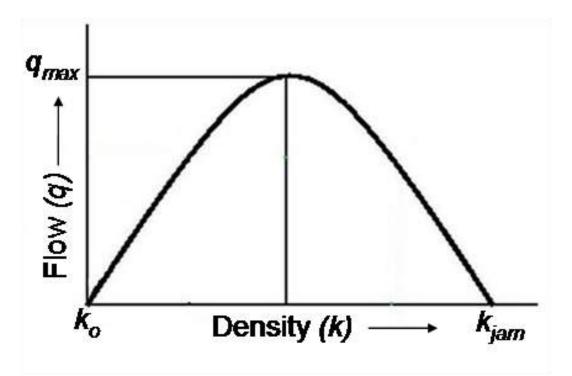


Volunteer Network of Professionals Working Together to Support, Promote, and Improve Best Practices in the Application of Traffic Simulation and Capacity Analysis 2

- Bruce D. Greenshields
 - Prominent researcher in traffic behavior and highway safety
 - Pioneer in applying mathematics to traffic flow
 - Invented "Drivometer"
 - Famous for "Greenshields Model"



Meeting Agenda

Welcome and SimCap Updates

NYSDOT's Local Count Program: Overview, Lessons Learned, and Local Stakeholder Involvement

Example Applications of the NPMRDS

Use and Coordination of Multiple Data Sources: Experience from North Florida TPO

Open Discussion

4

Mission

A <u>volunteer network of professionals</u> working across geographic and organizational boundaries to share information, experiences, and to disseminate, promote, and develop guidance and best practices <u>in the application of traffic simulation and capacity analysis tools, methods, and related practice areas</u>.

Goals

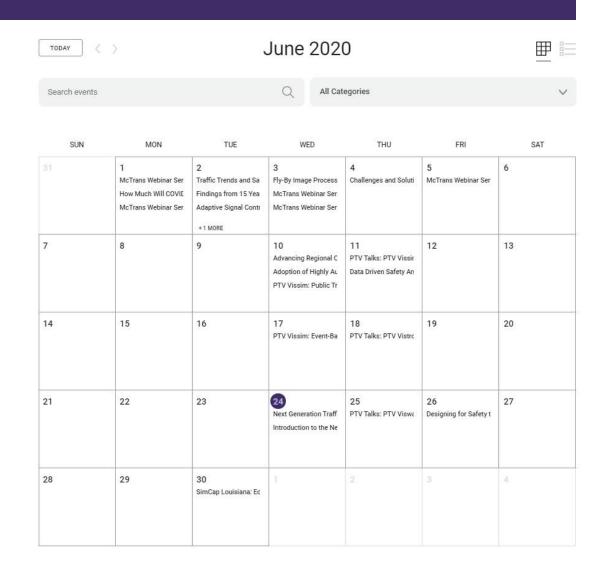
- Provide a forum for the meaningful exchange of ideas, research, questions, and trends;
- Serve as a resource for practitioners and organizations by sharking experiences and developing guidance and best practices; and
- Advocate for consistently, reliability, and advances to the current state of the practice



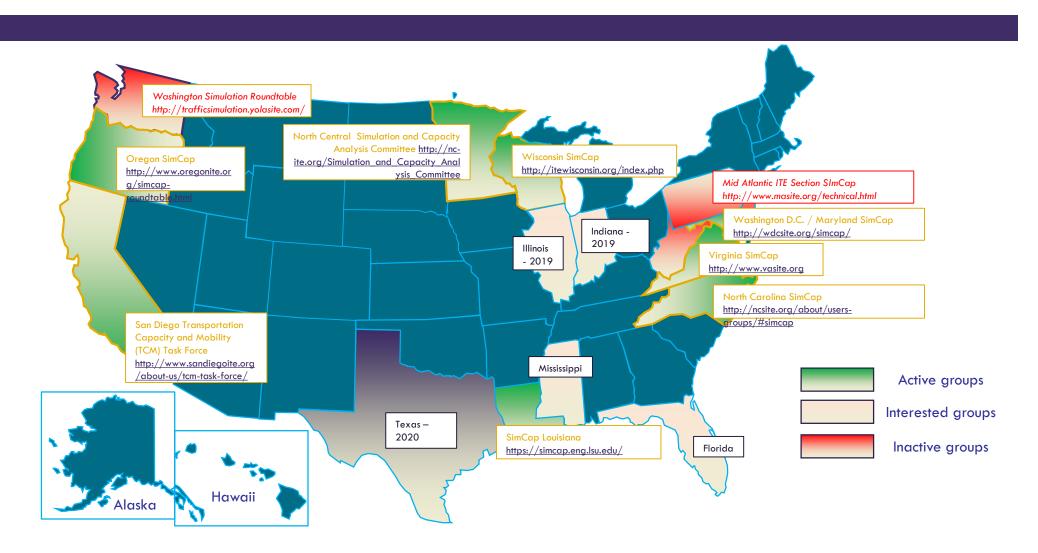
Website Demonstration

5

- https://simcap.eng.lsu.edu/
 - Past/upcoming activities
 - Calendar of SimCap events NEW!
 - Meeting archive
 - Password: simcap (lowercase, no spaces)



SimCap Chapters



ITE SimCap Subcommittee

- Active facilitation team
- Initiative to establish ITE website
- Upcoming ITE webinar
 - July 9th, 1:00 2:30 PM CST
 - Link in chat
 - Group rate

Traffic Analysis, Modeling and Simulation: Roundabouts, Ethics and Managing Stakeholder Expectations

A. "Wisconsin Statewide Roundabout Traffic Operations Analysis"

Presenter: Vicki Haskell, PE and Rebecca Szymkowski, PE, PTOE



Vicki Haskell, PE, State Traffic Engineering Analysis and Data Management Engineer | Wisconsin DOT



Rebecca Szymkowski, PE, PTOE, Traffic Supervisor | Wisconsin DOT

B. "Ethics and Simulation - Challenges and Practice Objectives"

Presenter: Dr. George List



Dr. George List, Professor and Former Head Civil, Construction, and Environmental Engineering | North Carolina State University

C. "Challenges and Solutions to Managing External Input and Expectations in Traffic Modeling"

Presenter: Raj Paradkar, PE





Contact Information



Christopher Melson LTAP Program Manager (225) 767-9118 cmelson1@lsu.edu



https://simcap.eng.lsu.edu/

Know Your Traffic Count History!

Her/his work in the 1950s found that traffic count adjustment factors based on similar road use were more accurate than those based on geographic location. She/he later became the Head of the Traffic Inventory Section of the U.S. Bureau of Public Roads. Guidance in the FHWA Traffic Monitoring Guide (1985) can be tracked back to her/his work.

- A. Mary Peters
- B. David Albright
- C. Nicole Nason
- D. Boris Petroff



Andrew Haynes
New York State DOT

New York State DOT Traffic Data Collection on Local Roadways

Topics of Discussion

- What traffic data NYSDOT collects on Local Roads
- How NYSDOT coordinates with local governments and MPOs
- How NYSDOT estimates Vehicle Miles Traveled for local roads

New York State Law Provides Authority

```
Laws of New York State

Book 24 (Highway Law)

Part I

Article II (Commissioner of Transportation)

Section 10 (General powers and duties of the Commissioner relating to highways)

Paragraph 13 - ("The commissioner of transportation shall :...)

Compile statistics relating to the public highways throughout the state, and collect such information in regards thereto as he shall deem expedient."
```

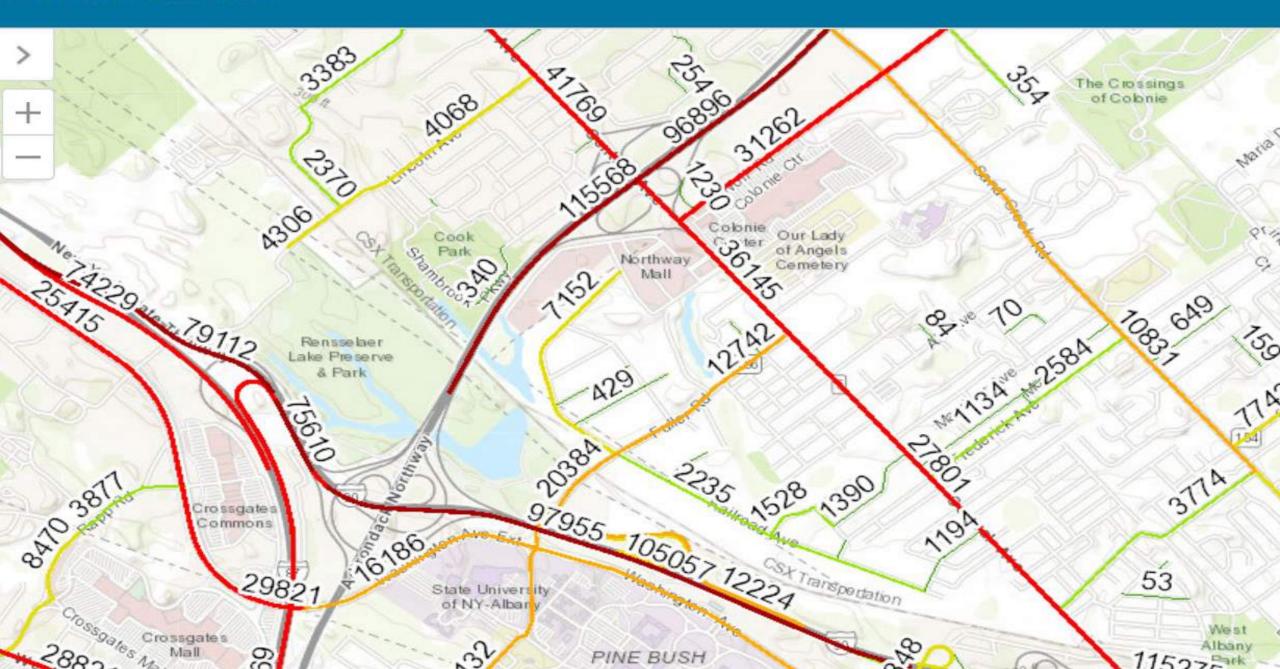
Why is the State DOT collecting traffic data on local roads?

- Federal Reporting
 - ► HPMS Summaries
 - ▶ Bridge Inspections
 - ▶ Rail crossing reports
- Safety Data
 - ▶ Accident Rates
- Emissions modeling
- ▶ VMT Estimations
- Project specific needs

How does NYSDOT decide what roads to collect?

- NYSDOT Starts with:
 - Local Road with Bridges
 - ► Local Roads with Rail Crossings
- ▶ Then Adds:
 - ► Roads with Safety needs
 - Design specific locations
- ▶ Rounds out the collection with:
 - Samples from Local Partners
 - ► Random Samples

NYS Traffic Data Viewer



When doesn't NYSDOT collect on local roads?

- ▶ Local seasonal roads
- Local utility roads
- ▶ At the request of the local government

Local Partners

- County Governments
- Cities
- Villages
- ▶ Towns
- Metropolitan Planning Organizations

Counties – County Count Initiative

- Signed agreement
 - ▶ 5 years
 - ▶ 2 counts per year per counter
 - ► Following NYSDOT standards and Data Formats
- ▶ NYSDOT provides:
 - ▶ Equipment
 - ▶ Training
 - Support
- Partner provides
 - ▶ Traffic Count Data!

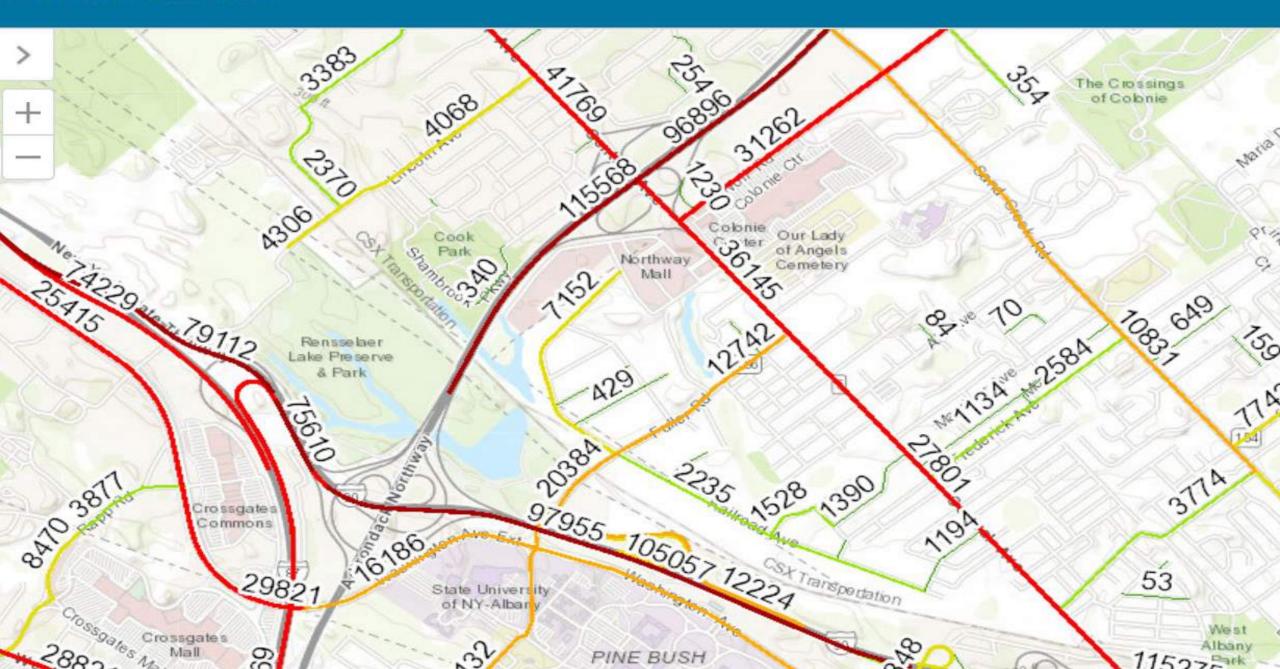
County Count Initiative – Evolution

- Pre-2008 Counties accounted for a large number of counts on Non-State owned roadways
- ► HPMS requirement for data on All Federal Aid eligible roadways changed this dynamic

County Count Initiative Lessons Learned

- Count points vs Segments
- Relax requirements if possible
- Frequent communication
- Scheduling conflicts!
- ► Changing Requirements!
- Varying Data Types

NYS Traffic Data Viewer



Metropolitan Planning Organizations

- Partnered in different ways
 - Share collected data
 - Process data for acceptability
 - ▶ Collect Counts
- Challenges
 - Different segmentation needs
 - ▶ Different Count Cycle Needs
 - ▶ Lag in Data Processing
- Currently Piloting a program where NYSDOT allows for MPOs to schedule counts through the NYSDOT contracts

Metropolitan Planning Organizations – Lessons Learned

- Work with each MPO based on their needs
- ► Tailor any agreements to each organizations
- Follow through with agreements!

Random Sampling of local roads

- ▶ Why random sample?
 - Better spatial distributions
 - ► More representative samples
- Randomly assigned samples to represent 10% of mileage by Municipality

Random Sampling of local roads

1 ALBANY	101061	1	ACKERMAN AVE	DEAD END	RT 910A FEURA BUSH RD	1	0	0.06	0.06	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101062	1	ADAMS PL	MARLBORO RD	OAKWOOD PL	1	0	0.78	0.78	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101063	1	ADAMS ST	HUDSON AVE	KENWOOD AVE.	1	0	0.1	0.1	71 Town	Bethleher 03 To	wn 19	7038	2220
1 ALBANY	101063	1	ADAMS ST	KENWOOD AVE.	END	1	0.1	0.61	0.51	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101064	1	ADRIANCE LA	DEAD END	KENWOOD AVE	1	0	0.1	0.1	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101065	1	ALBERT DR	HENRY AVE	BEVERLY DR	1	0	0.16	0.16	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101066	1	ALBIN RD	PARKWYN DR	WINNE RD	1	0	0.22	0.22	71 Town	Bethleher 03 To	wn 19	5000	241
1 ALBANY	101067	1	ALBRIGHT PL	GARDNER TER	DEAD END	1	0	0.08	0.08	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101068	1	ALDEN CT	BENDER LN	KENWOOD AVE	1	0	0.41	0.41	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101069	1	IRONS LA	FRONT AVE	DEAD END	1	0	0.02	0.02	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101070	1	AMSTERDAM AVE	HAGUE BLVD	BROOKHAVEN LA	1	0	0.28	0.28	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101071	1	ANDERS LA	RT 910A GLENMONT RD	OLD RIVER RD	1	0	0.12	0.12	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101072	1	ANDOVER RD	OVERLOOK ST	KRUMKILL LA	1	0	0.3	0.3	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101073	1	ANNA COURT	TRINITY PL	TRINITY PL	1	0	0.22	0.22	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101074	1	ARCH AVE	MONROE AVE	INMAN AVE	1	0	0.12	0.12	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101075	1	ARTHUR TER	BRADFORD PL	GROVE ST	1	0	0.1	0.1	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101076	1	ASHGROVE LANE	CHESTERWOOD DR	SILVER CREEK	1	0	0.3	0.3	71 Town	Bethleher 03 To	wn 19	5032	
1 ALBANY	101077	1	ASPRION RD	RT 9W	DEAD END	1	0	0.15	0.15	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101078	1	AVON ROAD	OLD OX RD	DEAD END	1	0	0.03	0.03	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101079	1	AXBRIDGE LA	ELM AVE		1	0	0.04	0.04	71 Town	Bethleher 03 To	wn 19		
1 ALBANY	101079	1	AXBRIDGE LA		WOODMONT DR	1	0.04	0.3	0.26	71 Town	Bethleher 03 To	wn 19		

Data Collection

- Estimated 10,000 counts needed
 - ▶ About 8,000 actually collected in 2014-2016
- Currently not collected regularly
 - Used as a "bonus" for count contractors
 - ▶ Debating adding these locations on cycle. Possibly 7-10 years

VMT Estimation

- Total the mileage for the county by Functional Class
 - ► Sample was 4.36 miles
- Total the Counted or Sampled mileage
 - ► Sample was .62 miles
- Total the VMT for the sampled segments
 - \blacktriangleright (.1*2220) + (.22*241) + (.3*100) = 222+53+30 = 305 VMT
- Divide this by the sampled Mileage
 - ▶ 305/.62 = 492 VMT/Mile
- Multiplied by total Mileage
 - ▶ 492 VMT/Mile * 4.36 Miles = 2145 estimated VMT Daily

Pitfalls

- Even though sampling by Municipality, still estimating by county
- Sampling by mileage does not specify a number of counts
- ▶ Long samples can still bias the average
- ▶ High AADT samples can heavily influence the averages

Future Improvements

- Currently analyzing the 10% sampling for potential increases
- Potential for smaller groupings than by county
- Potential for volume groupings

Questions???

Andrew Haynes – <u>andrew.haynes@dot.ny.gov</u>
New York State Department Of Transportation
Highway Data Services Bureau



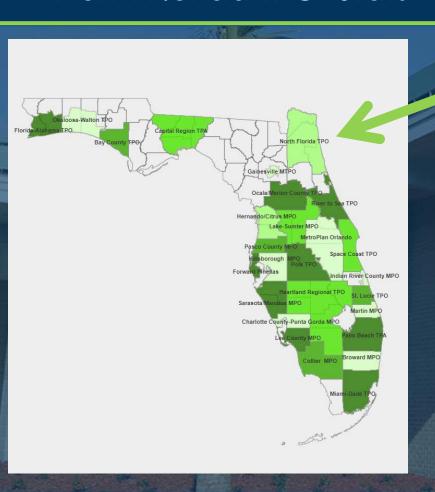
Jeff Sheffield
North Florida TPO





PLAN · FUND · MOBILIZE

North Florida TPO Stats



4 Counties = Duval, Clay, Nassau, St. Johns Land Area = 2,636 sq. mi. (Largest geographic boundary in the State) **Population** = 1,287,094 (4th largest in the State) Staff Size = 9 (3rd fewest staff per capita in the State at 1 to 140,813. State Average is 1 to 76,123) Average Annual Operating Budget = \$4.5M











SMART

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CONTACT

ARCHIVE FAQ

GLOSSARY

FTP

ABOUT PLANNING & STUDIES PUBLIC INVOLVEMENT DATA SMART SAFETY CLEAN FUELS

TI D '

SMART NORTH FLORIDA

ITS RTM

DEVICES

TRAFFIC INCIDENT MANAGEMENT

AUTOMATED VEHICLES

The Regional Transportation Management Center (RTMC) is the hub of our region's intelligent transportation systems.

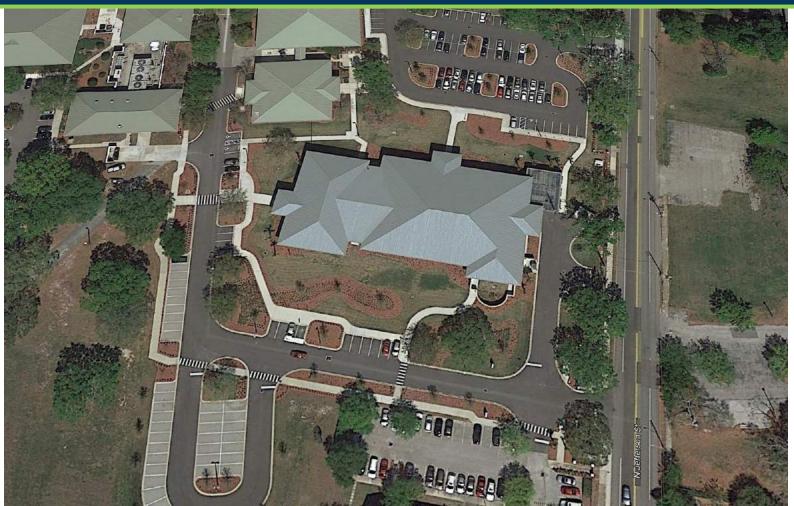
It opened in 2015 as the culmination of a 12-year partnership among the North Florida TPO, Florida Department of Transportation and Florida Highway Patrol. The North Florida TPO offices are located in the same building adjacent to the RTMC.

Resources





North Florida Regional Transportation Management Center (RTMC)



North Florida Regional Transportation Management Center (RTMC)

- Florida Highway Patrol
- Florida Department of Transportation
- Florida Fish And Wildlife
- Jacksonville Sheriff's Office
- North Florida TPO
- Jacksonville Transportation Authority
- Emergency Operations Centers
- Jacksonville Port Authority
- Law Enforcement Clay, Duval, Nassau and St. Johns Counties
- Fire/Rescue Clay, Duval, Nassau and St. Johns Counties
- Others....

SII ARTH NORTH FLORIDA

Harnessing the power of Smart Technologies,

Coordinated Data, and Regional Collaboration
to improve North Florida's economic competitiveness,
sustainability and quality of life.

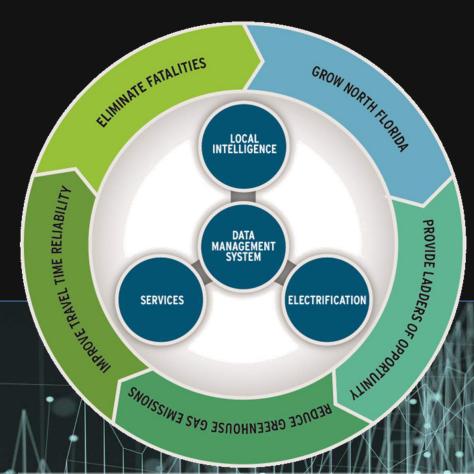
It started as a Transportation Initiative...

Objectives

- Eliminate Fatalities
- Improve Travel Time Reliability
- Reduce Greenhouse Gas Emissions
- Provide Ladders of Opportunity
- Grow North Florida

Project Categories

- Local Intelligence
- Electrification
- Services
- Data Management System



SII ARIDA NORTH FLORIDA

SIGNATURE PROJECTS





EASIER



ZONE 20010

Sign up at ParkStAug.com









BETTER AT BASICS



THIS SMART BIN
REDUCES WASTE
COLLECTIONS UP TO 80%







SII ARIDANORTH FLORIDA



NORTH FLORIDA SMART REGION VISION

- · Air quality monitoring
- · Rapid response information

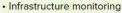


- · Smart recycling
- Sophisticated waste management





- · Demand responsive distribution Intelligent meters
- · Building environmental conditions
- · Incident response management
- · Remote monitoring and management



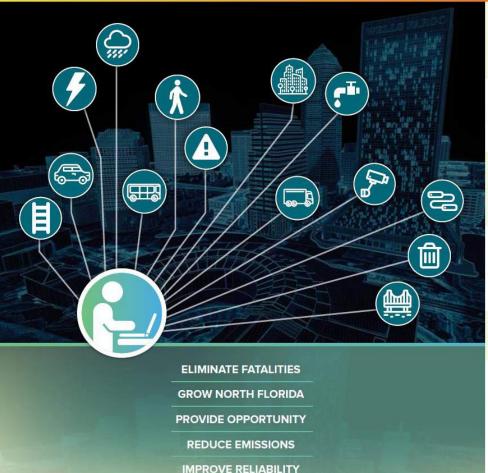
- Predictive maintenance
- · Security and safety detection and notification



- Connections to transit
- · Ride sharing incentives
- Remote health care
- Smart cards
- · Transportation for the disadvantaged
- Technology jobs
- · Integrated data exchange
- · Public WiFi
- · Regional shared fiber
- Security
- · Connected vehicles and corridors
- Integrated corridor management
- · Smart parking management
- Pedestrian warning and detection



(1)





- Automated vehicles
- Neighborhood connectors
- · Special event management
- Skyway modernization (U2C)
- · Transit signal priority



- · Bike sharing
- · Pedestrian and bicycle warning
- · Wayfinding and event management kiosks
- · Smart lighting



- · Loading zone parking management
- · Rail crossing safety system
- · Truck parking on Interstates
- Truck parking at JAXPORT
- · Truck priority at key locations



- · Automated parking enforcement

- · Crime detection and notification
- Incident management Gunshot detection

 - · Rail crossing notification
 - Traffic information for first responders



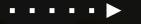
- High wind warnings
- · Street flooding warnings
- Visibility warnings (fog and rain)
- CNG and LNG logistics
- Electric vehicle charging stations
- · Solar roads and paths



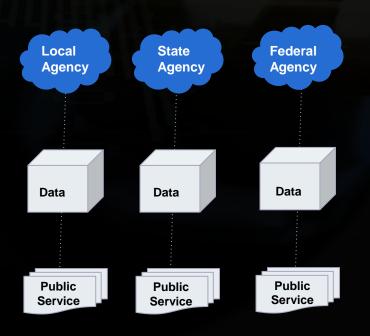
- · Smart arid
- · Advanced detection lighting sensors
- · Smart recycling
- · Intelligent water distribution



Current state

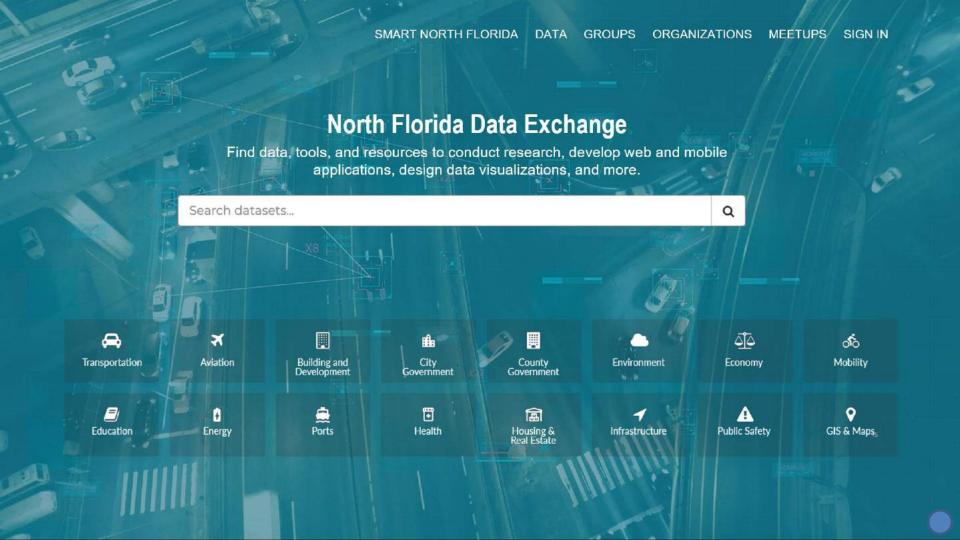


Future state





Simple ... at least in concept!



THE PAST Reports Historical Data

JOHN ANNUA MURRAL MICHAEL QUALITY OF TRAVEL Traffic delays increased and cost our region \$990 million in SPEEDS AND DELAY SPELED AND DELAY SPELED AND DELAY FOR THE REPORT PROPERTY THAT SPEND FOR PROPERTY TO MAKE IT THE FOR THE ARCHITECTURE AND THE ARCHITEC Frint's slawed arcsety 2016, congestion cost North Florida \$990 million in economic losses. 48.64 46.04 46.61 SERVER SHORT TIMES 69.98 72.08 70.69 On omissions and fact gravature to 1.4 percent of Delay in during Peak Hours Vehicle-Hours Congested during Peak Hours In 2016, vehicle crashes cost \$4.9 billion in economic losses. IN 2016 31.744 crashes 234 in motor vehicles Z 58 pedestrians - O 7 cyclists | = 7 Total Fatal Crash Rate 44% To read the full 2018 Mobility Report, please visit the DATA section at www.northfloridatpo.com 904.308.7500 // 980 NORTH JEFFERSON STREET

NOW

Historic, Real-time and Predictive



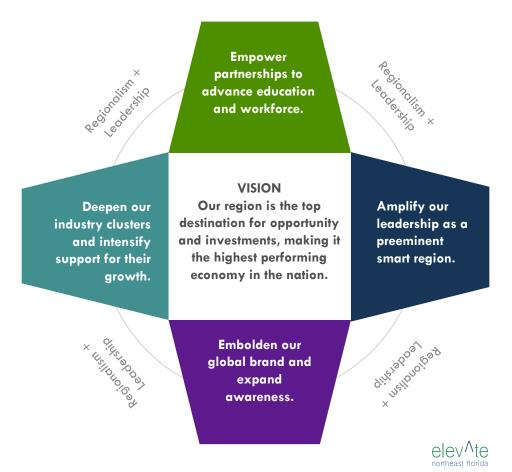
SIIART NORTH FLORIDA

People & Partnerships



5- Year Economic Development Strategic Framework

JAXUSA Partnership, the private, nonprofit division of the JAX Chamber, is the economic development initiative overseeing efforts in the seven-county Northeast Florida region







JAXTAB

THURSDAY, JAN 31 @ 5:30PM



RSVP HERE

WELCOME TO TECH AND BEER

Join us as we kick off our first of many Tech and Beer events in Jacksonville. TAB is a platform for like-minded tech professionals, business owners, startups, and investors to connect, collaborate, and get inspired to drive innovation.

*Networking and start-u
*Complimentary Black S
and Intuition Ale Works

"Learn about the BayJax I Corridor and how our lo needed to power the No Region.

*Ride JTA's autonomous win TAB T-shirts by pro incorporated into the v

TAB was launched in O leading tech communit people that drive chan at <u>TechandBeers.com</u>. to see you there!

-The TAB Team









Please Register at JAXTAB.org.

الكاا

JAXTAB WITH THE JAGS

THURSDAY, APR 11@ 5:30pm

TIAA Bank Field
Fields Auto Terra

Fields Auto Terrace Suite PARK in Lot D and ENTER Gate 4 TAKE elevators to terrace level

Complimentary stadium club food and beverages from Intuition Ale Works!

Learn about current and future technology inside and outside stadium. See a demo of the Next Gen Stats/Player Tracking System demo. Get the scoop on the \$2.5B Shipyards Development, Smart City Elements and the Spark Collaborative

RSVP NOW

TAB (Tech and Beer) was launched in Orlando, FL in 2017 and has grown into a leading tech community platform for like-minded tech professionals, business owners, startups and investors to connect, collaborate and get inspired to drive innovation.



space.





Do you have an idea to improve our community?

Join us December 12 at Champion Brands for Ideafest as we crowdsource idean and opportunities to improve our community in these categories.

Sofety | Mobility | Energy/Climate | Opportunity for All | Economic Growth | Education | Health

Enjoy fine American and imported beverages from our host Champson Brands and check out their awersons new energy efficient facility.

Your ideas will be compiled, vetted and shared communitywide in our January POLLapalcoca.

The top-polling ideas will frame use cases for a spring Hackathen where competitive review and prices await

Join us in uplifting our community and celebrating smart ideas.

Thursday December 12 5:30 p.m.

Imagine.

triugme is sky that connects people, places and intermeter afterteets, it sky that uses data to make the most of our lines and resources, and lease as safe and healthy. A city that provides prowiff and population has been and specially be all.

shaging - a smart rify that intercess the lives of the people who live, work and shall there.

Eggetfast, we can make this a roality. The Simust footh Horstle resections is proving with people and organizations who share this wistor, fall we part this it alone. We result play alone and follow tree is being this black of a smart old to the right have an harth Simish.

yet anathor/dutils can to test rock.

SMART ST. AUGUSTINE

7.16.19





PO LA PA LOOZA

SI ART

Can we count on you to help improve our community?

Join Smart North Florida and JAXTAB February 5 at Intuition Ale Works as we kick off POLLapalooza - a festival of smart ideas and smart choices. You can check out Intuition's new Bier Hall and enjoy snacks from Mojo.

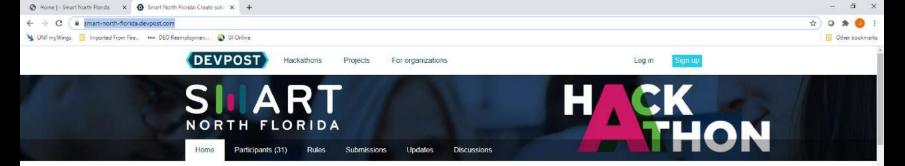
We're thrilled to have guests from the Florida Business Incubation Association. Jacksonville is also hosting a Techstars Startup Weekend at the UNF Center for Entrepreneurship & Innovation February 7-9, so we hope participants come early to connect with us.

Thanks to all who have submitted great ideas at www.snfideafest.coml POLLapalooza will provide an opportunity to review and rank ideas to select challenges for the Smart North Florida Hackathon.

Wednesday February 5 5:30-8 p.m.

Intuition Ale Works Bier Hall 929 E Bay St., Jax

> RSVP on Meetup





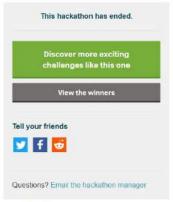


Create solutions to solve crowdsourced problems for smart cities

The Smart North Florida Hackathon is a series of one week hackathons to improve Safety, Mobility. Energy/Climate, Homelessness, and growing our regional economy in North Florida by solving community challenges through technology, data science, and design,

Using innovative and emerging technologies to collect, analyze and apply data to solve problems, we can address some of our challenges and enhance the region's livability.

Smart North Florida is accepting submissions to the first challenge statements over a one week period to be reviewed by a panel of judges. Winners will be announced during a virtual meetup on May 29.





















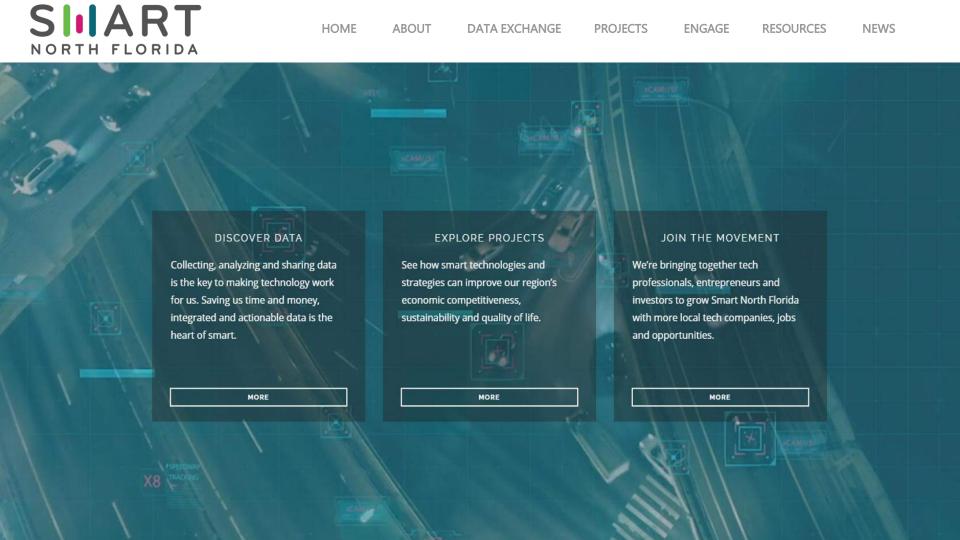
SIIIARIDA NORTH FLORIDA













Thank You for Attending!



Christopher Melson LTAP Program Manager (225) 767-9118 cmelson1@lsu.edu



https://simcap.eng.lsu.edu/