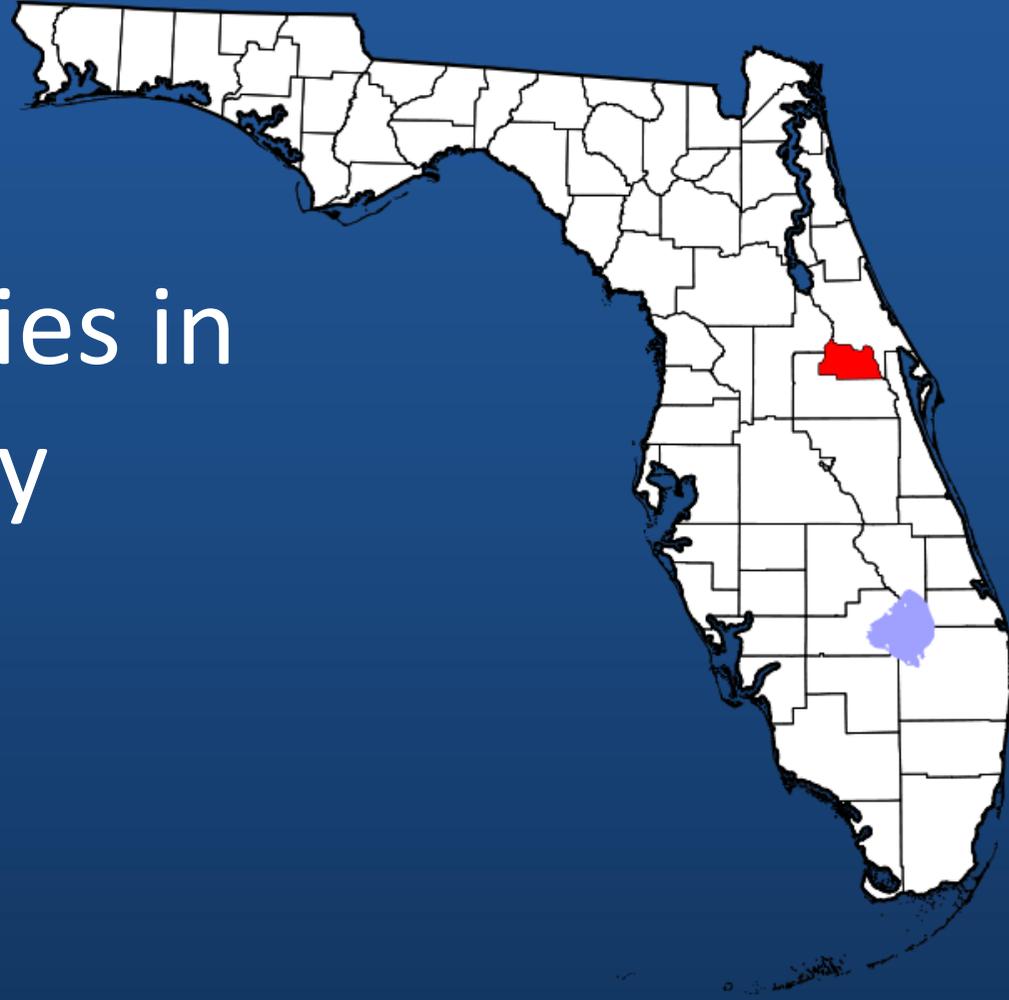


ITS / TSM&O Activities in Seminole County



Charlie Wetzel, PE, PTOE

County Traffic Engineer

Seminole County Florida

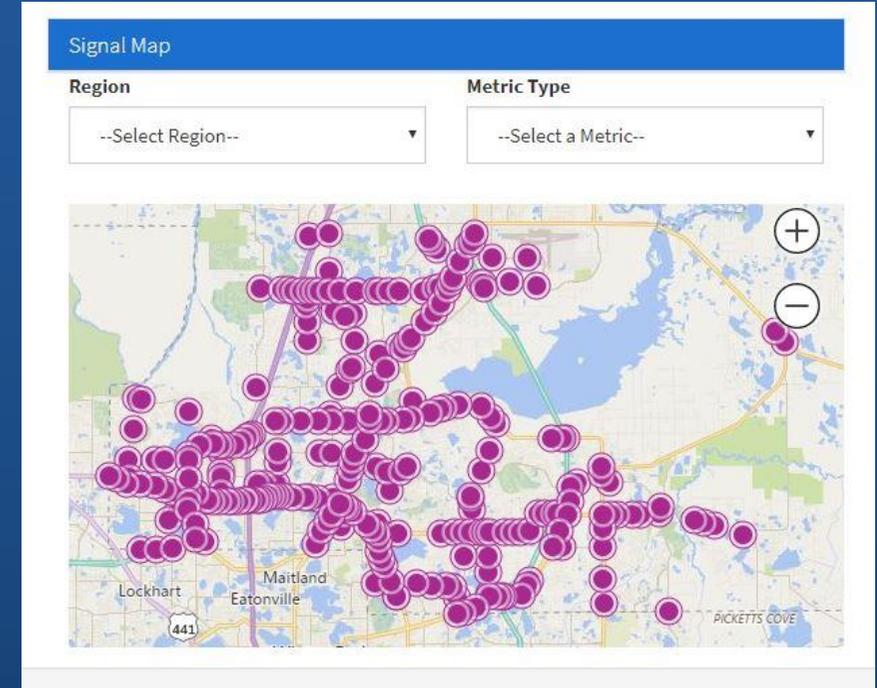
Traffic Signal Systems

- 384 signalized intersections
 - 373 connected via fiber, 10 on radio, 1 not connected (FS #41)
- Adaptive Signals at 69 locations:
 - SynchroGreen (49 locations)
 - 4 corridors (SR 436, Rinehart, Lake Mary Blvd and SR 414), 5 isolated locations
 - Insync (20 locations)
 - 2 corridors (SR 46 and Mitchell Hammock)
- UPS locations – 167, 67 locations w/ remote battery monitoring
- Central Software (ATMS.Now)
 - Daily detection reports, on-call text/email alarms, remote monitoring
- Detection Technologies used – loops, video (w and w/out thermal), radar, pod

Signal Performance Metrics (SPM)



- Uses high-resolution controller event data to determine how well signals are operating
- Implemented the first system in the State in February 2015
- Several metrics:
 - Arrival on Red, Pedestrian Delay, Volumes and TMCs, Split Failures, Yellow/Red Actuations
 - Working on corridor-wide metrics
- We have since migrated site over to FDOT for their management and expansion (atspm.cflsmartroads.com/ATSPM)



Approach Link Comparison

Link	Approaches		Upstream AOG			Downstream AOG			Total Link AOG			Delta	AOG Chart
	Upstream	Downstream	Existing	Predicted	Change	Existing	Predicted	Change	Existing	Predicted	Change		
1	5397 Westbound	5372 Eastbound	833	833		442	442		1275	1275		0	
	2700 North 1500 West (Farr West)	US-89 2700 North	87%	87%		62%	62%		76%	76%			

ITS / Advanced Systems



- Over 400 miles of fiber
- TMC manned M-F 7am-5pm, FDOT building new TMC near SR 417 @ International
- FDOT's Active Arterial Management (AAM) and Integrated Corridor Mgmt (ICM) programs
- Emergency Vehicle Pre-emption (Opticom)
 - High priority pre-emption at 312 locations (243 Infrared, 69 GPS)
 - Potential project to upgrade all to GPS
- Transit Signal Priority (TSP)
 - Low priority pre-emption for buses at 69 locations
- 29 Variable Message Signs – AADCO, slow migration to Daktronics
- Cameras – 195, mostly on State Roads (not fully allowed on County roadways)

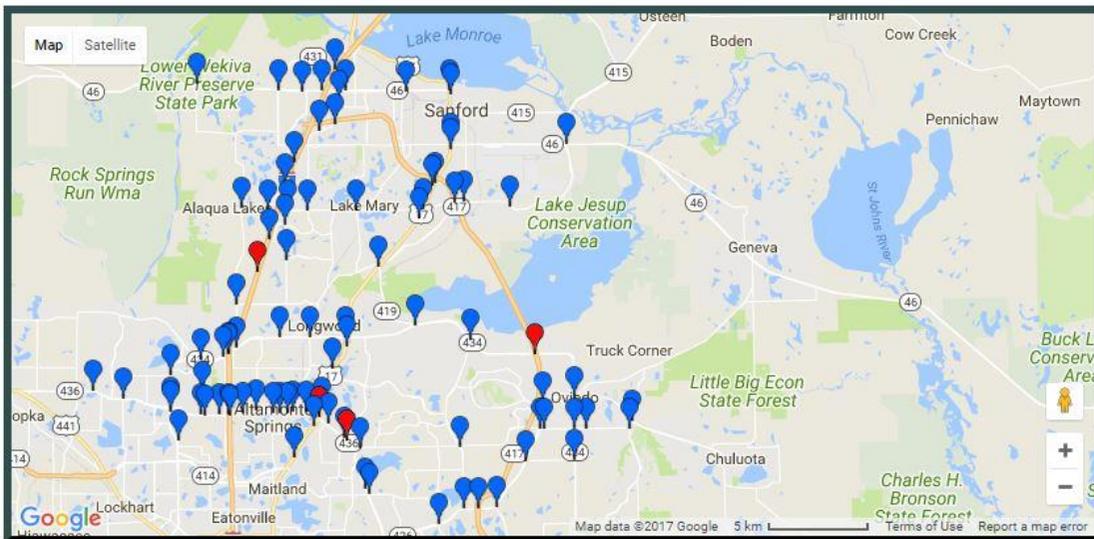
Bluetooth Reader System (BlueTOAD)



- Installed the first readers in 2011, now have near 100 devices deployed
- Used for real-time speed and travel time data
- Automatically populate overhead VMSs with travel time info
- Will be upgrading readers to new technology (Spectra) in the next few months

Devices - Seminole County

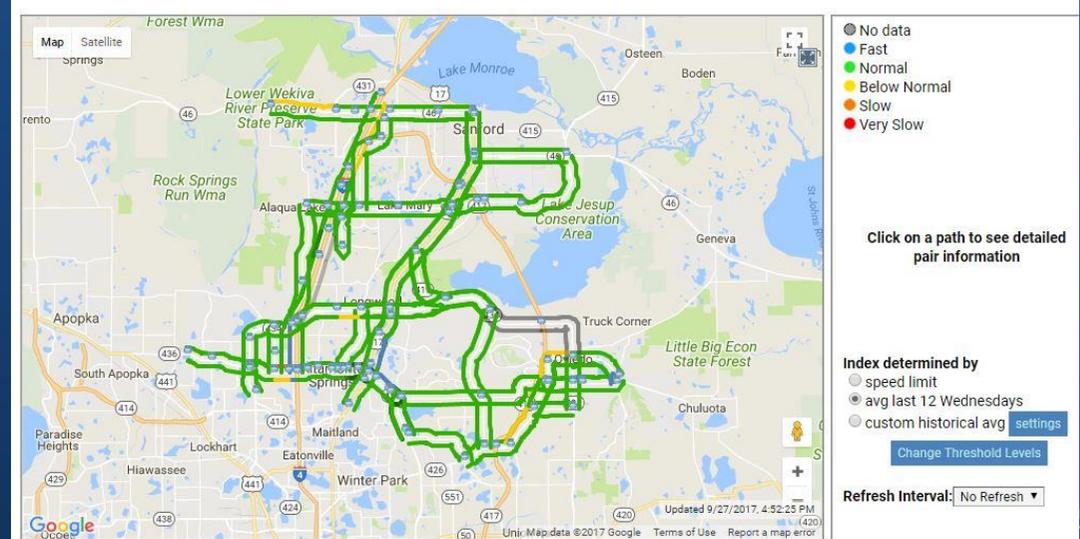
Show Active Devices Show Inactive Devices



Speed Map - Seminole County

Select a route:

Show all pairs

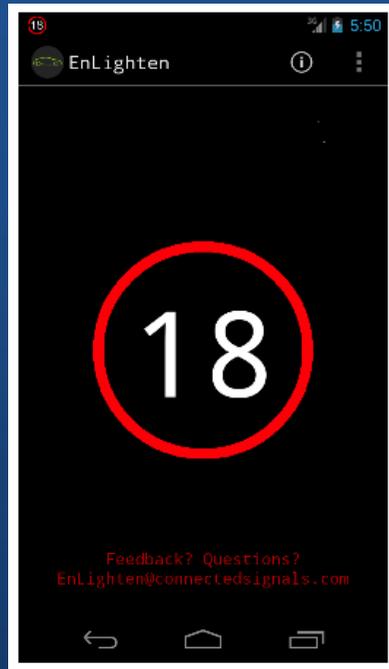


Connected Vehicle (CV)



- Working on demo project for Signal Phasing and Timing (SPaT) info to motorists
- Vendor (Connected Signals) operational by mid-November:

Phone App



Dash



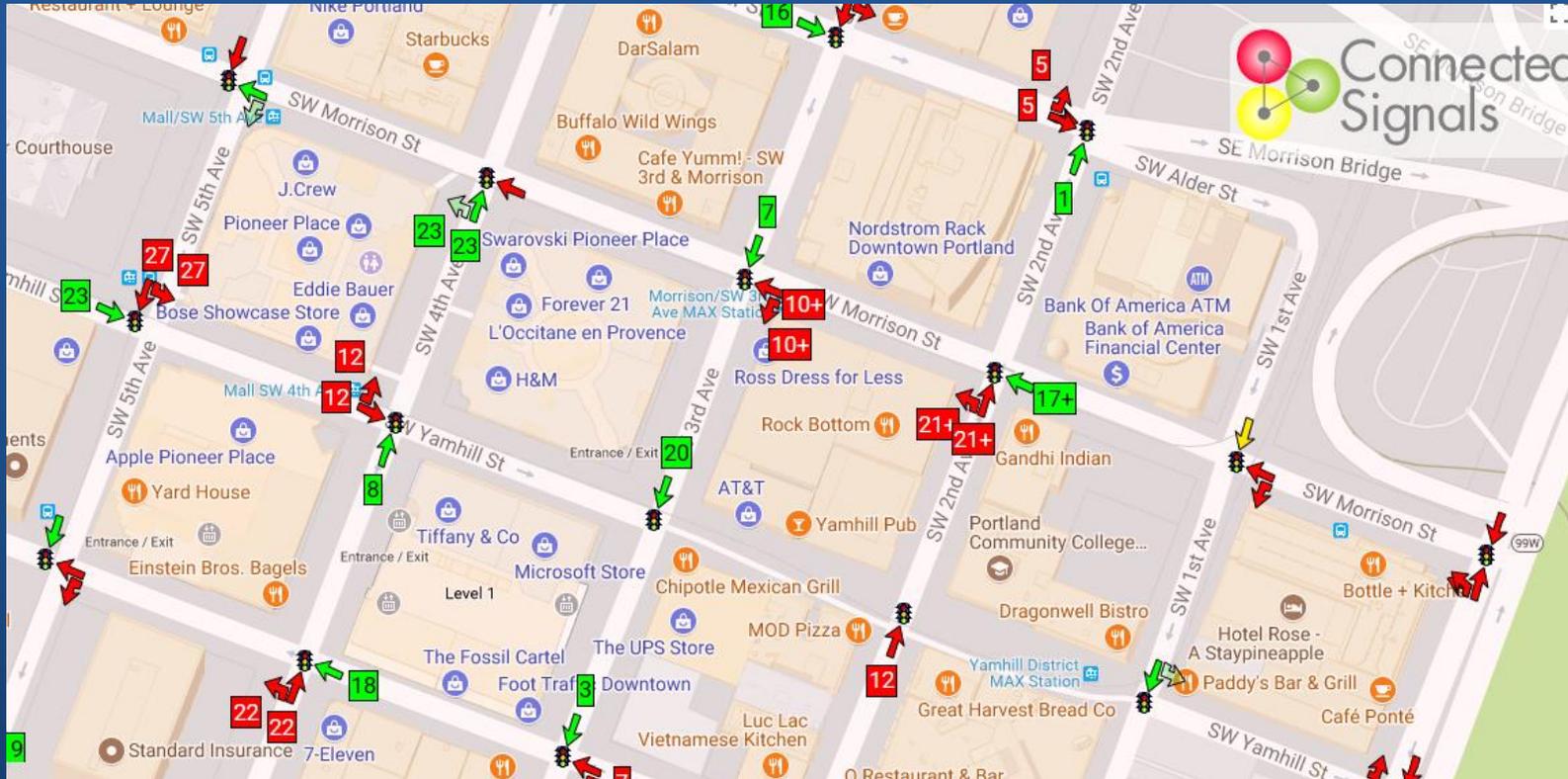
In Car (BMW):

Heads Up



Connected Vehicle (CV)

- Connected Signals desktop application:



- Looking to work with Traffic Technology Services (TTS) as well.
- Sending both agreements to County Attorney for review.
- One issue to be resolved – data from InSync

ATCMTD Grant



- Central FL Region recently received \$12M grant from FHWA's Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) program
- Partnership between:



- 5-year project with work near UCF campus
- Anticipate Seminole County involvement with testing and deployment
- 4 major components
- Possible tie-in with FDOT's SR 434 CV Project (Faller Davis)



Funding / Staff

- Operational budget (salaries, OT, materials, some outsourcing) – Signals - \$1.2M, Fiber/ITS - \$500k
- Maintain signals for FDOT and all 7 Cities – annual revenue \$1M
- 1 Cent County Sales Tax for Capital Improvements
 - \$1M annually for mast arm rebuilds, painting, extra striping, LED conversions
 - \$1M annually new signals and mast arm conversions (FY 17/18 - \$1.8M)
 - \$1.1M annually for fiber/ITS projects (FY 17/18 - \$3.4M)
- MetroPlan/FDOT funded ATMS projects (\$3M - \$4M) every few years
- Annual Retiming Funds – MetroPlan \$200k-\$300k, County \$200k
- Staff - 2 PEs in Division, 11 technicians devoted to signals, 7 technicians for fiber/ITS/locates

Questions ?

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