



PENNY FOR TRANSPORTATION

WHERE LOCAL CHANGE HAPPENS



Typical Rush Hour Commute

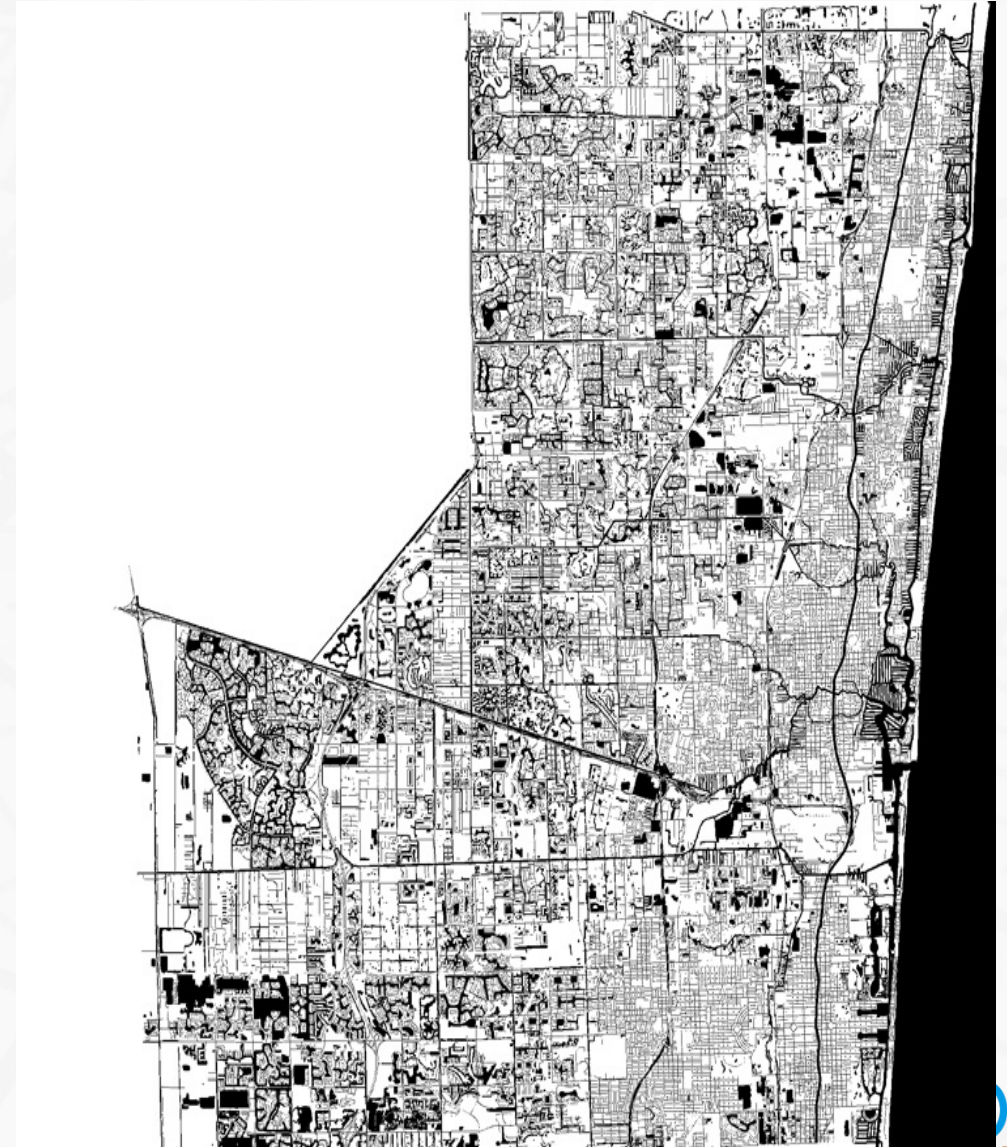


In the News



Broward County – Built-out, but still growing

- Population 1.92 million
- <10 sq. miles of vacant land
- Conservation Area precludes westward growth
- Future growth will be redevelopment:
 - Increased density
 - Mixed use
 - Transit-oriented



Broward County Challenges

- Even now, in a time of “economic recovery” and low unemployment (Broward’s rate has been below 4% for 2018**), **Broward’s poverty rate remains around 13%***
- The average Broward household has two cars***
- Less than 2% of Broward residents regularly utilize public transportation****
- **Household could save up to \$10,000/yr without the expenses of a car*******

U.S. Census data; ** Bureau of Labor Statistics; *American Community Survey; ****Broward County Transportation data; *****American Public Transit Association*



How Transportation in Broward is Funded Today

- Transportation programs are currently funded primarily with gas tax revenues which have not increased in 20 years because more fuel efficient cars mean less gas tax revenue
- Broward receives the lowest amount of funding per capita for roadway projects of any county in Florida: \$34*
- Many planned Broward transportation projects were deferred during the economic downturn to keep taxes low
- In the last 10 years, 63 out of the 67 Florida counties have levied surtaxes – Broward County has not*

*(*Source: Florida Assoc. of Counties)*



Overview of the Plan

- Collaborative plan with projects in every community
- Prioritizing connectivity and congestion relief
- Dedicated transportation-specific funding; kept in a “locked box” only for that purpose
- **Independent** Oversight Committee manages
- When projects are completed, tax expires
- Makes us eligible for a larger share of state and federal funds (brings back our own tax dollars)



Benefits of Multi-Modal Transportation

Adding more greenways, bicycle and pedestrian amenities can:

- Reduce vehicle emissions
- Decrease costs to maintain our roads
- Improve public safety, especially around schools
- Help us remain competitive as a destination for business and travel

People use public transportation when it is dependable, reliable, convenient and affordable*

(*APTA)



Why a Surtax

- Approximately 30 percent of revenues would be paid by non-Broward residents, including our millions of visitors and tourists
- Having a local, dedicated source of revenue has been estimated to leverage at least \$3 billion in matching funds from federal, state, and other sources that are currently going to other counties and states*



Taxable Items



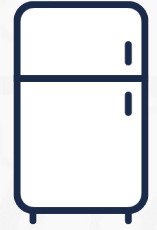
Dining



Clothing

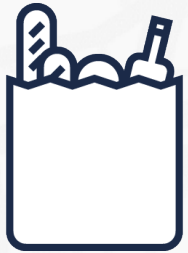


Automobiles**



Appliances

Non-Taxable Items



Groceries*



Gas



Health/Medical



Prescriptions



The Proposal: A Penny for Transportation

A dedicated source of funding for countywide transportation system improvements through the levy of a 30-year, 1 cent surtax.



What Our Community Is Saying...

- Members of the public consistently rank **traffic congestion** and **signal synchronization** as priorities for Broward County
- Safer **bicycling** (bike lanes and paths) and **pedestrian amenities** (sidewalks, lighting) are also identified as critical
- Expanding the amount of **greenways** (open recreational pathways connected across the county) is popular with our residents
- Better coverage, reliability and frequency of **public transit** is needed
- **Roadway flooding** and **drainage issues** need to be addressed



What's on the November 6th Ballot

FUNDING FOR COUNTYWIDE TRANSPORTATION SYSTEM IMPROVEMENTS THROUGH LEVY OF SURTAX

Shall countywide transportation improvements to reduce traffic congestion, improve roads and bridges, enhance traffic signal synchronization, develop safe sidewalks and bicycle pathways, expand and operate bus and special needs transportation, implement rail along approved corridors, and implement emerging transportation technologies, be funded by levying a thirty year, one percent sales surtax, paid by residents and visitors, with the proceeds held in a newly created trust fund and all expenditures overseen by an independent oversight board?

YES _____

NO _____



Creating a S.M.A.R.T. County

Collecting, integrating and analyzing data (IoT video)





geospatialworld.net

Play (k)



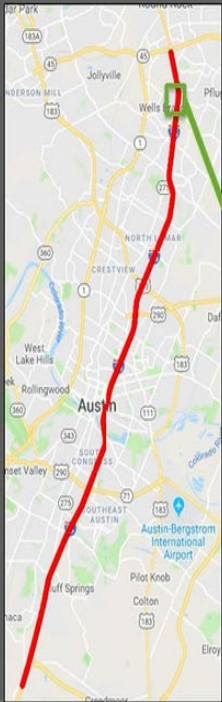
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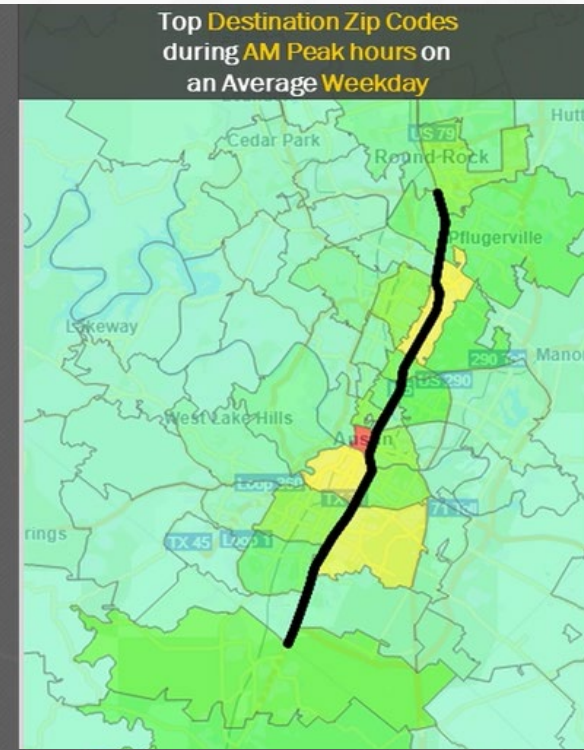
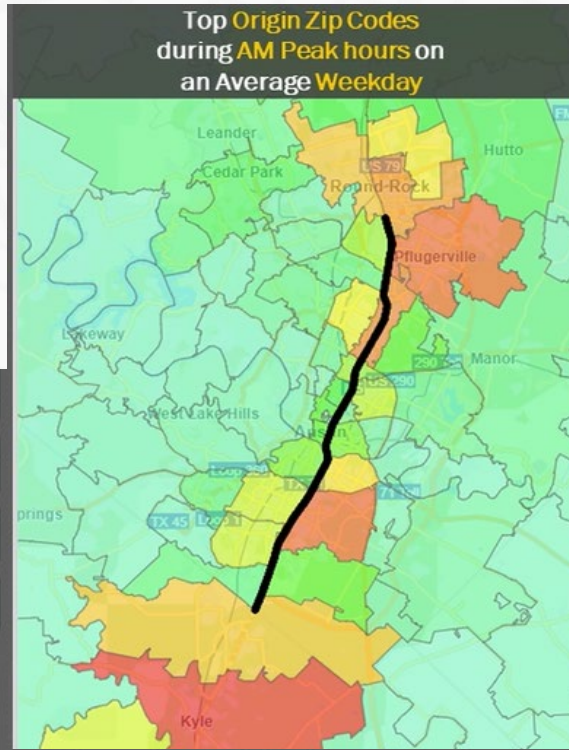


How data drives better decisions

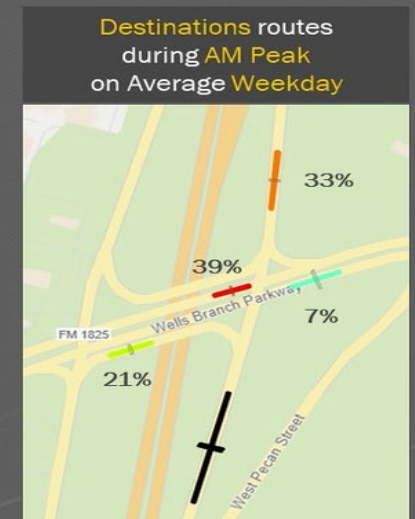
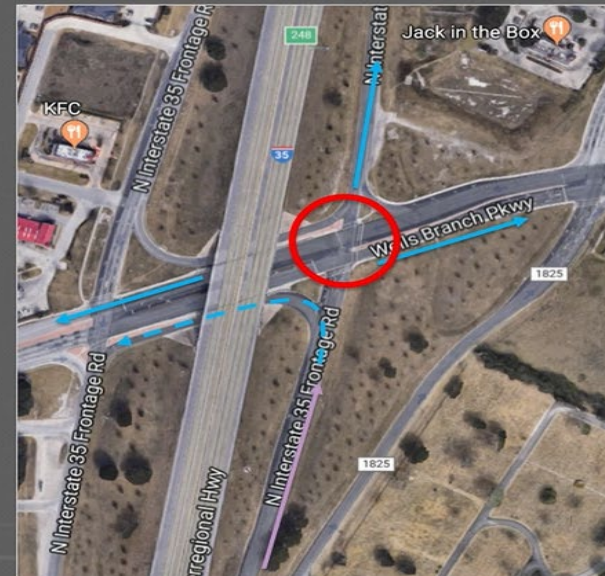
I-35 at Wells Branch Parkway Project



- Improve intersections, including adding bypass lane
- Reconstruct 4 entrance & exit ramps on I-35
- Improve bicycle and pedestrian accommodations

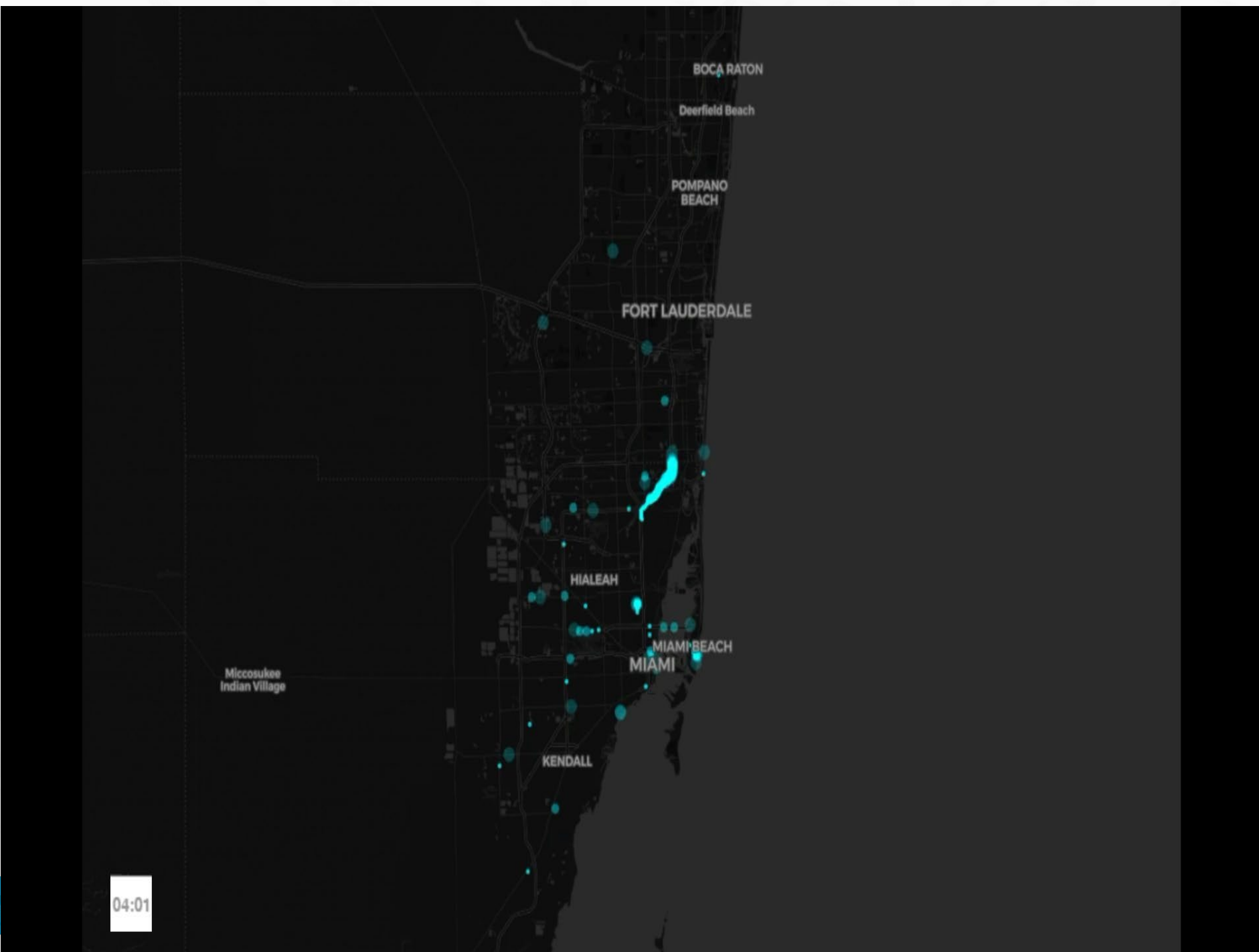


Will a frontage bypass help?



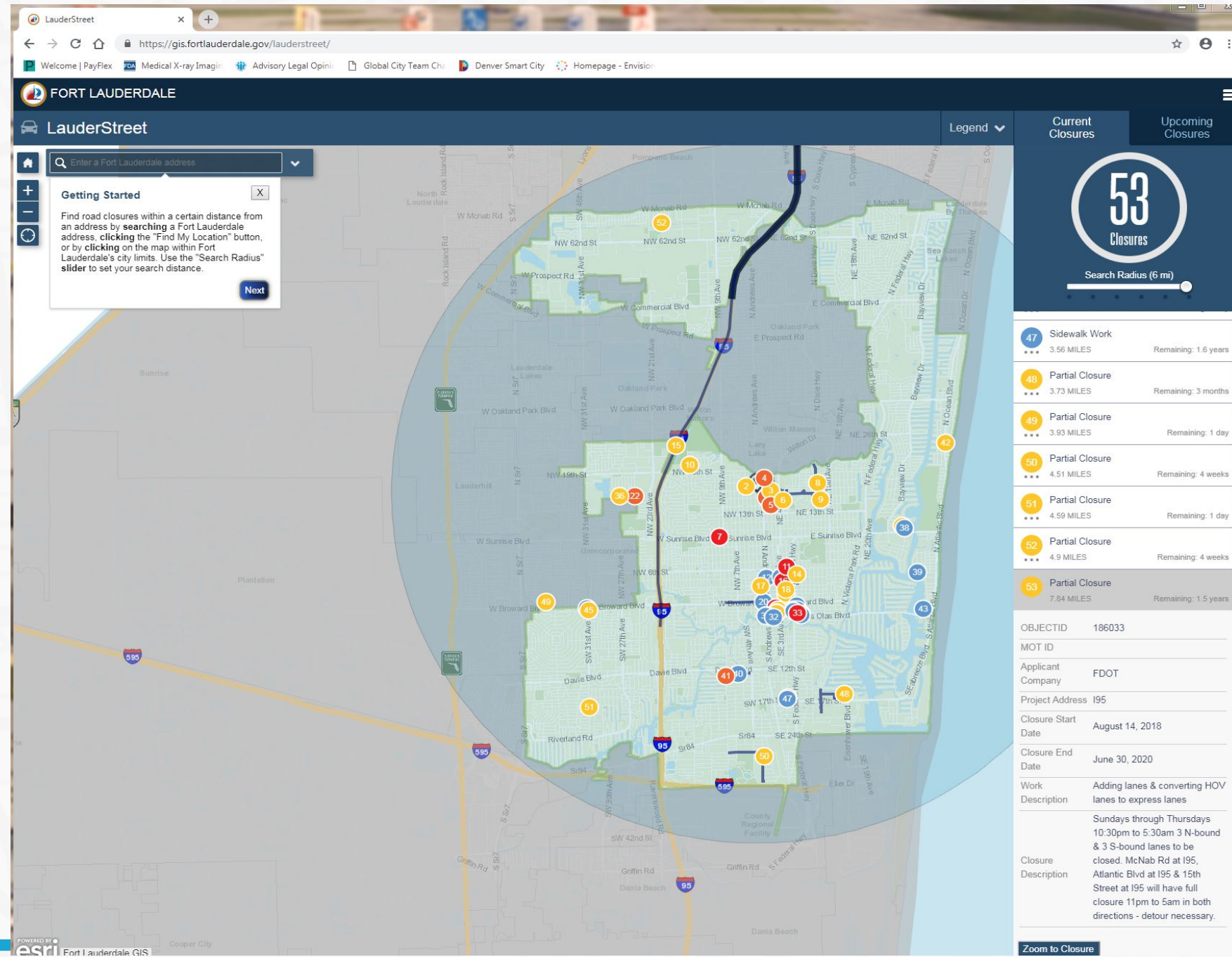


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Communicating with Data

- > building on “transparency”
- > changing public interface with local government
- > using engaging, accessible data-driven solutions
- > improving quality of life



Data Does What?

Allows us to:

- understand origins and destinations across various modes
- measure travel times, count pedestrians, measure length of time to cross street, measure frequency of crosswalk use
- analyze patterns of use and detect unusual slowdowns
- implement predictive modeling to detect vehicle crashes and breakdowns to speed response and ensure maintenance of traffic flow and communicate with vehicles to provide speed limit and length of red light
- define the appropriate type of transportation solution (context)



Data Does What?

Allows us to:

- provide convenient and centralized access to multiple transportation options and information throughout the County via a centralized portal (tested, branded, accessible app)
- deploy Intelligent Transportation Systems to manage traffic congestion on a macro-scale
- Create innovation zones using a SMART County approach
- *CONNECT*
 - *Freight*
 - *Fleet*
 - *Citizens*



Data Does What?

Allows us to:

- Instantaneously view performance across systems
- Offer transparency and accuracy of reporting
- Understand impacts of improvements and make adjustments, nimbly
- Justify investments
- Improve competitiveness of grant applications
- *Move more people faster*



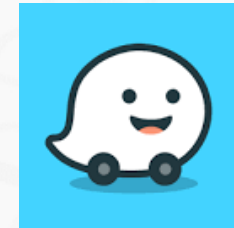
Harnessing Data to Optimize Existing Roads

- Roadways are the new Information Superhighways
- Harnessing this data will help us optimize traffic flow now and into the future
- Good News!
 - Much of the needed data already exists
- Bad News!
 - It's in silos
 - Scattered among various departments

TRAFFIC ENGINEERING DIVISION
Broward County ◀ Traffic Engineering Division



 **STREETLIGHT DATA**
Big Data for Mobility



- Or in disconnected private sector applications



Harnessing Data to Optimize Use of Existing Roads

- This results in a fragmented view of what's happening on the roadways



Breaking down silos



Innovation Unit

- Bridge silos between departments and integrate technology with the built environment to provide replicable, reliable data to support/inform strategic decision-making and optimize operations.
- Foster the use of business intelligence (data analytics) across the organization by developing the data analysis skills of county personnel.
- Develop a “Center” for data and information to ensure “data is at management’s fingertips”. Explore and build cross-functional analytics and reports (understand, and then validate the data).



Collecting, Integrating and Analyzing Data

- Create “County Brain” (General Fund initiative)
- Integrate with Surtax/MAP technology (inward and publicly-facing) and mobility-specific innovation initiatives
- Invest in resources to effectively mine and analyze data
 - Partner with WAZE
 - Partner with M.I.T.
 - Partner with UF
- Place sensors on traffic lights, stop signs, speed limit signs, crosswalks, vehicles (including transit, shuttles, cars, etc.) to collect anonymized data, which will feed the “County Brain”



Innovation Unit

- Identify standardized methods for collecting data to support/inform strategic decision-making
- Provide data visualization and 3-D renderings to help decision makers better understand & interpret data
- Innovation District
 - Identifying, testing and ultimately standardizing the implementation of smart sensors and adaptive technologies across the organization to allow more effective and prompt responses to changing circumstances



Innovation Unit

- Support the efficient use of physical infrastructure (roads, storm sewers, and other physical assets) through the deployment of different types of electronic data collection sensors and the use of data analytics.
- Use information and communication technologies to
 - increase operational efficiency,
 - share information with the public and
 - improve both the quality of government services and citizen welfare.





MAP plan

- Inclusive of all surtax-funded projects, but also complementary projects (FDOT, MPO, housing projects, TOD, etc.)
- Layered to enhance the user-experience and visual accessibility of the Plans (looking at virtual reality tools, as well)
- 3-D imagery and videography will bring elements of the Plans to life (using innovation staff and external Communication Team)
- Delivering mobility to the people > *where they are and where they want to be* (ensuring impact and demand)

The future is data-driven “live” plans developed using advanced technologies and analysis methods; adaptive to trends... **flexible**



Broward County Surtax Approved in Nov. 2018

Major Cost Items Over Next 30 Years:

- Road/traffic capital projects- \$1.4 billion
- City projects - \$2.7 billion
- Transit capital projects and operating costs - \$11.5 billion

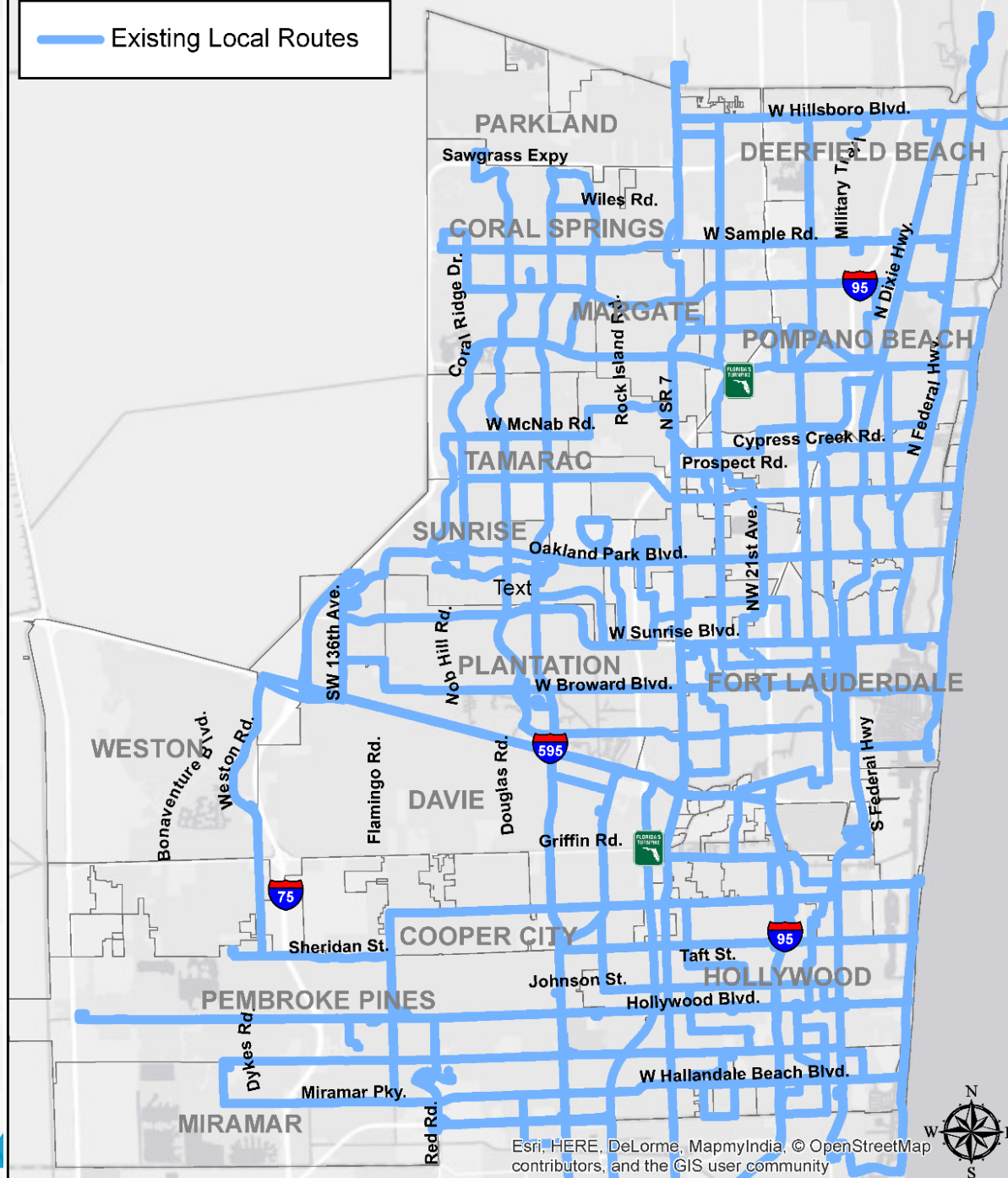


Changing the Transit Landscape

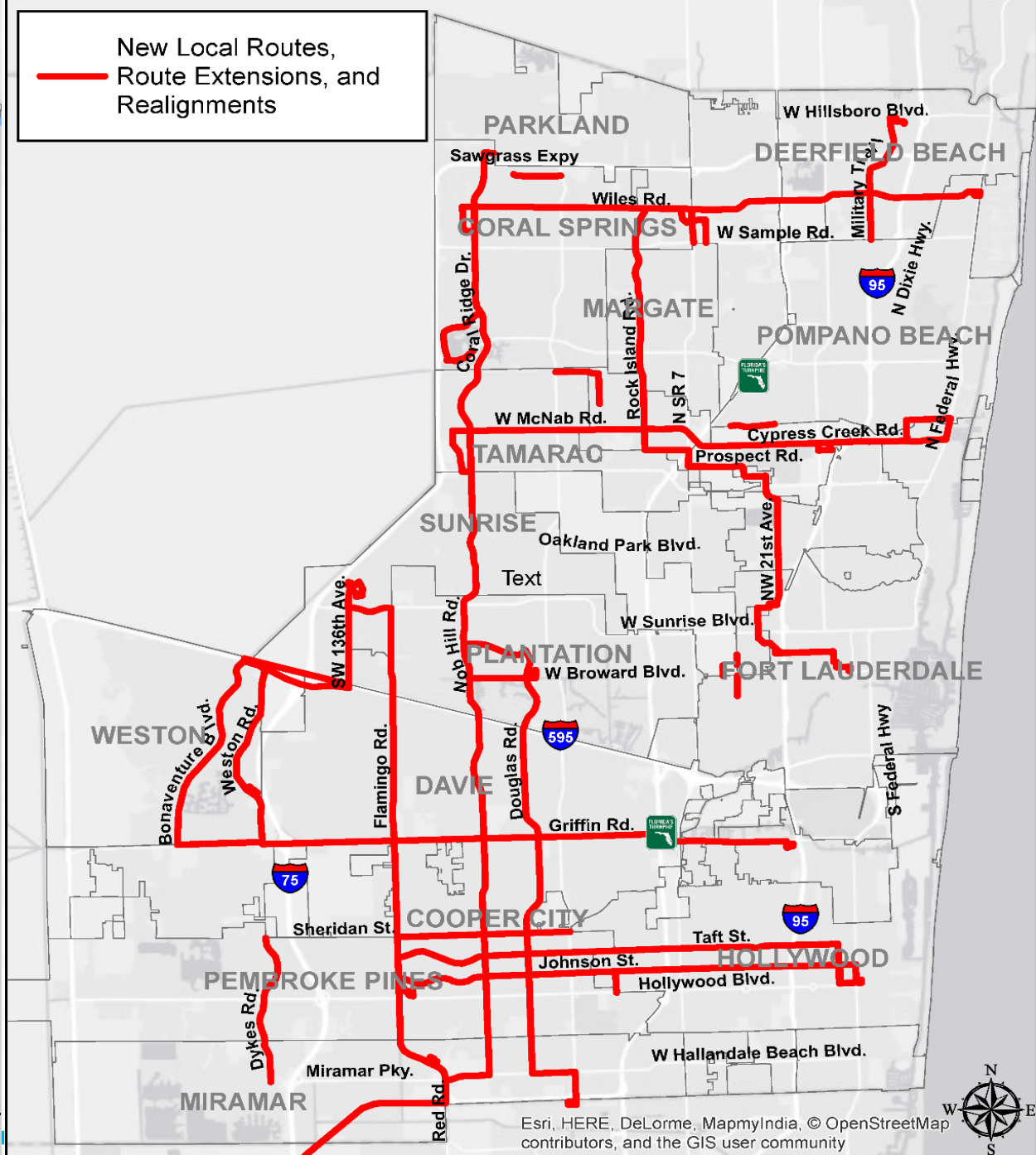
- As was promised to the voters, BCT intends to deliver an enhanced level-of-service, starting in 2019
- Realignments, extensions and new routes will mirror those placed in the Plan's educational materials, BUT
- Dependability, reliability and safety will be key features
- Mobile app and ticketing options attract/retain “choice” riders
- Approximately 26 miles of light rail planned throughout County, both north-south, east-west. Conducting a comprehensive study with considerable public outreach.



Existing Local Routes



New Local Routes,
Route Extensions,
and
Realignments



Roadway/Traffic/Signalization Projects


INTERRELATED SET OF PROGRAMS DESIGNED TO:

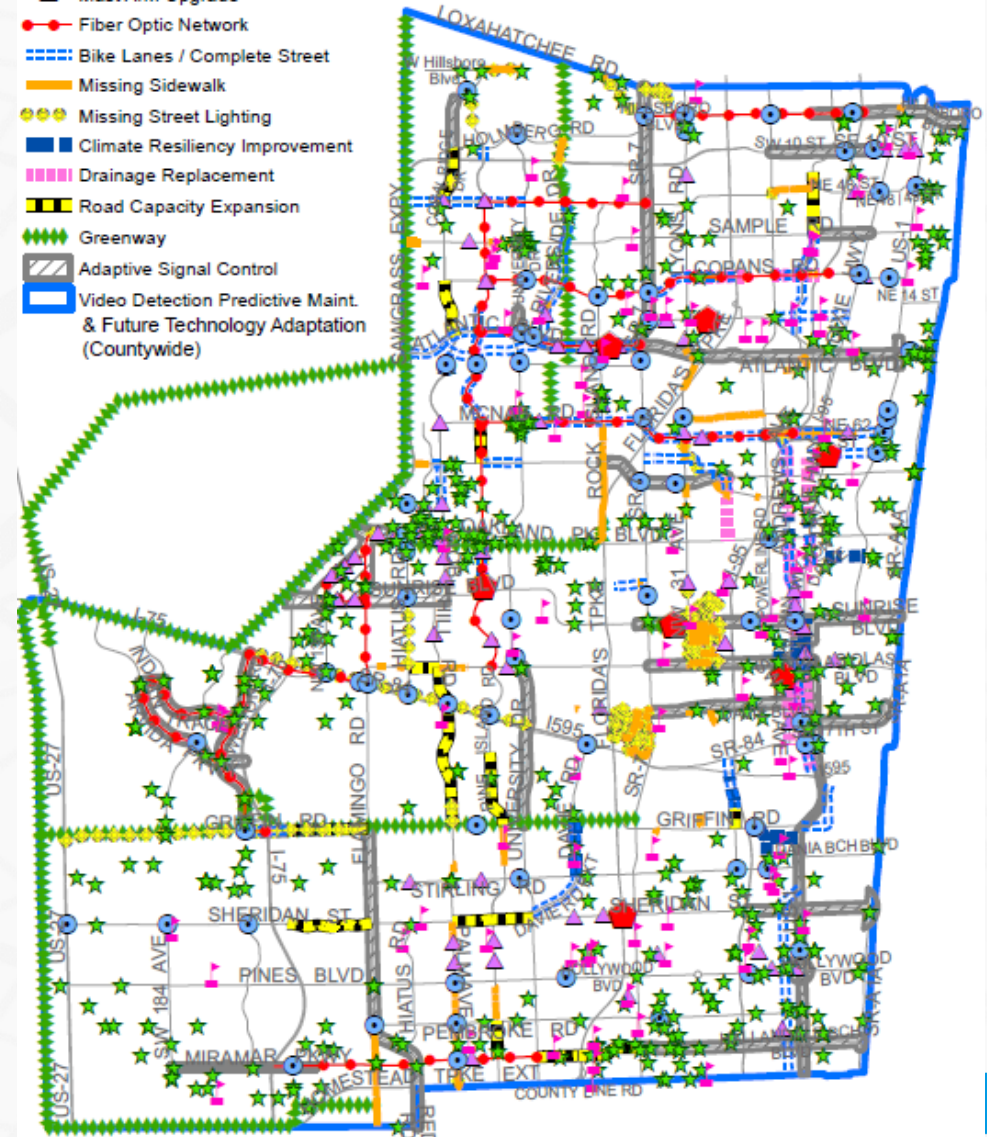
- Eliminate bottlenecks
- Improve traffic signal coordination with state-of-the-art technology
- Expand capacity
- Increase safety and reliability
- Enhance multi-modal and recreational opportunities



All Road/Traffic/City- Requested Projects

All Road / Traffic / City Projects

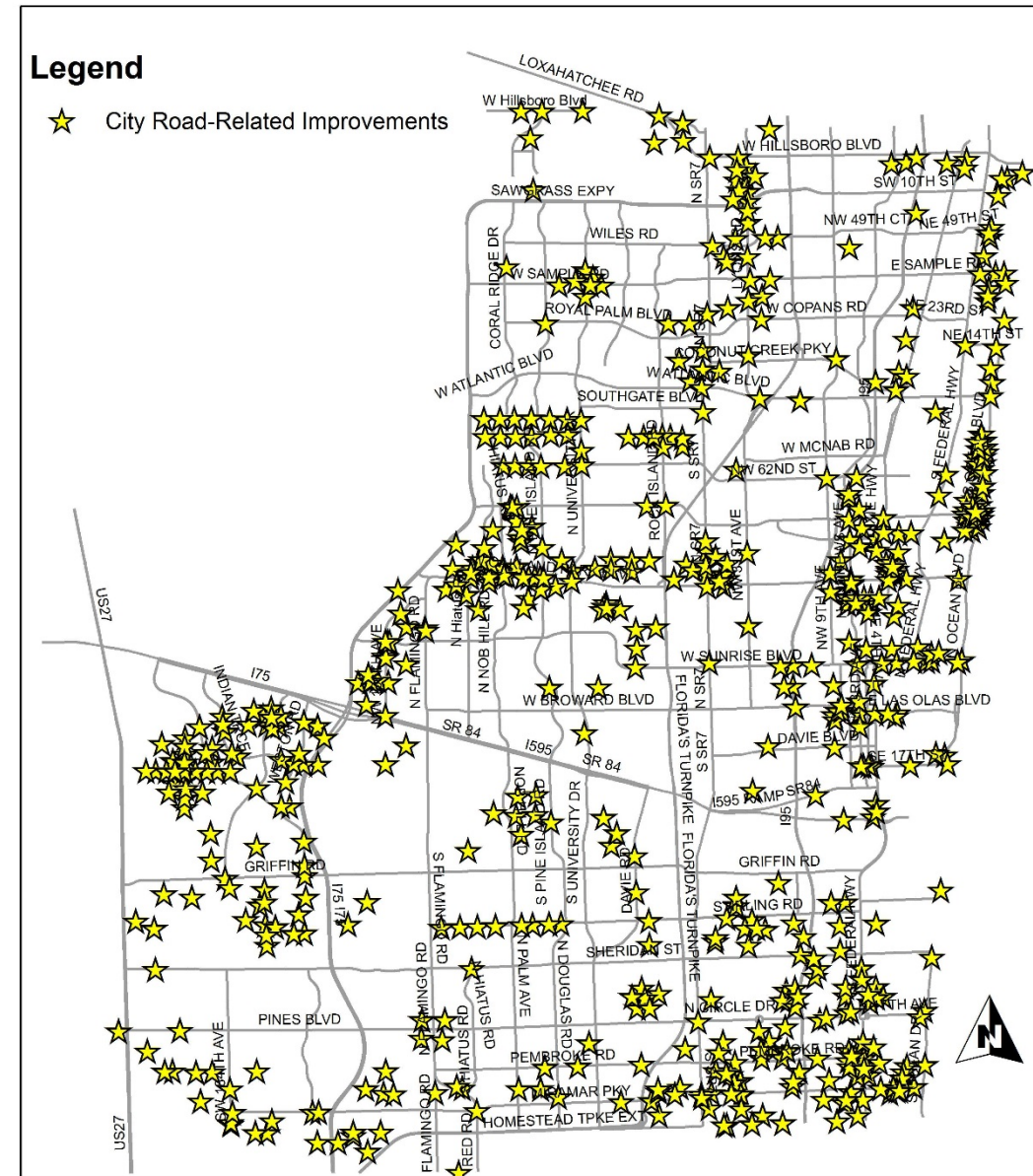
-  School Zone Safety Improvement
-  City Road-Related Improvement
-  County Bridge / Overpass Replacement
-  Intersection Improvement
-  Mast Arm Upgrade
-  Fiber Optic Network
-  Bike Lanes / Complete Street
-  Missing Sidewalk
-  Missing Street Lighting
-  Climate Resiliency Improvement
-  Drainage Replacement
-  Road Capacity Expansion
-  Greenway
-  Adaptive Signal Control
-  Video Detection Predictive Maint. & Future Technology Adaptation (Countywide)



City-Requested Projects

Approximately 710 submitted

- Includes a variety of Transportation, Complete Street projects and infrastructure improvements
- MPO evaluates and ranks projects for funding



Types of City Projects:

- Road capacity expansion
- Intersection improvements
- Complete streets
- Safety
- Adaptive signal control
- Fiber optic cables
- Road Improvements
- Connectivity (sidewalks, bike lanes)
- Stormwater/resiliency
- Greenways
- Resurfacing
- Pavement markings
- Maintenance
- Signage
- Transit and bus shelters
- Traffic signals



Roadway/Traffic/Signalization Projects

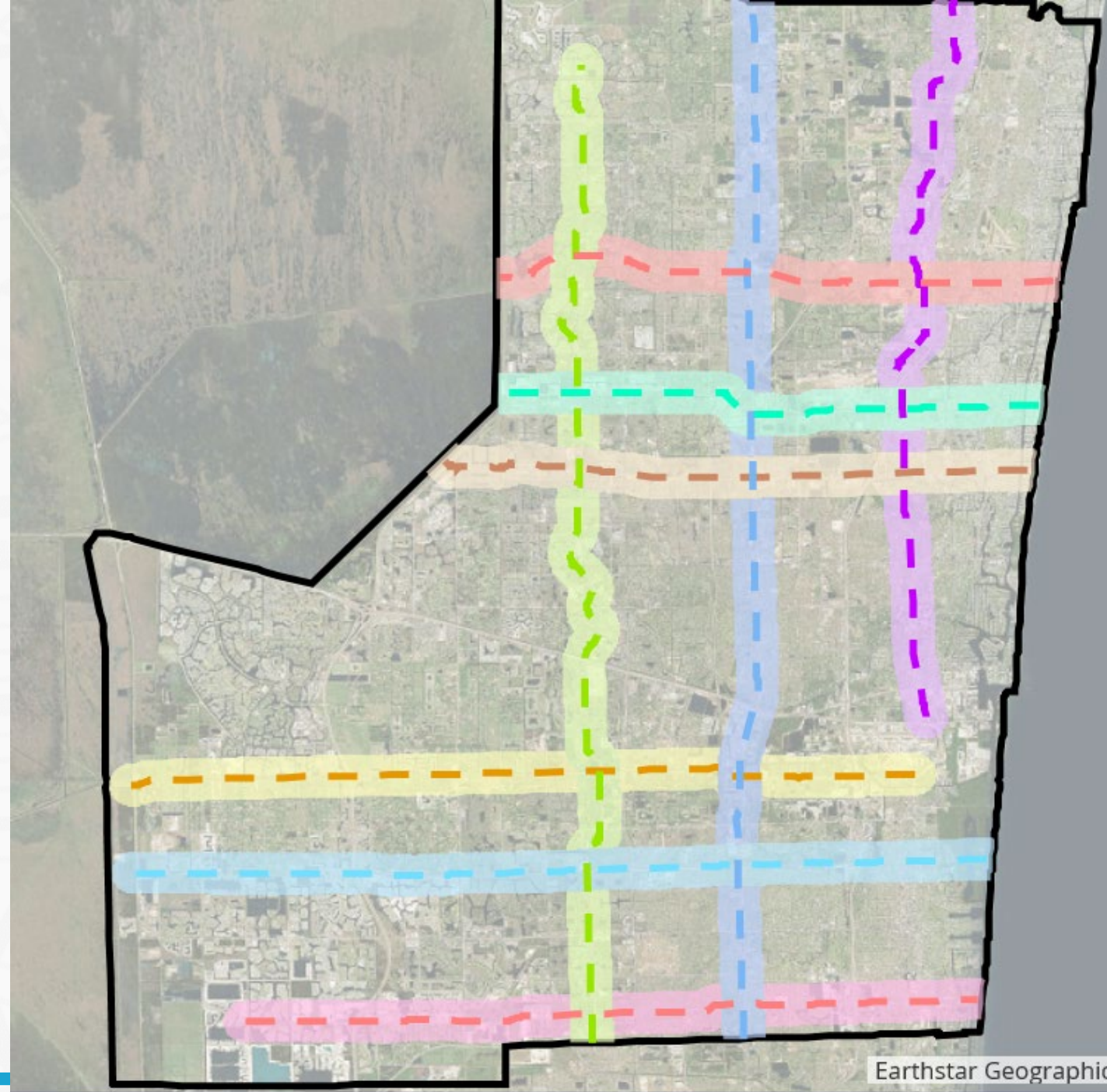
SUMMARY OF COUNTY IMPROVEMENTS:

- Road capacity expansion – 46 lane miles
- Intersection improvements – 73 intersections
- Adaptive signal control – 20 areas
- Fiber optic cables – 75 miles
- Traffic signal video detection predictive maintenance - countywide
- School zone safety improvements – 80 schools
- Sidewalks – 40 miles
- Street lighting – 70 miles
- Bike lanes – 72 miles
- Mast arm upgrades – 80 intersections
- Greenways – 95 miles
- Resiliency improvement/roadway flooding mitigation – 9 miles
- Drainage replacement – 27,500 feet
- Bridges/overpasses – 7
- Future technology adaptation



Nine Corridors (with 1/2 mile buffer)

- Atlantic Blvd
- Commercial Blvd
- Oakland Park Blvd
- Griffin Rd
- Sheridan St
- Hallandale Beach
Blvd / Miramar
Parkway
- Pine Island Road
- SR-7 / US-441
- Andrews Ave



Why Corridor Delivery is Key

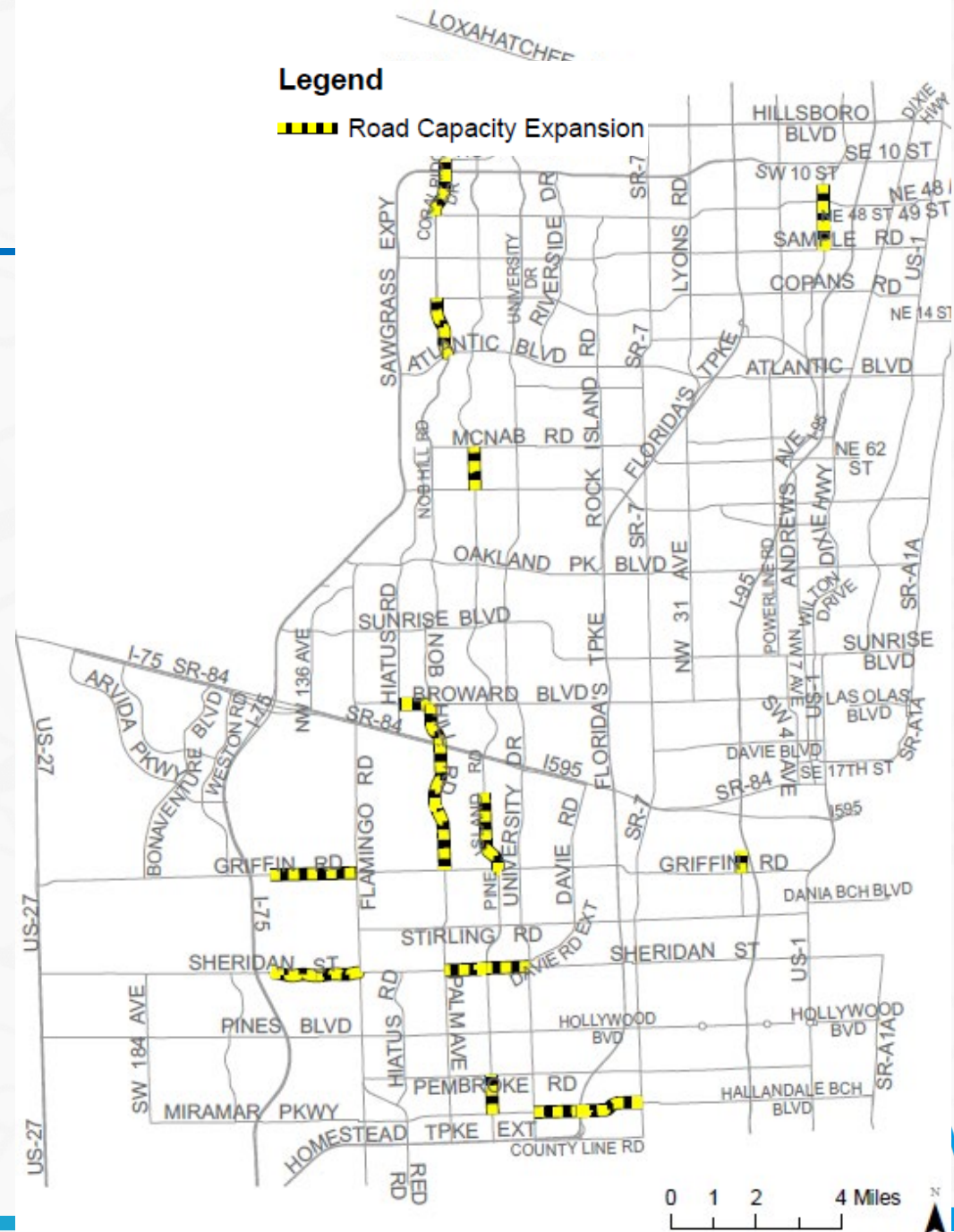
- Attracts experienced firms and teams
- Efficient. All feasible, contemplated projects in a corridor are bundled and delivered in a coordinated, phased manner, assuring limited disruption to businesses, residents, and other users of the corridor
- Offers broad geographic distribution of benefits
- Assist in coordinating MOT (maintenance of traffic)
- Visually understandable when communicating with diverse groups



Road Capacity Expansion

ROAD CAPACITY EXPANSION – 46 LANE MILES

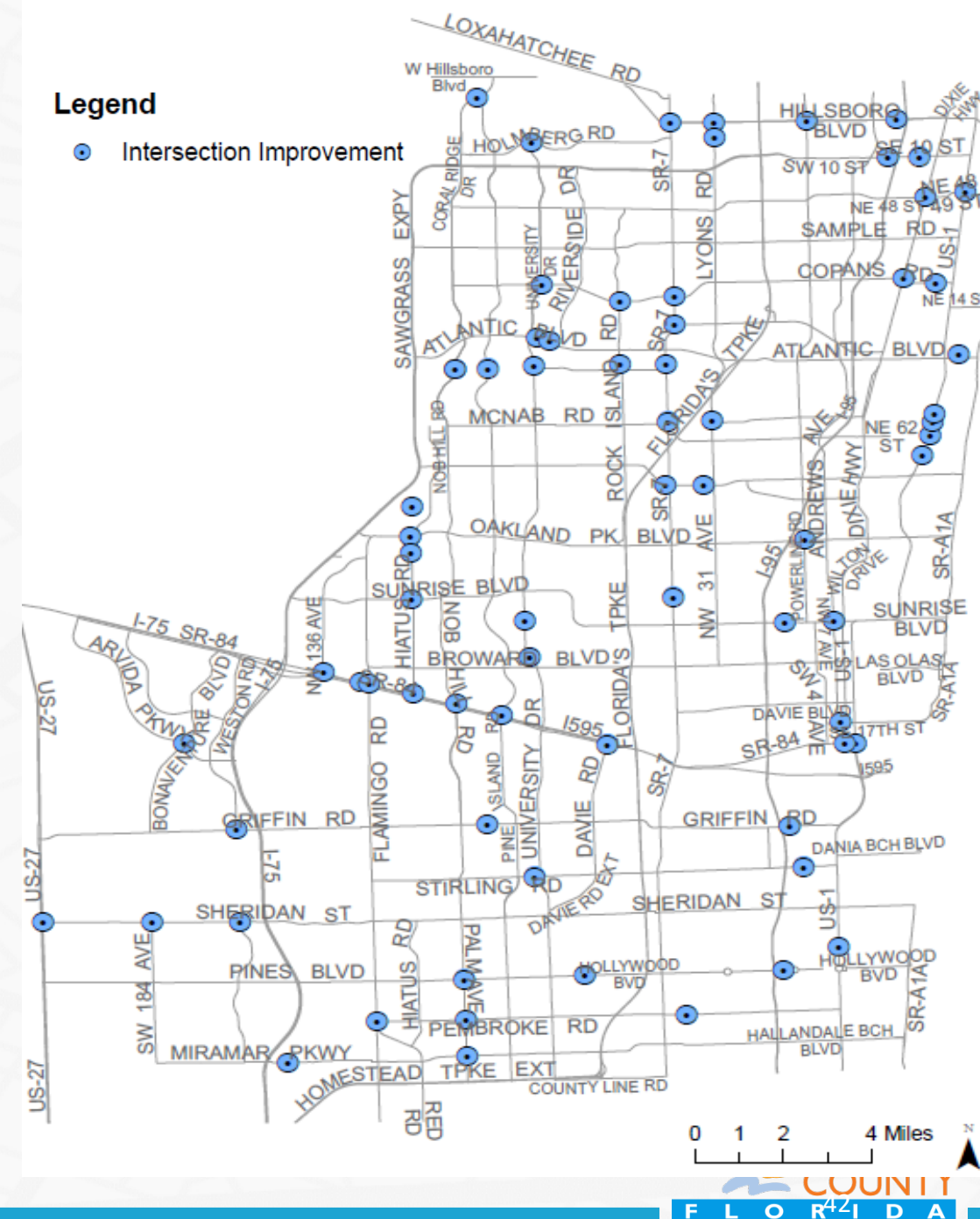
- County roads at or approaching level of service “F” (failing)
- Right-of-way mostly available
- Add lanes
- Upgrade roadway elements, including 49 intersections



Intersection Improvement

73 CONGESTED INTERSECTIONS WILL BE RECONFIGURED TO:

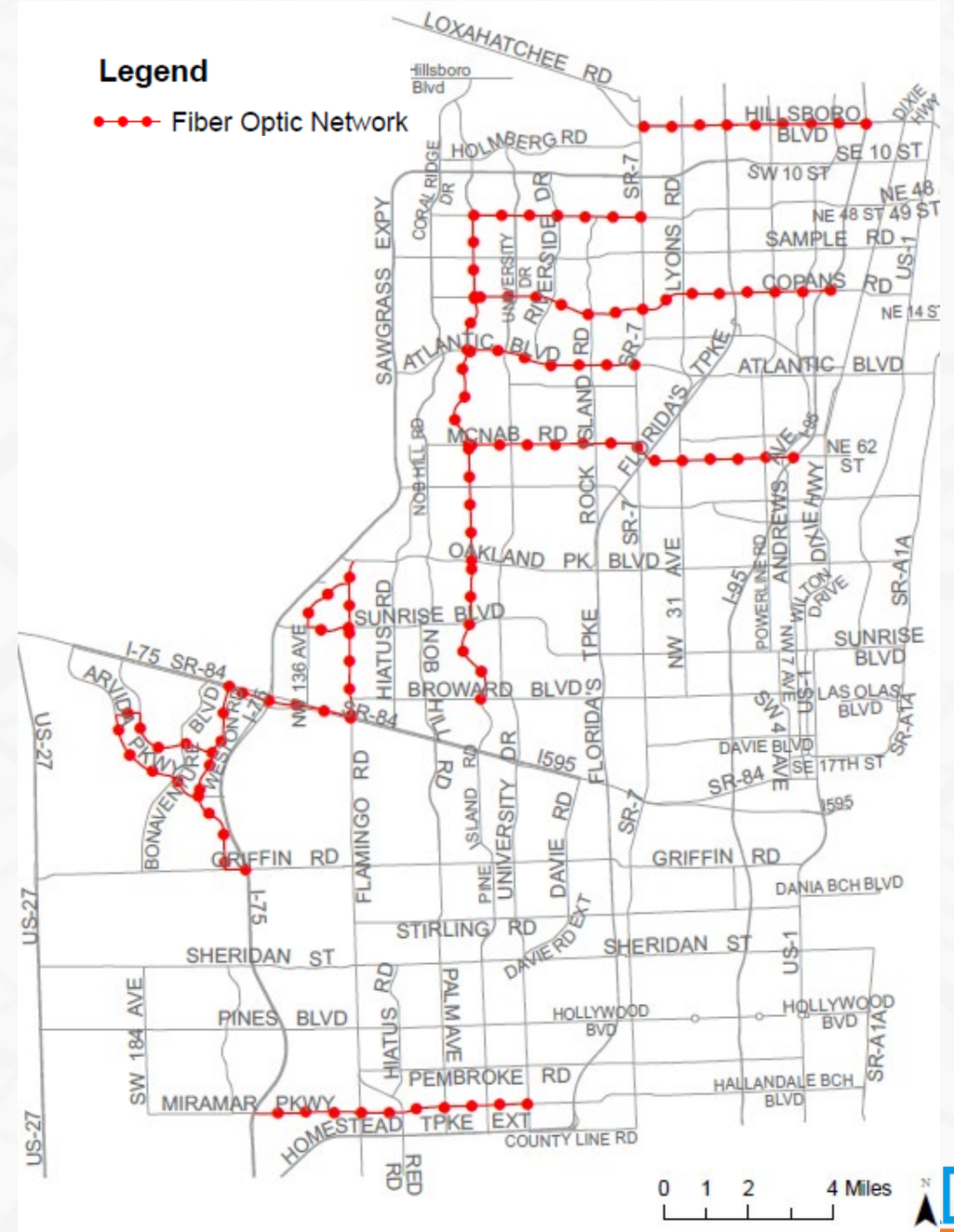
- Eliminate physical bottlenecks
 - County, State, and city intersections
 - Add turn lanes and through lanes
 - Increase turn lane length (contains more cars)
- Improve traffic flow (less congestion)
- Improve synchronization of entire corridor (allows for more green-time of light signals along a stretch of roadway)
- Additional locations under review by FDOT and may be added to State workplan or surtax plan in the near future



Fiber Optic Network

FIBER OPTIC NETWORK – 75 MILES

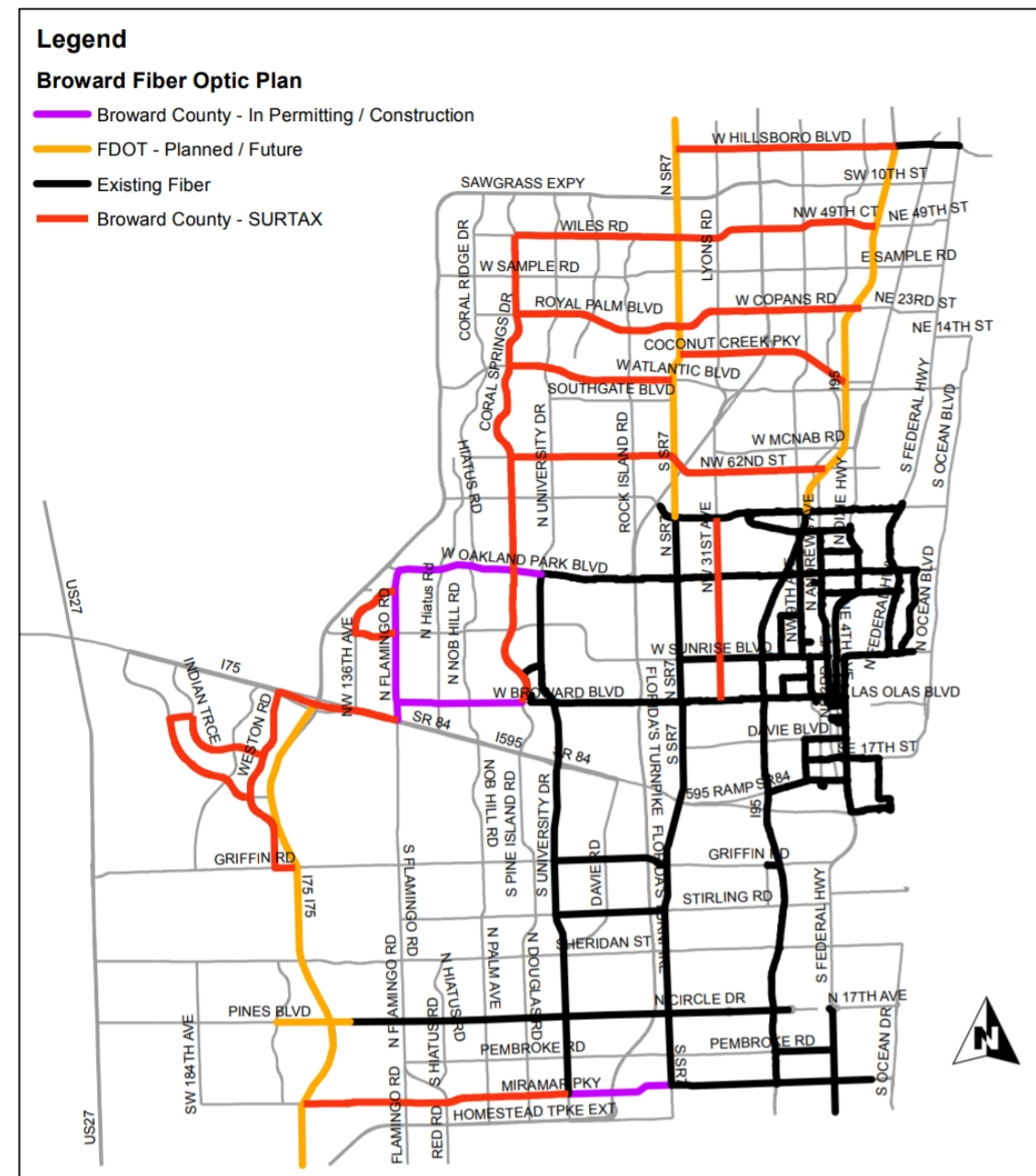
- Support new signal technologies
- Support new transit technologies:
 - Transit Signal Priority
 - Queue Jumping
- Improve traffic network reliability and resiliency



Fiber Optic Network

EXPAND EXISTING NETWORK

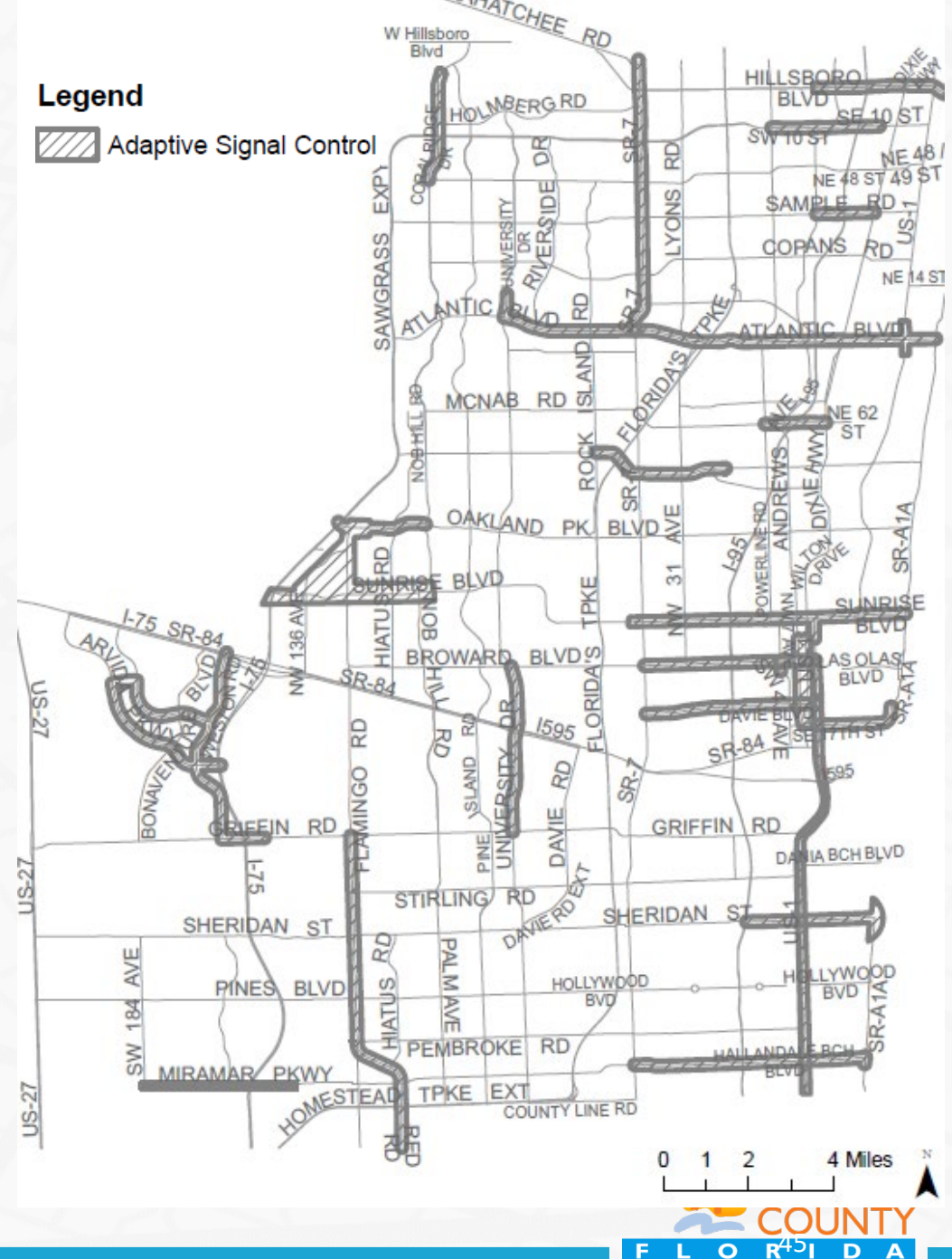
- Create fiber optic “backbone”
- “Close-the-loop” with existing fiber
- Shared use and installation with FDOT
- Support new signal technologies
- Support new transit technologies:
 - Transit Signal Priority
 - Queue Jumping
- Improve traffic network reliability and resiliency



Adaptive Signal Control

ADAPTIVE SIGNAL CONTROL – 20 AREAS

- Signal timing automatically “adapt” to real-time traffic
- Reduce delays due to train traffic and bridge openings
- Effective for areas with unpredictable traffic patterns
- Reduce duration of peak-hour congestion
- Potential impacts to side-street traffic will be carefully evaluated, monitored, addressed



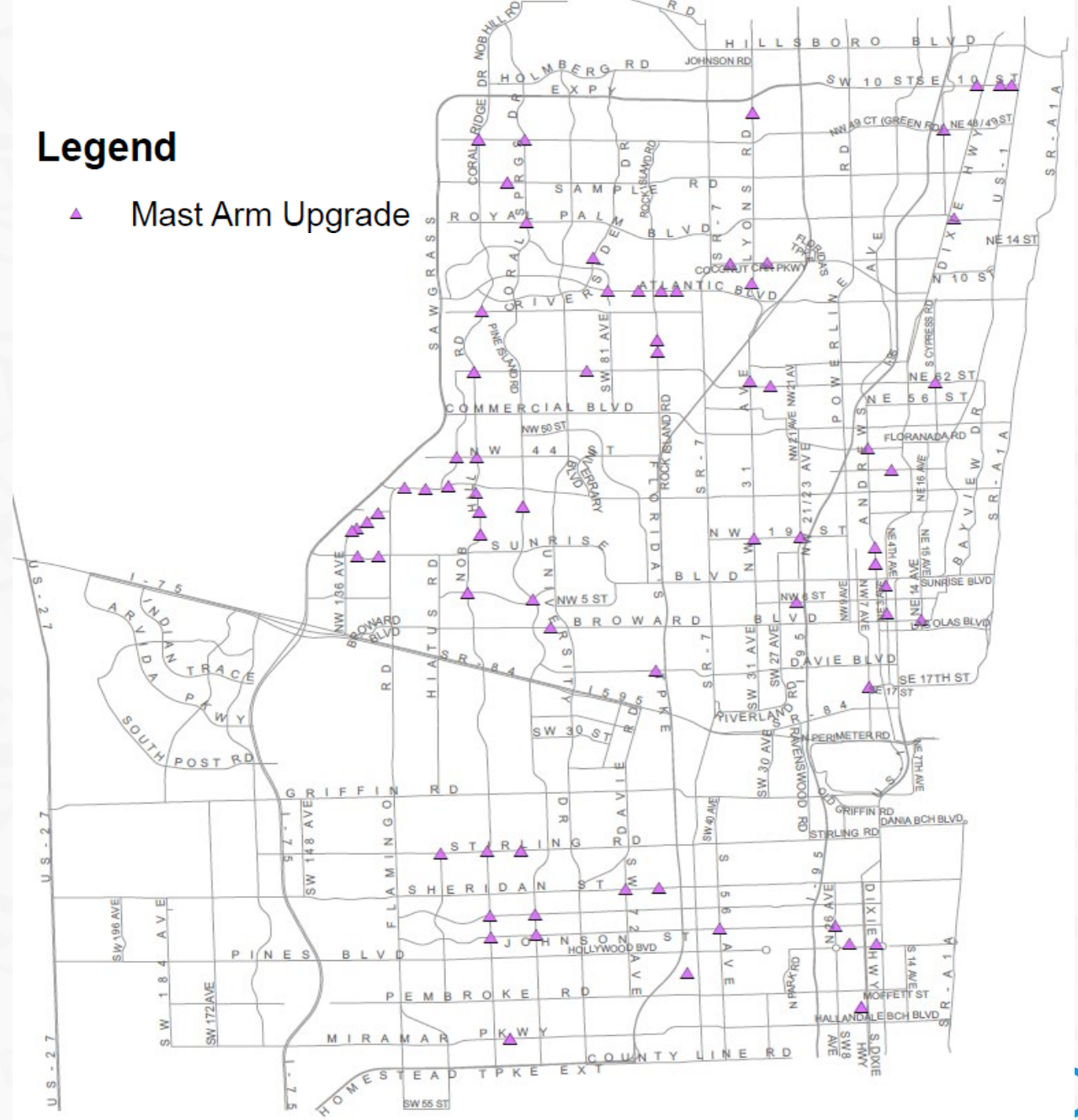
Mast Arms

MAST ARM UPGRADE – 80 INTERSECTIONS

- More wind resistant
- Less repairs after storms

Legend

- ▲ Mast Arm Upgrade



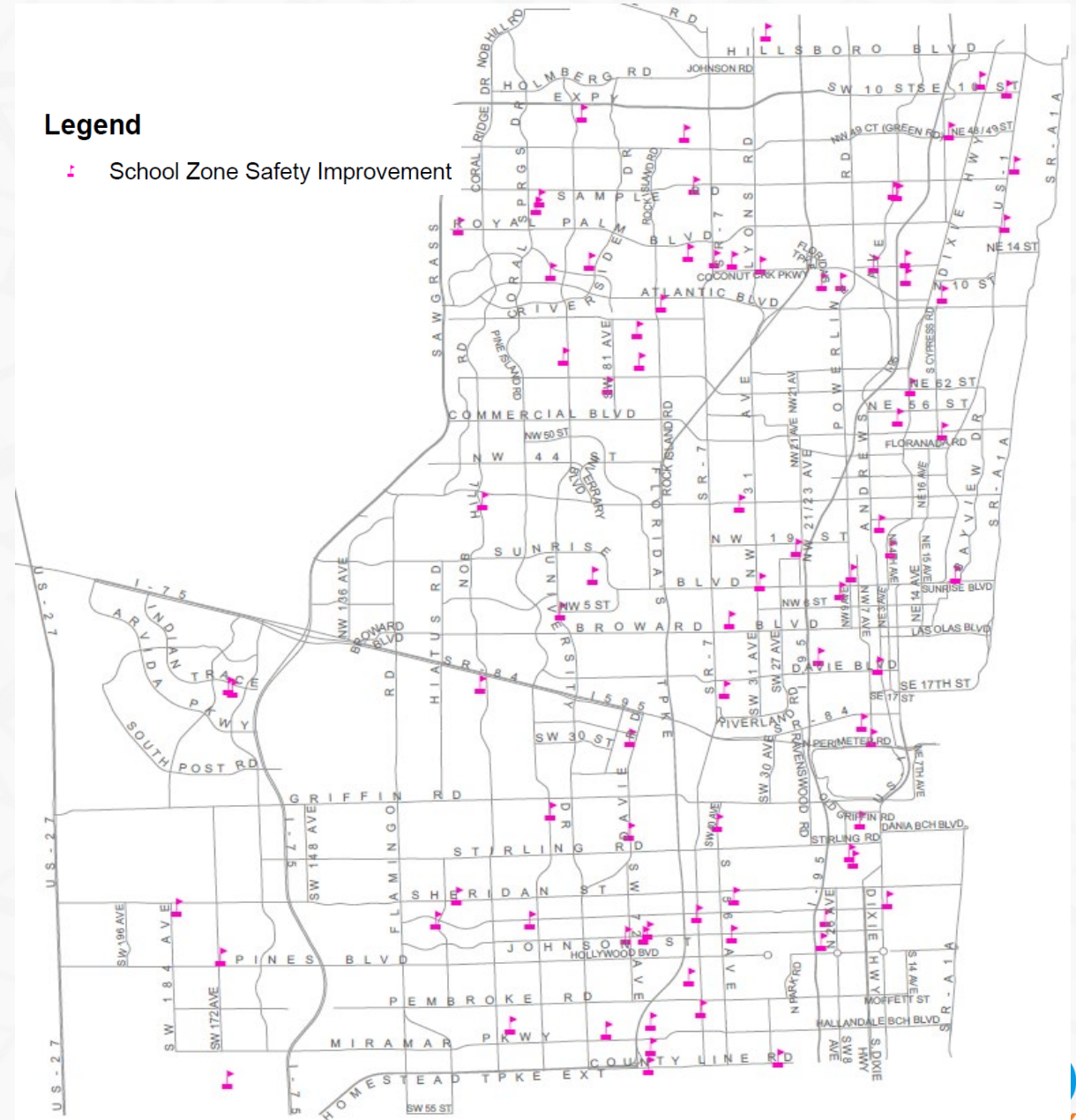
School Zone Safety

SCHOOL ZONE SAFETY IMPROVEMENT – 80 SCHOOLS

- Work in conjunction with School Board and municipalities
- Evaluate based on current conditions/standards
- Install flashers, signage, and pavement marking as needed
- Update periodically

Legend

- School Zone Safety Improvement



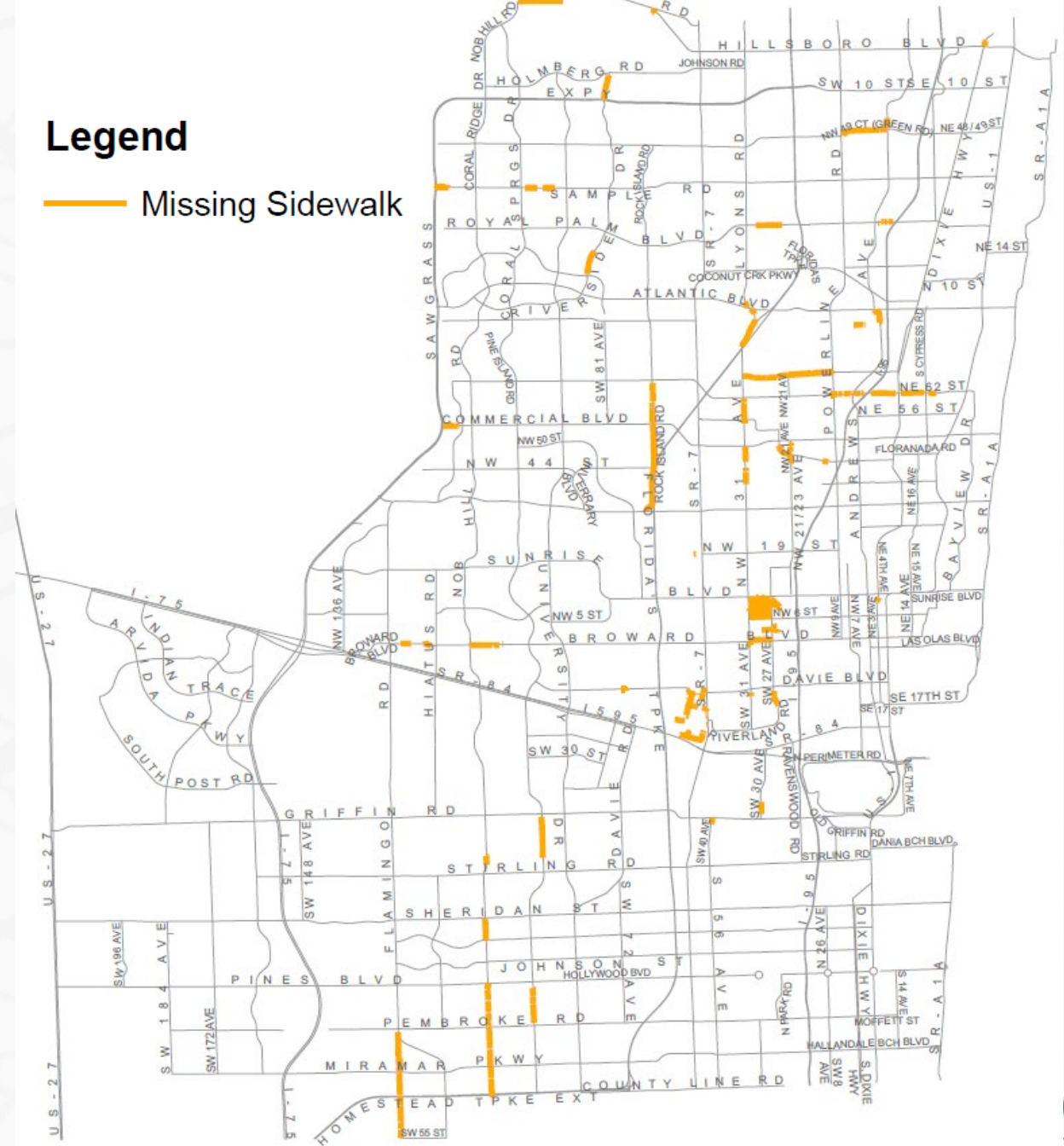
New Sidewalks

SIDEWALK – 40 MILES

- “Fill-the-Gaps” on County roads
- Improve connectivity and ADA accessibility

Legend

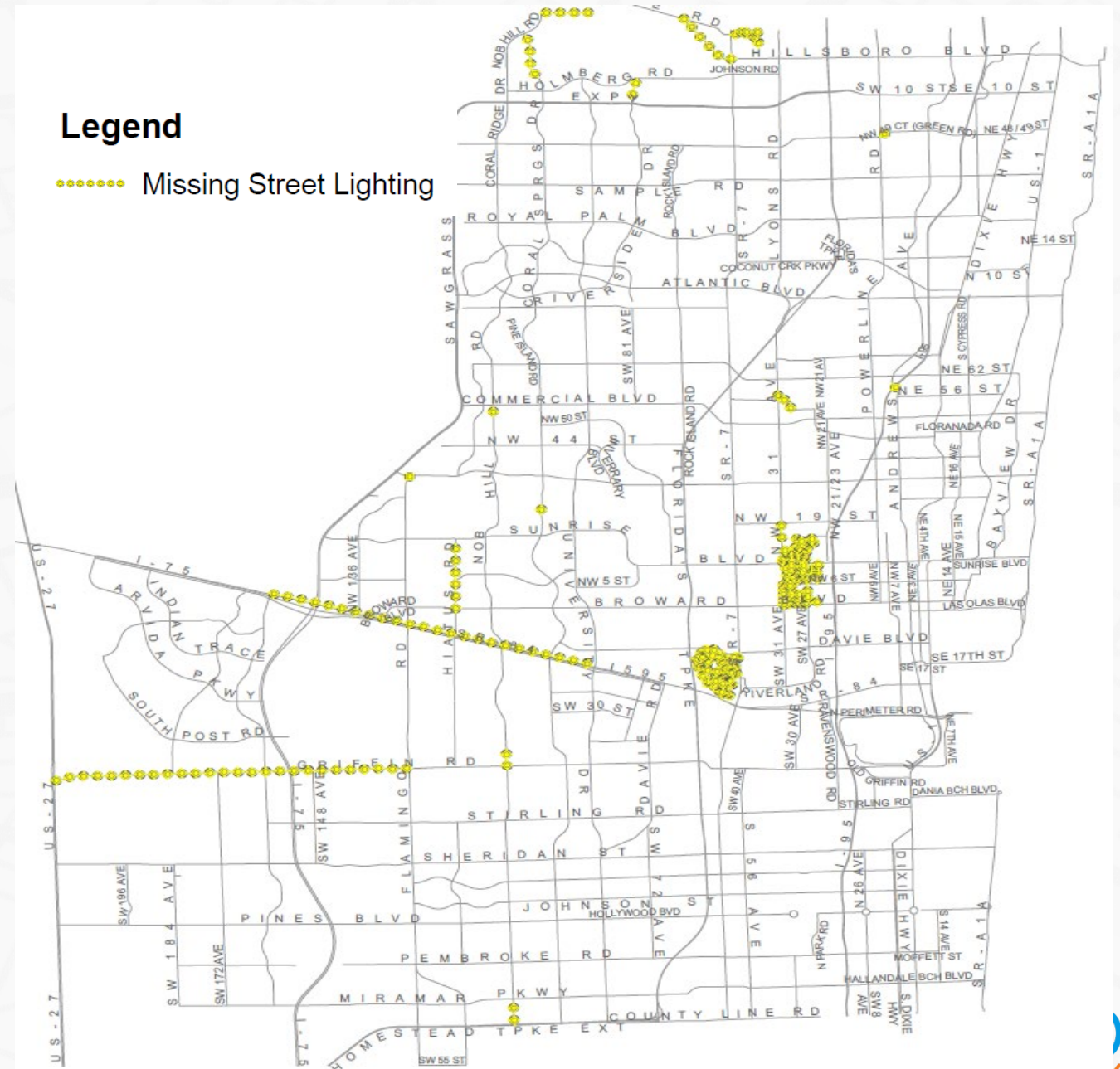
— Missing Sidewalk



Street Lighting

STREET LIGHTING – 70 MILES

- County roads with no street lights
- Typically installed by cities or FPL
- “Fill-the-gaps”



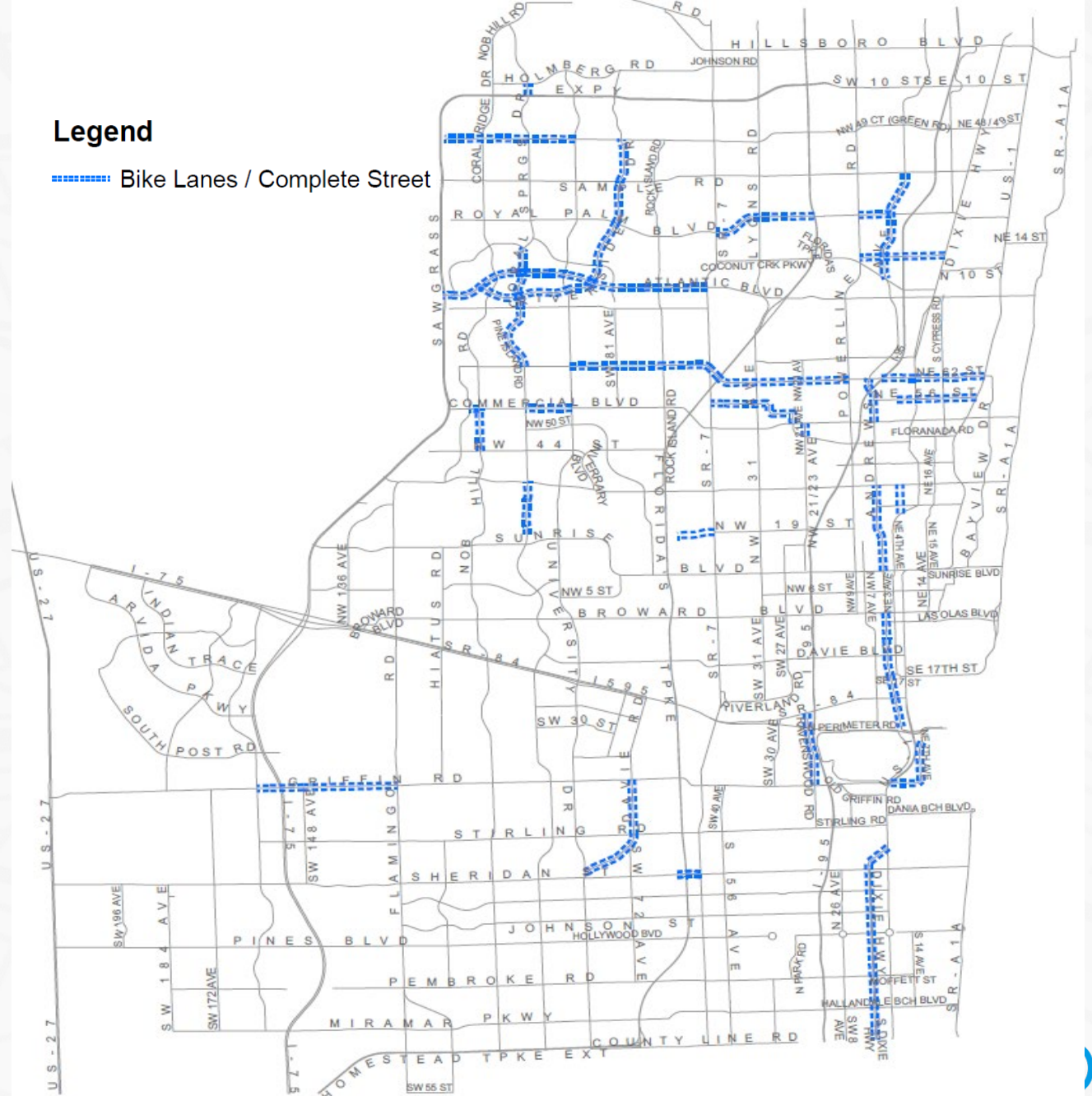
Bike Lanes

BIKE LANES— 72 MILES

- No lane reduction
- “Fill-the-gaps” on County roads
- Improve access to greenways

Legend

..... Bike Lanes / Complete Street



Greenways

GREENWAYS – 95 MILES

- Follow current County greenway plans
- Support connections to County parks
- Support connections to city parks and greenways

Greenways

Proposed Greenways

Existing Greenways

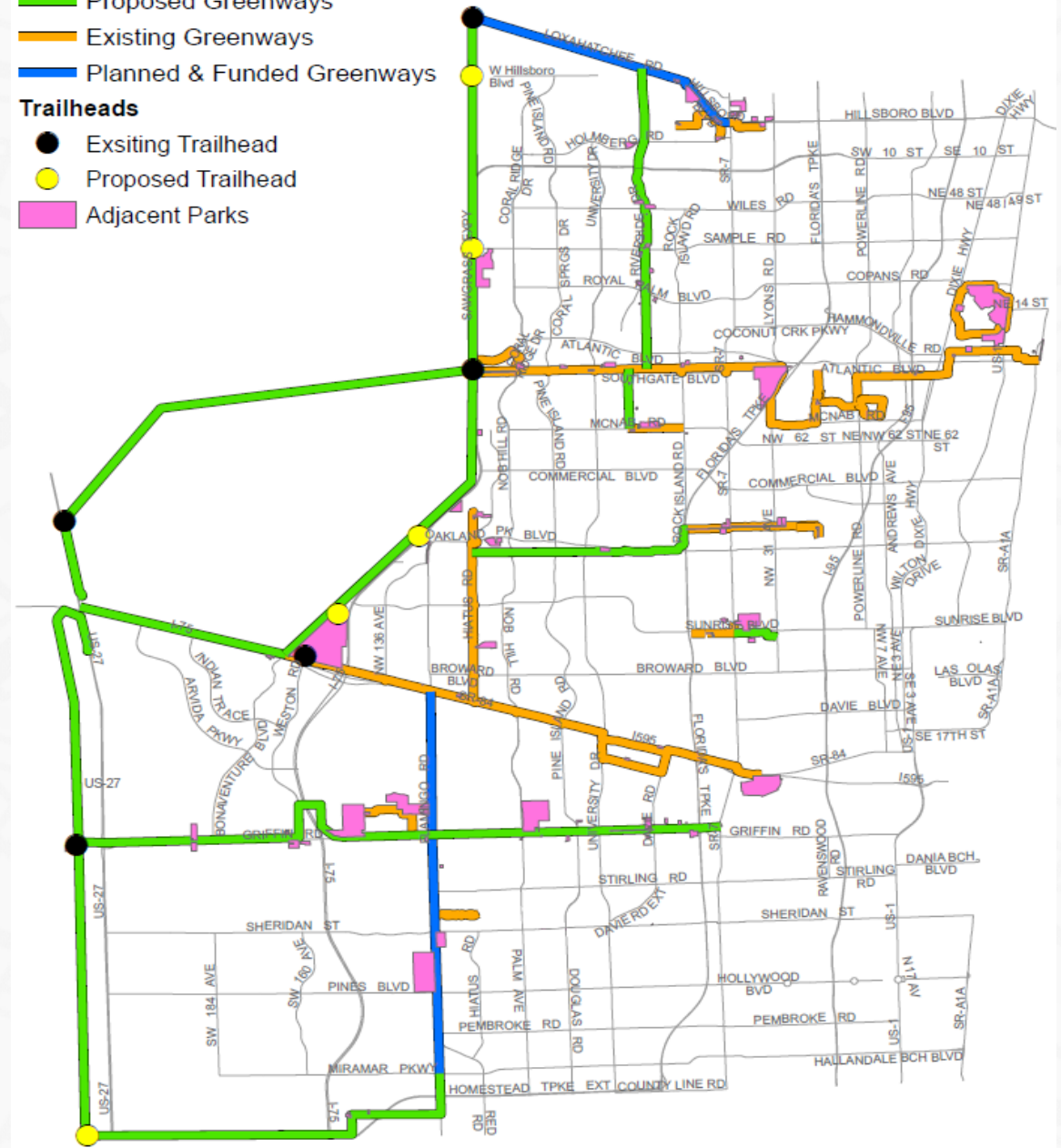
Planned & Funded Greenways

Trailheads

Existing Trailhead

Proposed Trailhead

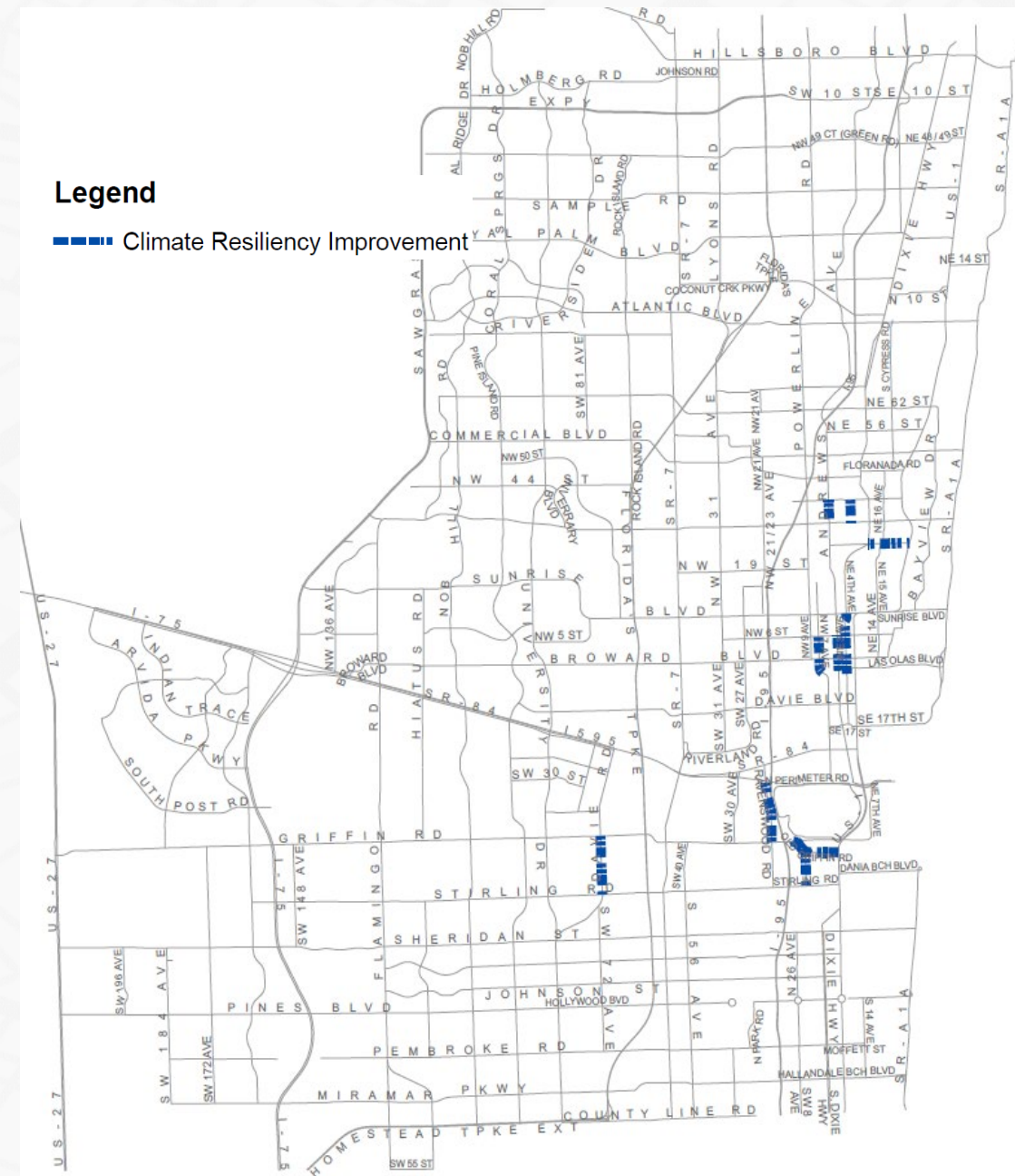
Adjacent Parks



Resiliency Improvement

ROADWAY FLOODING MITIGATION– 9.3 MILES

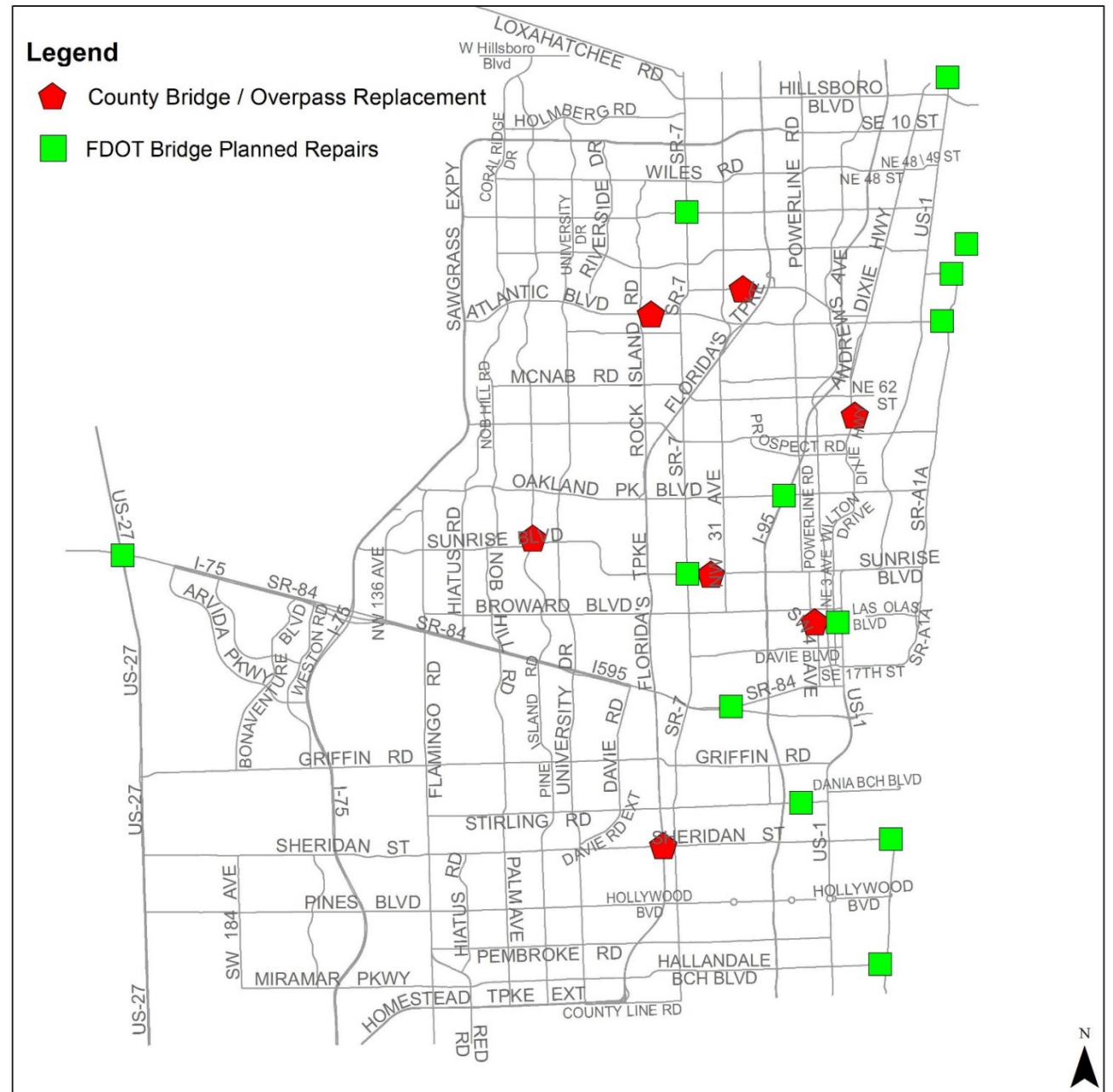
- Improve resiliency of County roads to sea-level rise
- Improvements may include:
 - raise road elevations
 - parallel drainage systems
 - stormwater pumping systems
 - green retention areas
 - drainage wells
 - Replace road base



Bridges and Overpasses

BRIDGES AND OVERPASSES – 7 COUNTY STRUCTURES

- Replace functionally-obsolete structures on County roads



-



When we will see an impact?

In the first five years

- Fiber Optic; Traffic Congestion Relief/Traffic Flow Improvements
- Some Bike, Pedestrian, Sidewalk, School Safety and Greenways
- Fully-Funded Community Bus Program
- Paratransit Service Enhancements (to meet demand)
- Some City-Requested Projects
- Express Bus route expansion
- Bus service in areas not currently served (new routes), improvements on existing routes (more frequency), as well as 7-day-per-week + longer service hours on many routes
- Service Enhancements (to meet demand)

• on many routes

