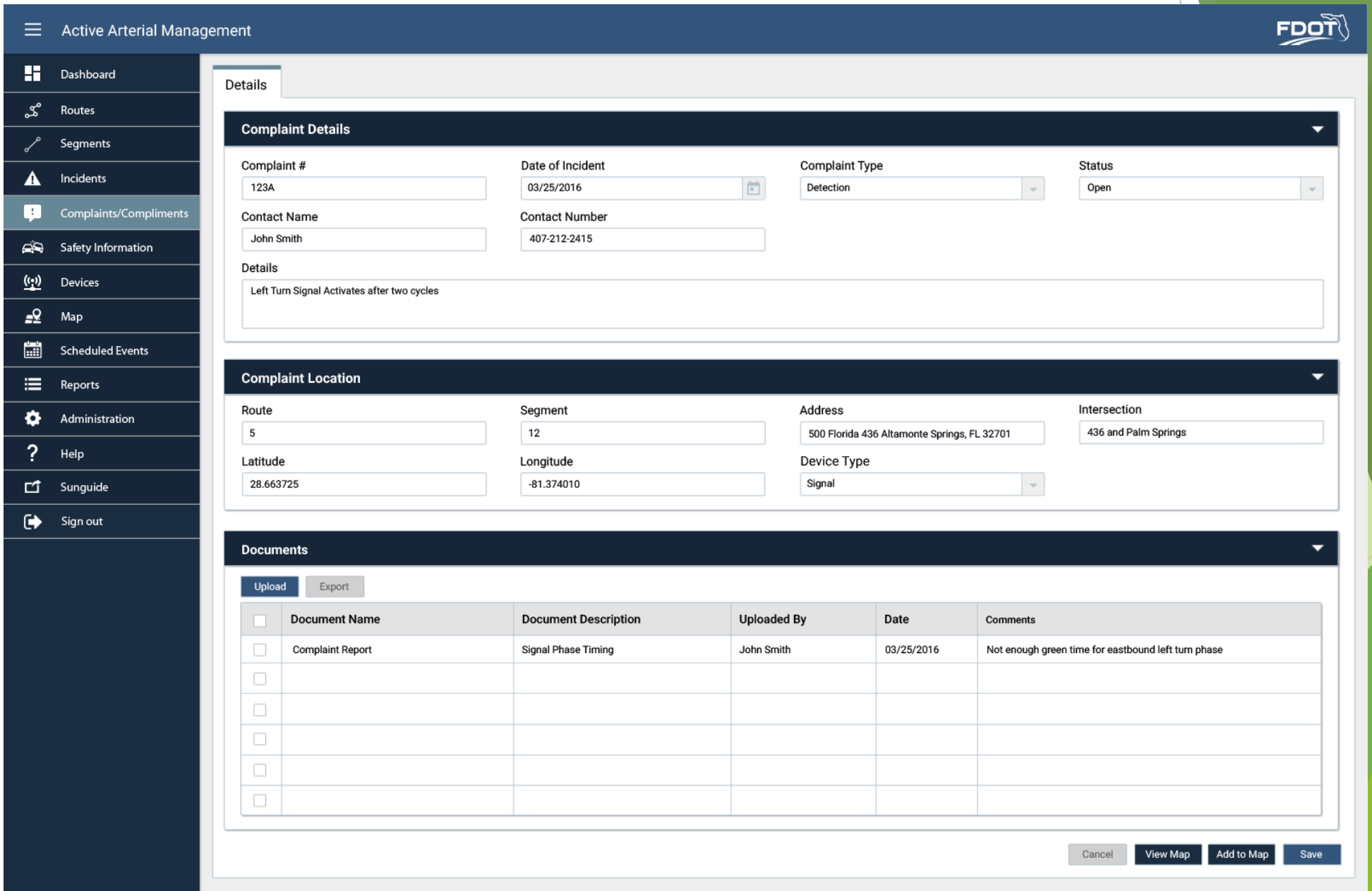
FILTERS
LEGEND
LAYERS
Search
Filters
Region
Select
Route/Segment
W Oakridge Rd. - S. JYP to OBT
Date
02/01/2013 - 02/2/2013
Time
All Hours
CLOSE
SAVE
Layers
Average Travel Time
Average Speed
Volume
Incidents
Devices
Cameras
Detectors
Signals
Complaints
Safety
Routes
Segments
W Oakridge Rd. - S. JYP to OBT
02/01/2013 - 02/2/2013 / 0:00 - 23:00
0%
100%
Oak Ridge
W Oak Ridge Rd
W Lancaster Rd
Doss Ave
Premier Row
Directors Row
Jordan Ave
Rio Grande Ave
Chancellor Dr
Emperor Dr
Presidents Dr
Hall Ln
441
Earth

Complaints/Compliments List

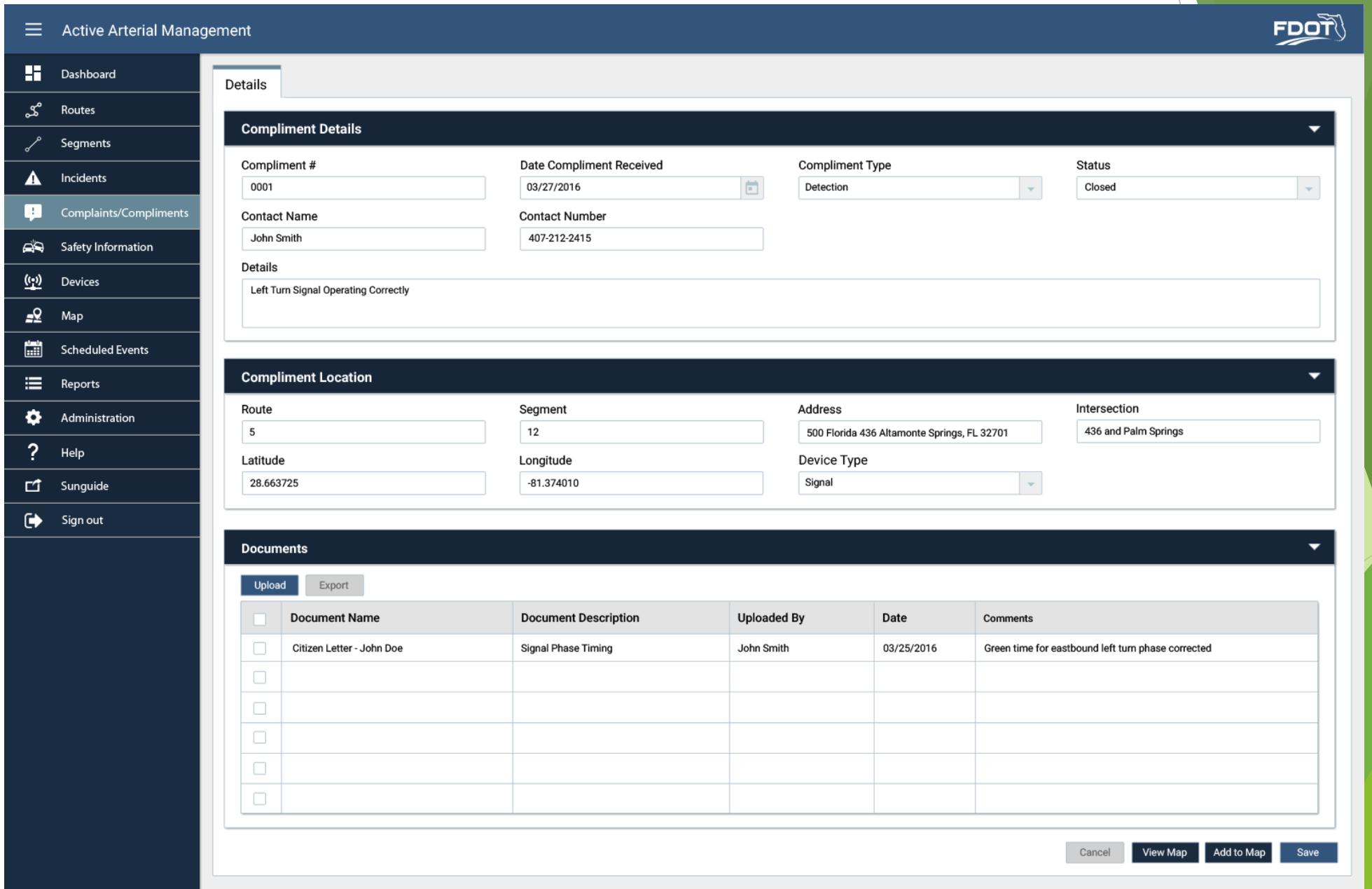


	ID #	Date	Type	Origin	Details	Status	Route	Segment	Intersection	Device	Latitude	Longitude	Attachments
	COM123A	03/25/2015	Complaint	Telephone	Eastbound Left turn signal issues	Open	5	12	436 and Palm Springs	Signal	28.663538	-81.3740932	
	COM123B	05/31/2015	Complaint	Web Feedback	Not enough green time for left turn	In Progress	8	21	434 and 436	Signal	28.6655937	-81.419621	

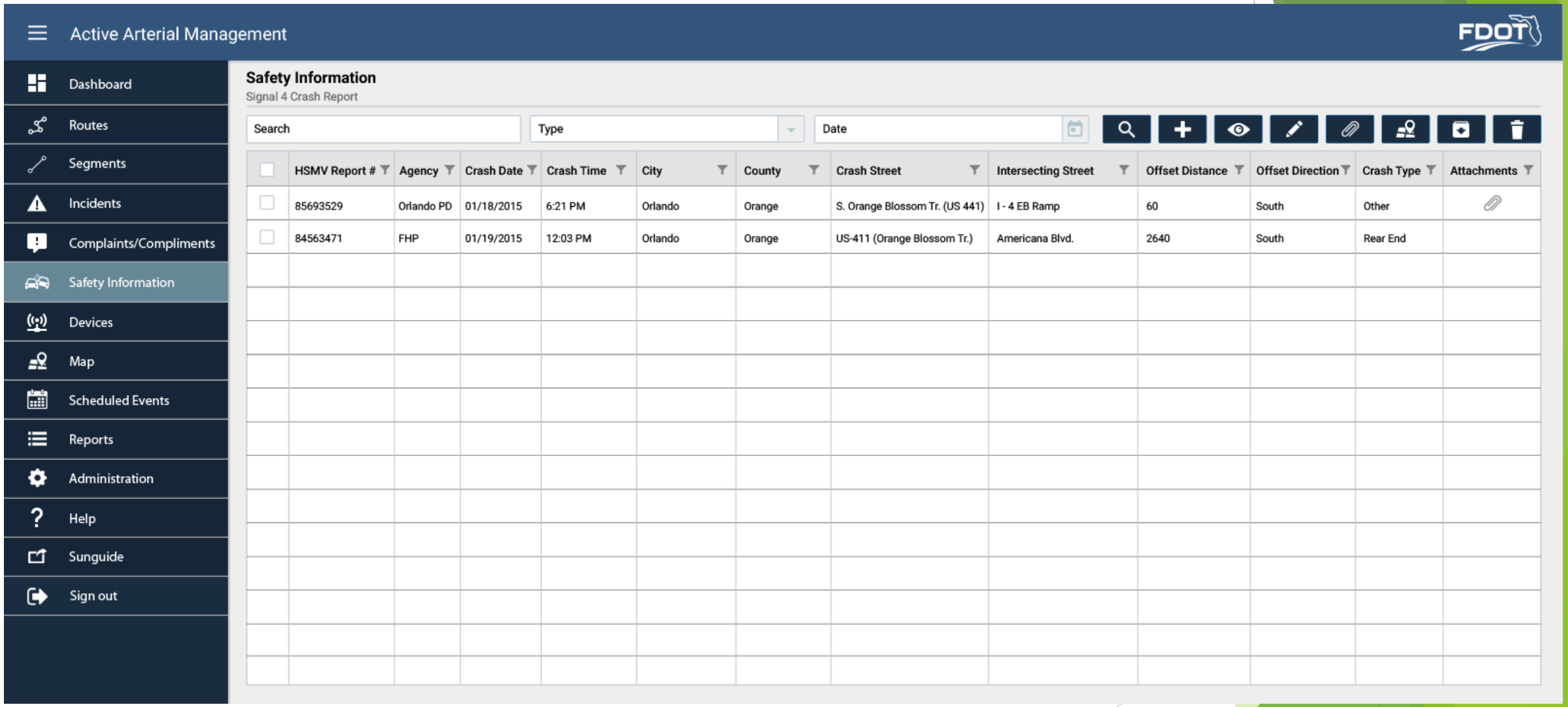
Complaint Details



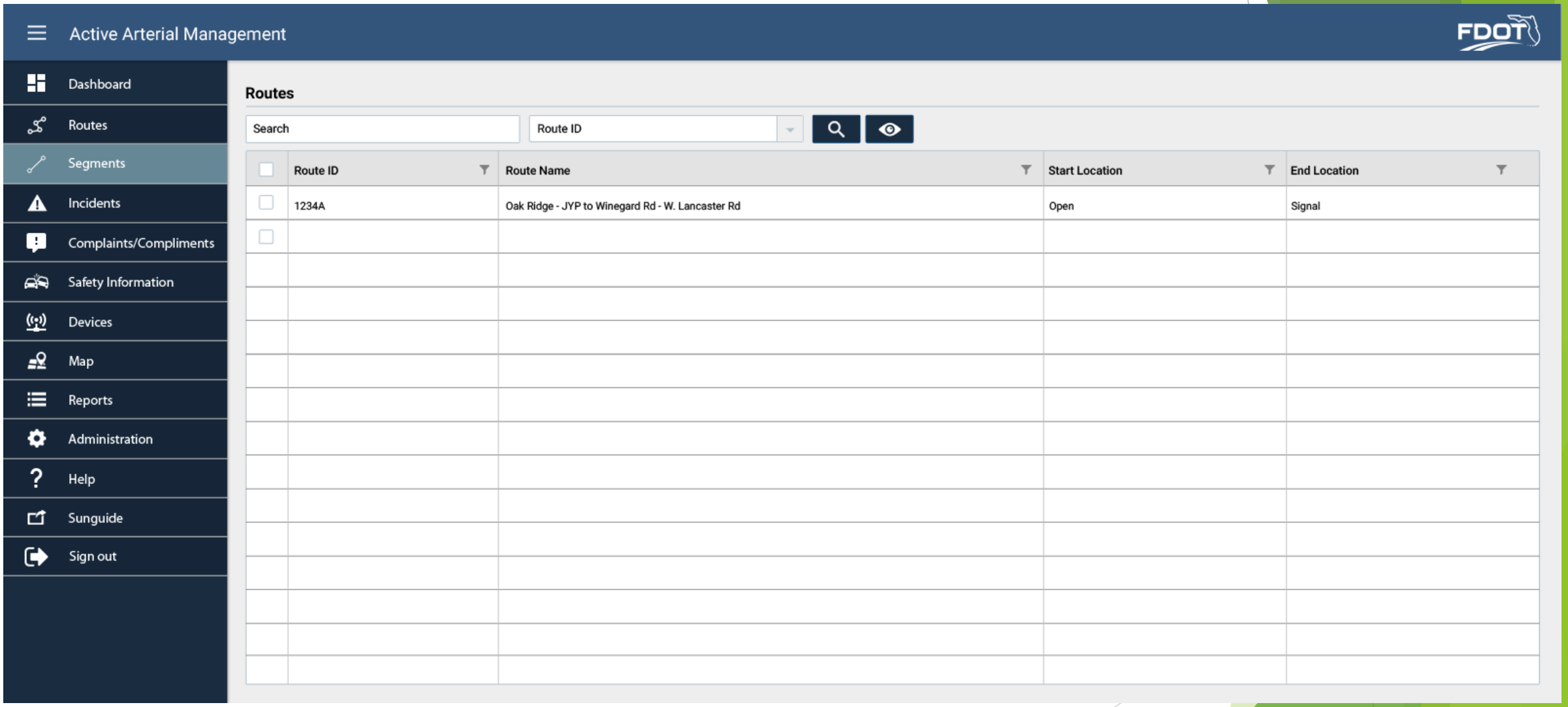
Compliment Details



Safety Information List



Routes List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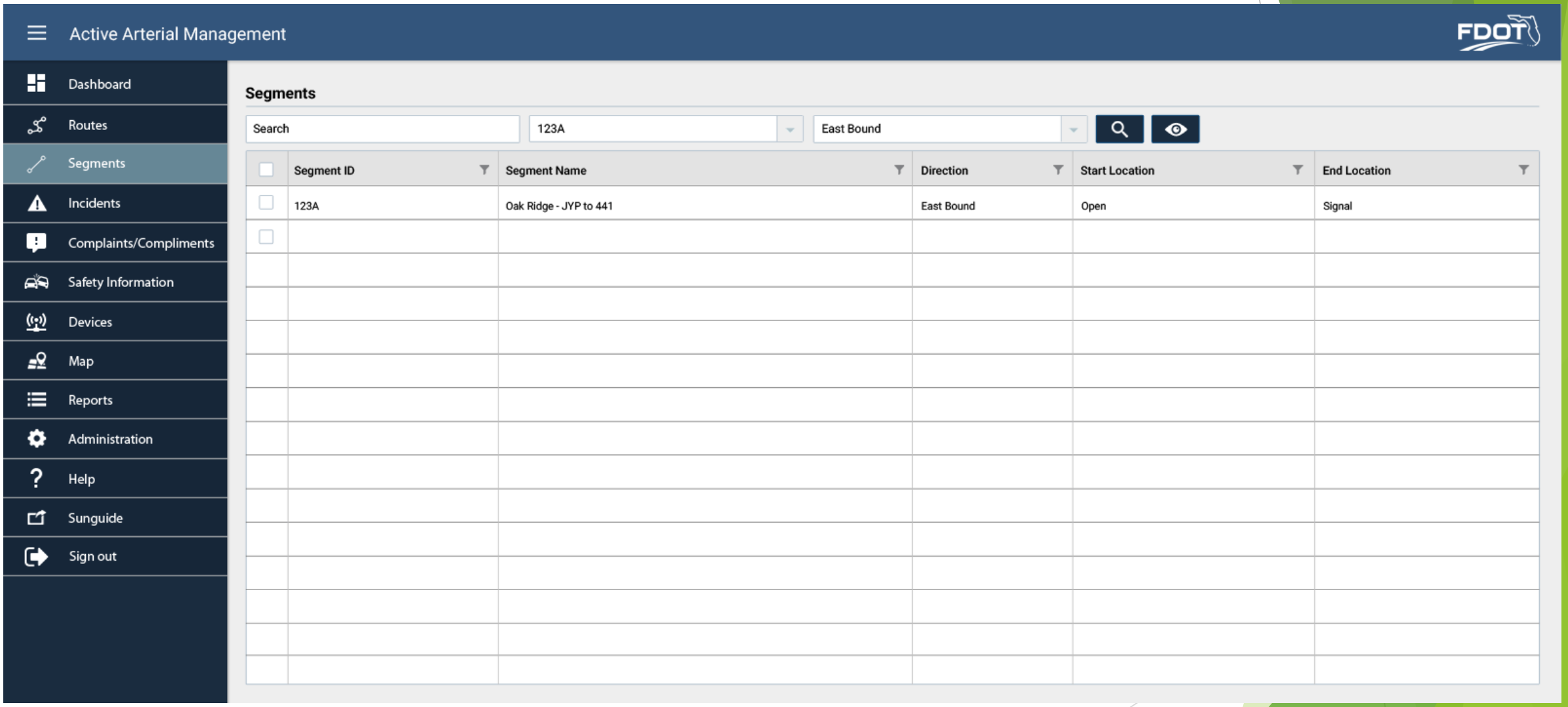
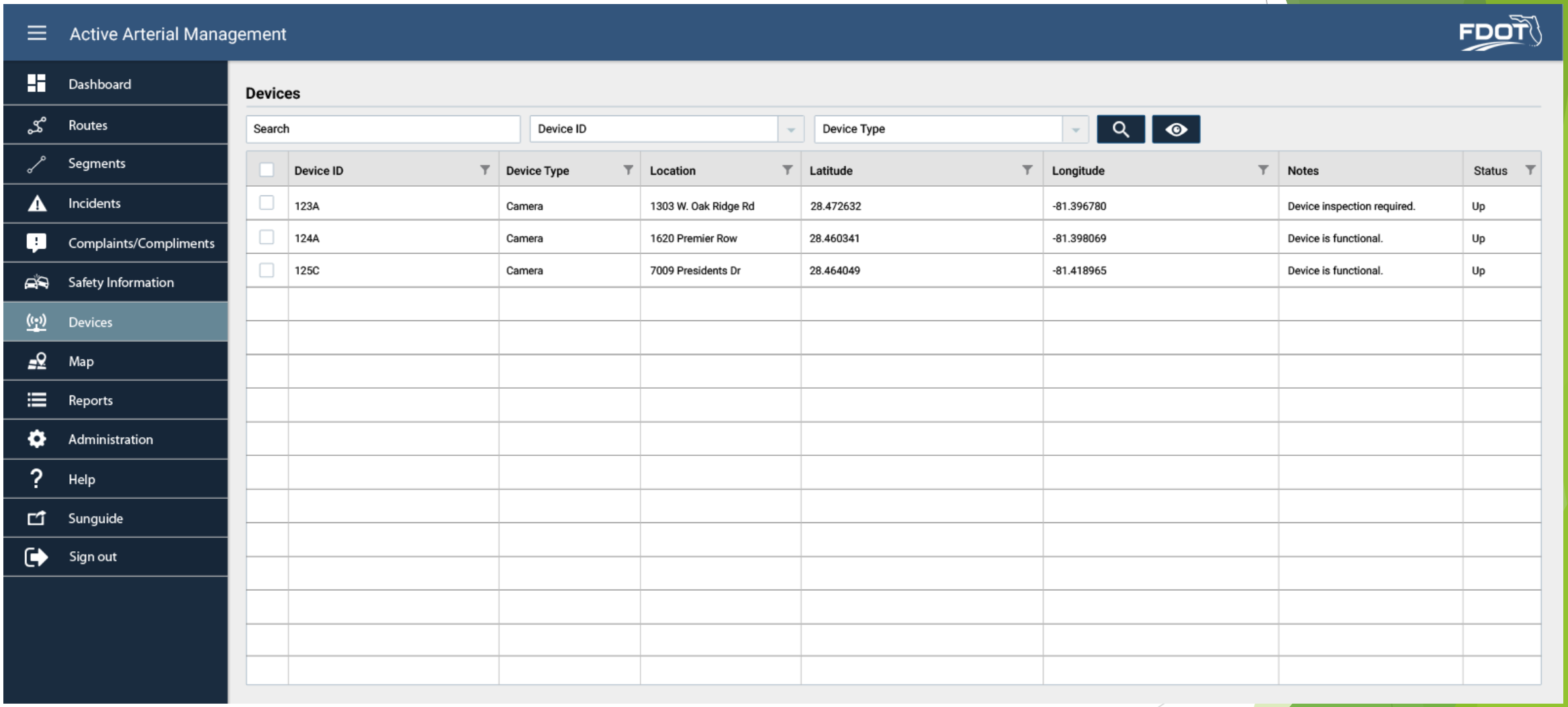
Devices
Map
Reports
Administration
Help
Sunguide
Sign out
Routes
Search
Route ID
Route ID
Route Name
Start Location
End Location
1234A
Oak Ridge - JYP to Winegard Rd - W. Lancaster Rd
Open
Signal

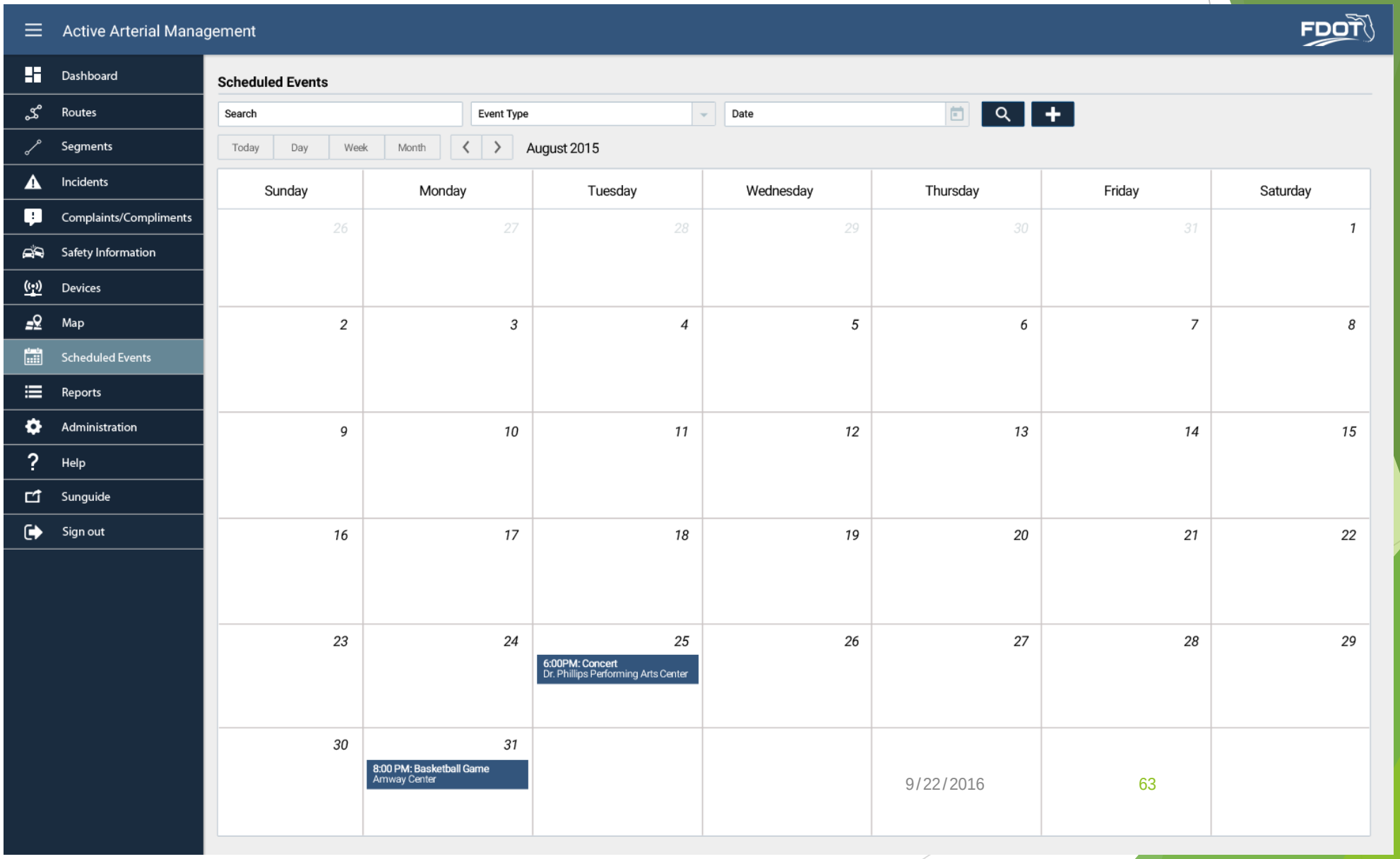
Segments List



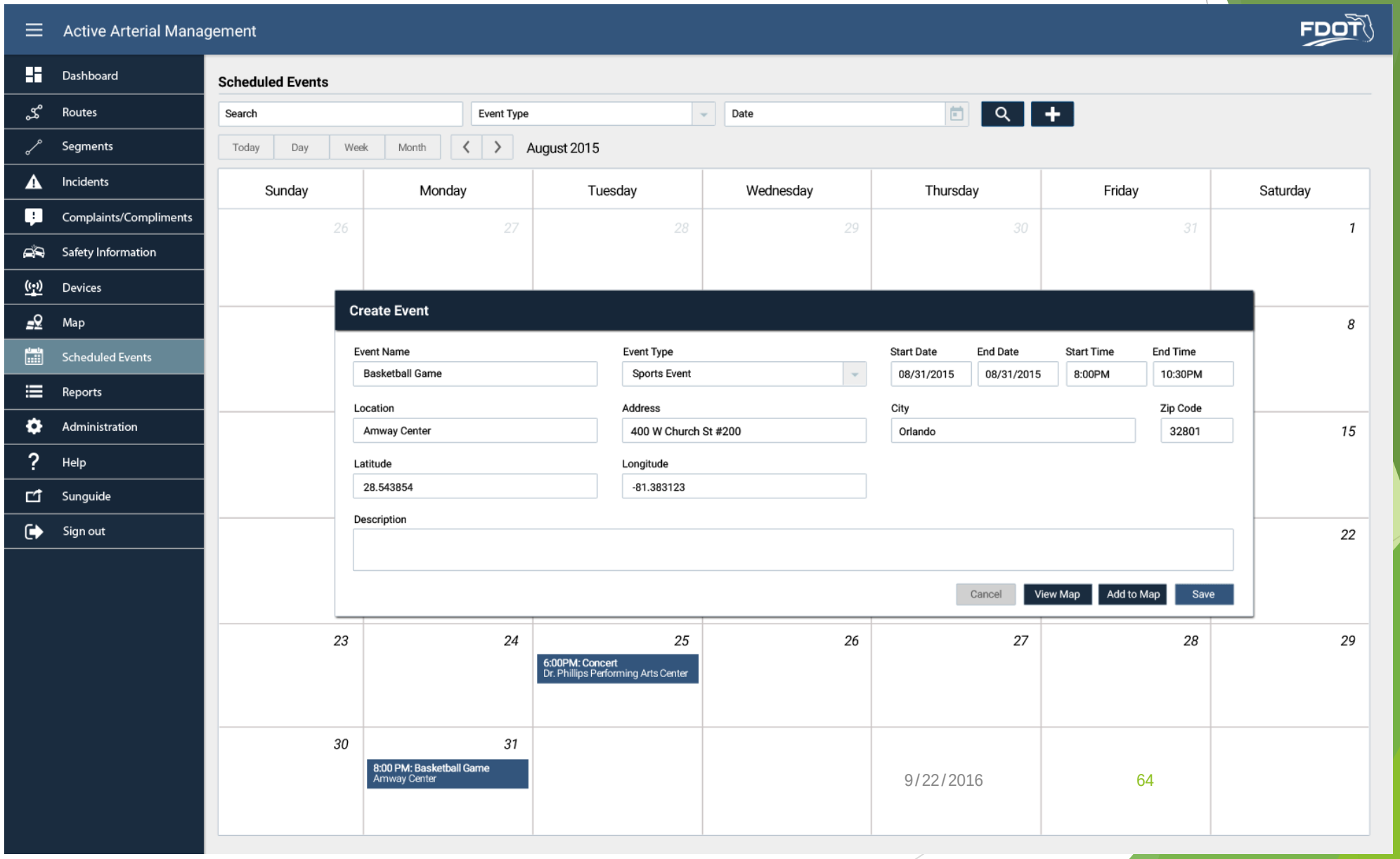
Devices List



Scheduled Events Calendar



Scheduled Events Calendar Details



Projects

- RTMC
  - Plans Complete
  - Ground Breaking November 2016
  - Completion November 2018
- AAM
  - Phase I complete
  - Phase 2 Construction
  - Phase 3 Design Complete December 2016

Projects

- TSP
  - Phase 1 complete
  - Phase 2 Construction
  - Phase 3 Design 2018
- I-75
  - Middlesex ➔ Under construction
  - DAB ➔ Under construction
  - TCD DB ➔ Complete
  - TCD DBB ➔ Finalizing

Projects Continued

- Event Management; Daytona – under Design
- Bridge Security - Design
- Regen Site - Design
- DMS I-75 – Design
- Re-IP
  - City of Orlando - Complete
  - Volusia County - Underway
  - Brevard County – On deck

TSM&O Consortium Meeting

MEETING AGENDA

D5 Urban Office
133 S. Semoran Blvd.
Orlando, FL
Lake Apopka B Conference Room

August 22, 2016; 10:00 AM-12:00 PM

1) WELCOME
   - David Cooke, FDOT D5 Planning Manager
2) BIG DATA DISCUSSIONS
   - Clay Packard, Atkins
3) TRAINGING PROGRAM OVERVIEW
   - Jeremy Dilmore, D5 ITS
4) KDOT PEER EXCHANGE RECAP
   - Jeremy Dilmore, D5 ITS
5) CURRENT INITIATIVE UPDATES
   i) Grant Selection Updates (FAST Act Grant, LYNX MOD, and City of Orlando ATTRI Applications)
   ii) Data Project Updates
   iii) ITS Project Status Updates
   iv) Dashboard Development (AAM and Planning)
   - Jeremy Dilmore, D5 ITS