Revisiting our FHWA Data Business Plan

July 2020

Mapping the data landscape

- Who are the responsible parties?
- What datasets are being collected?
- What datasets are not being collected?
- How can each dataset support planning/management/operations?
- How can we collaborate?
- What are we working toward?

Who are the responsible parties?

Organizations invited to participate

- Approximately 20 agencies/organizations participated in stakeholder interview process
- Identifying data stewards within each agency
- Identifying the regard for data & organization within each agency

What datasets are being collected?

Data & gap assessment

- Revealed 50-ish sets of mobility data collected
- Questions about validity of these responses
  - Responses ranged from “all types of data” to “none”
  - Were we asking the right people? Did they do homework to answer the question correctly?
- Uneven landscape of data
- Novel datasets – CV pilot, Waze, LBS

What datasets are not being collected?

Data & gap assessment

- Few turn counts
- Bike/ped is extremely limited
- Origin-destination is desired
- Few ROI analyses

How can each dataset support planning/management/operations?

Opportunities for intersection(al) analyses

- Identifying ways to study relationships
  - Crash & speed
  - Infrastructure condition & demography
  - Health & bike/ped counts

How can we collaborate?

Forums to discuss topics regarding data & analyses

- Intelligent Transportation Systems committee
- Regional Big Data Working Group
- Smart Cities Alliance
- Intra-agency working groups

Data & Analytics Portal – Why?

- Working smarter, not harder
- Centralize datasets across entire D7
- Consistent analyses – error free
- Eliminate data duplicates
- Regional performance measures

Regional Data Platform - Overview

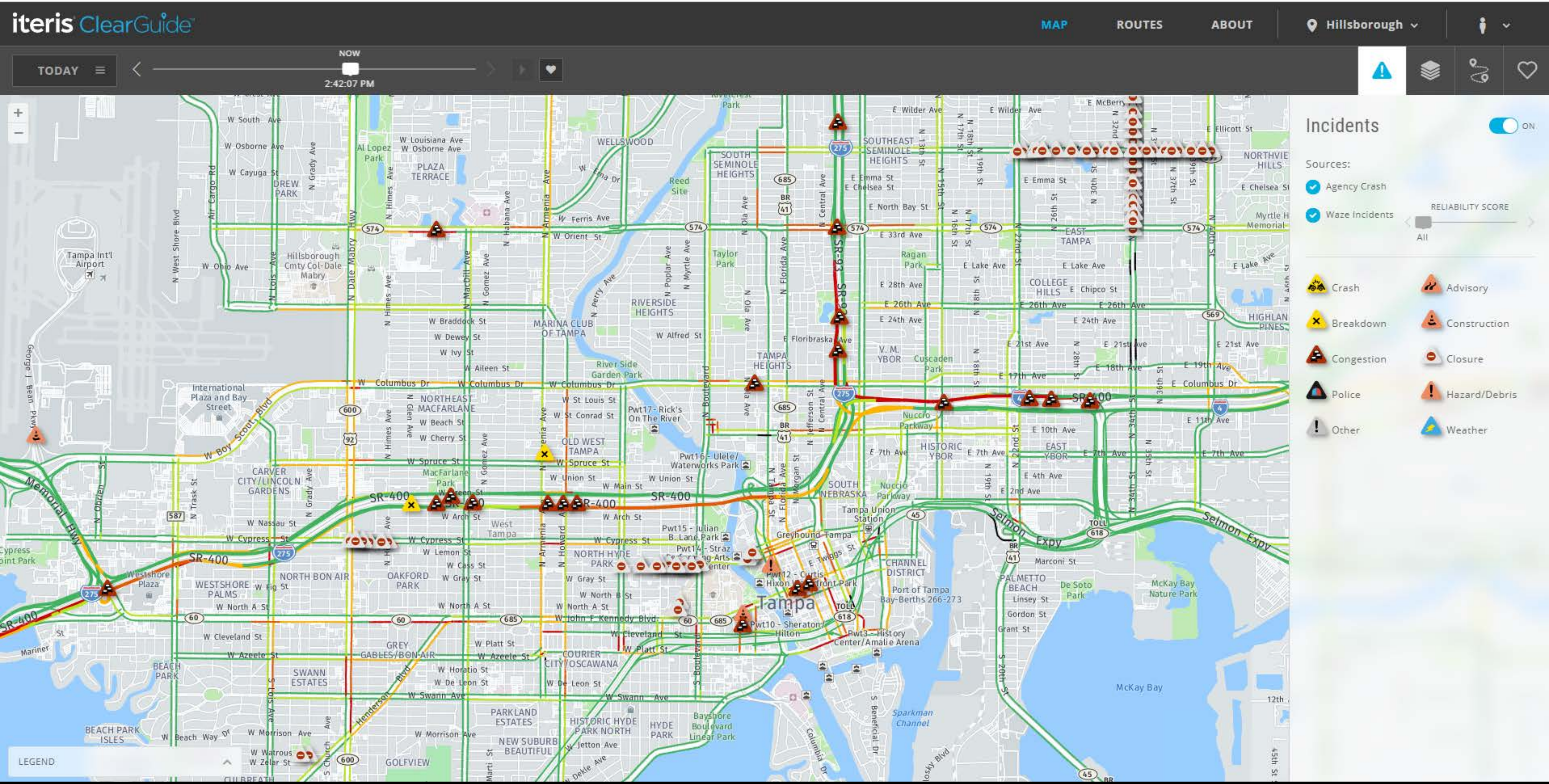
The fusion and analysis of data from across the region brought together in one platform to enable the maximum amount of insight to be gleaned and in doing so creates the opportunity to manage our transport networks more efficiently and enhance mobility for all.

Vision:

To use ‘big data’ to optimize mobility movement across the region, inform our future planning strategies and drive efficiency savings, this vision will be enabled by a proof of concept pilot project and then a series of projects as defined on the overall roadmap.

ClearGuide

Real-time contextual mobility intelligence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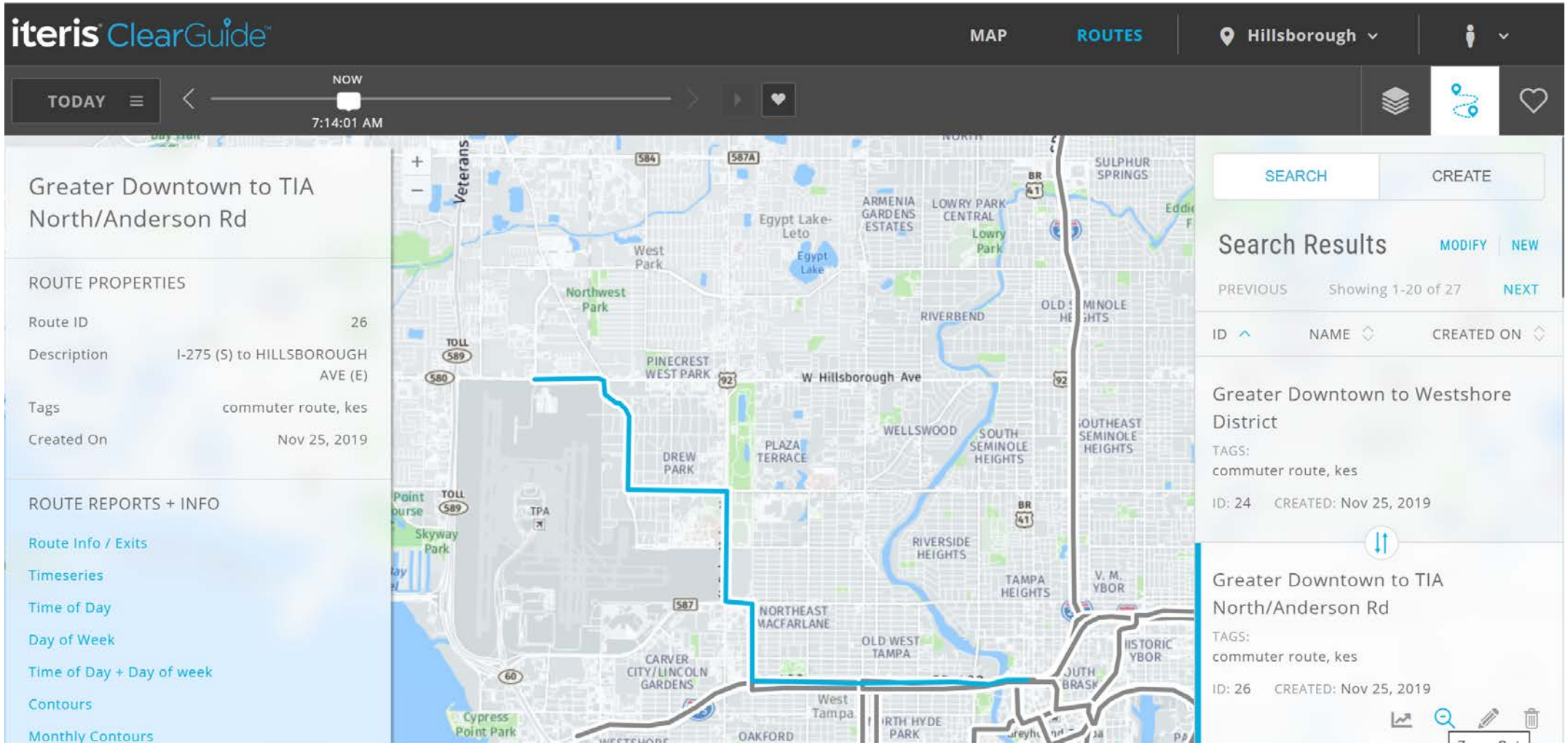
Agency Crash
Waze Incidents
RELIABILITY SCORE
All
Crash
Advisory
Breakdown
Construction
Congestion
Closure
Police
Hazard/Debris
Other
Weather
LEGEND
Tampa
SR-400
Tampa Int'l Airport
McKay Bay

Route Planning

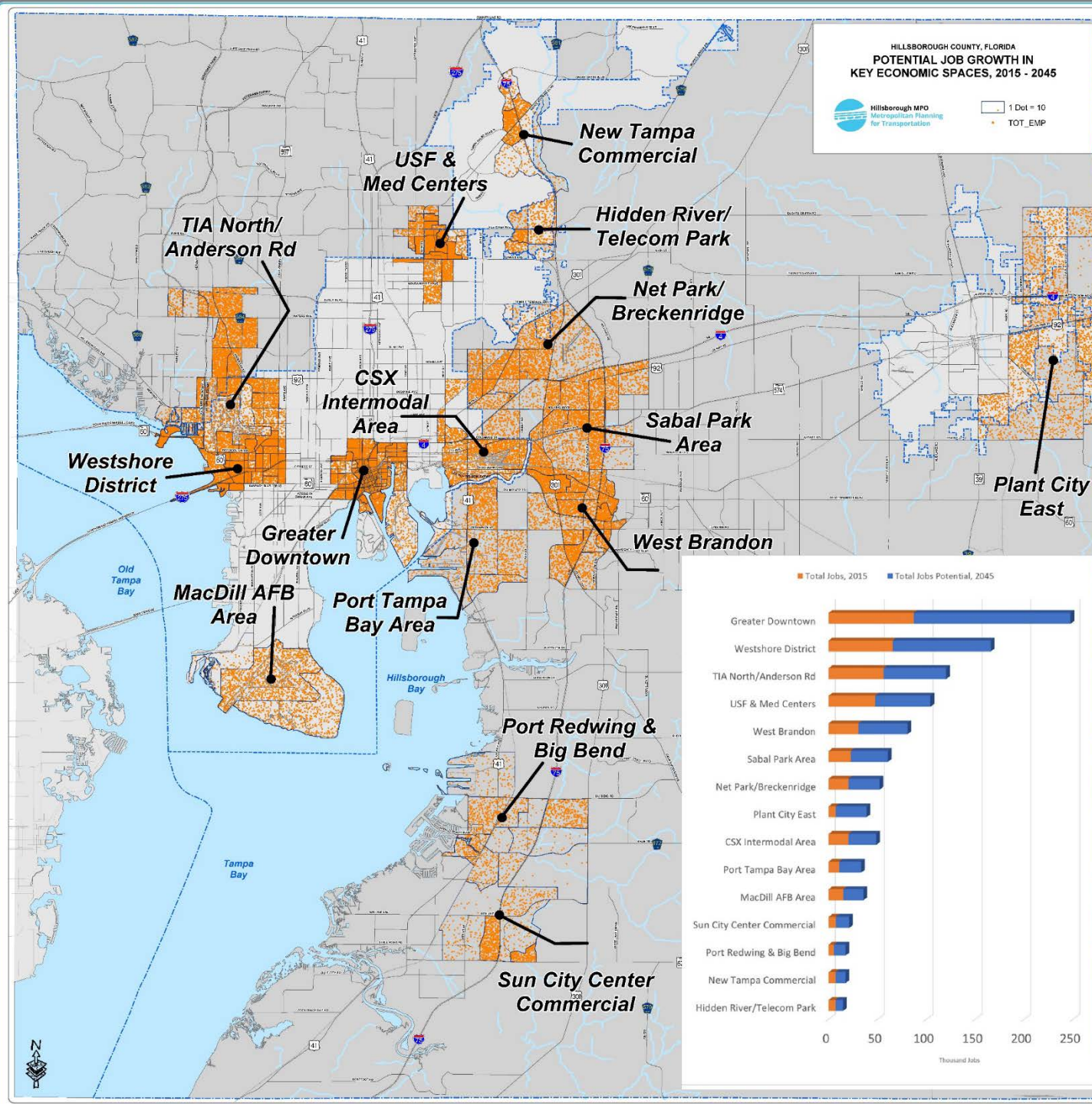
Key Economic Spaces Across Hillsborough County

Focus on commuter routes rather than corridors

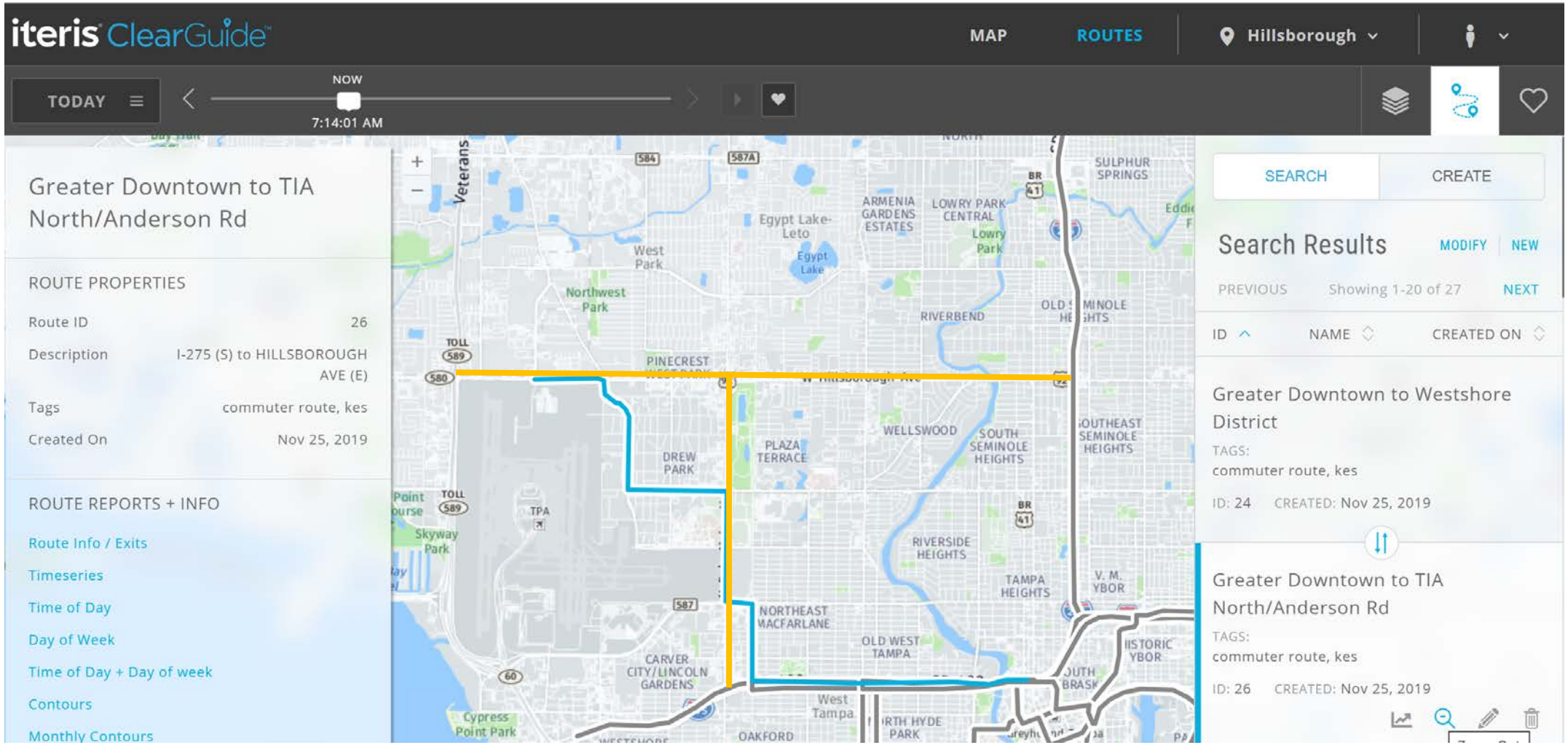


Top 20 Most Miserable Commutes

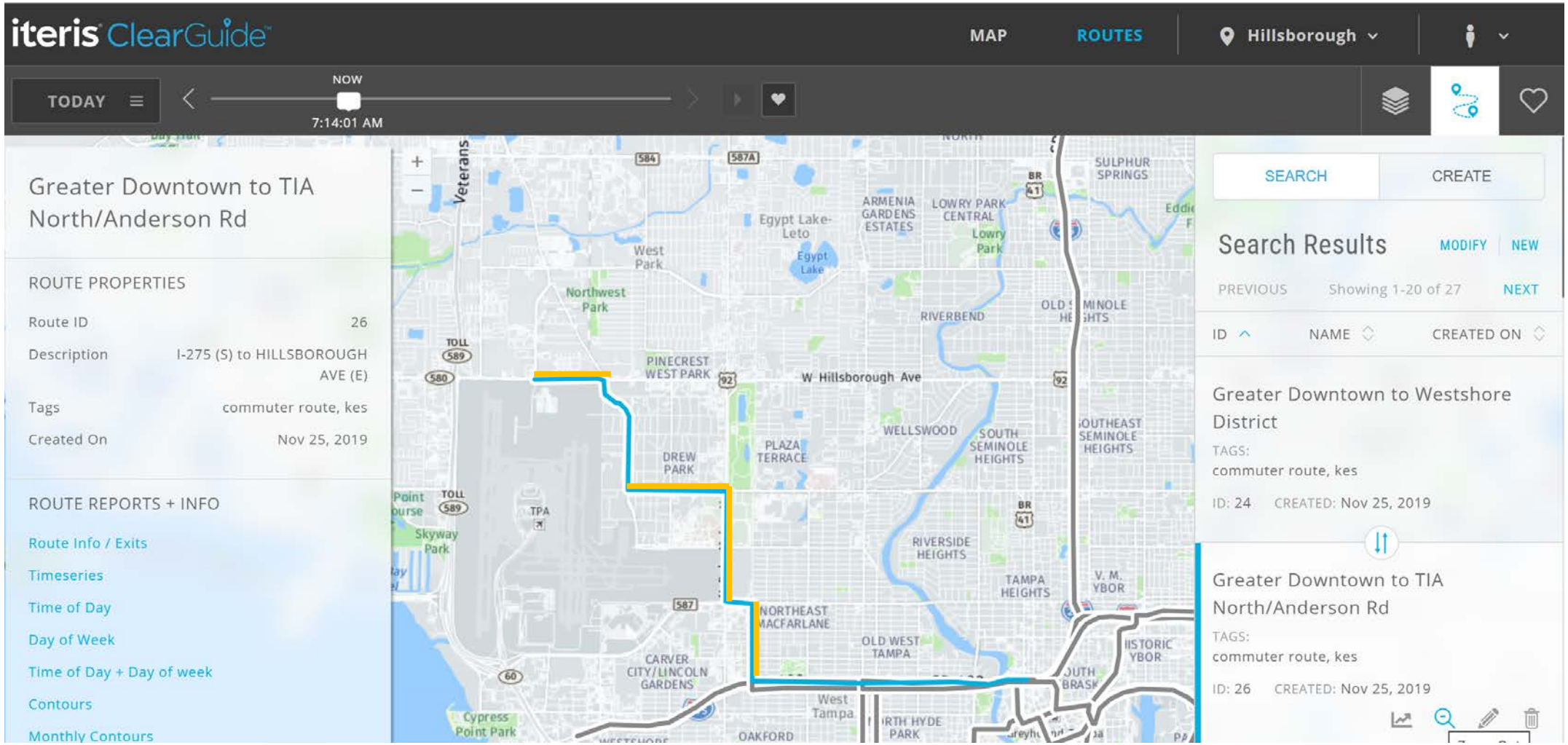
- Based on KES
- 15x15 OD pairs
- Combining 6 measures of congestion for AM&PM peaks
- Future RLRTP integration?



Focus on commuter routes rather than corridors



Focus on commuter routes rather than corridors



Supplement to traditional corridor-level LOS

Improving Travel Time Reliability 30% Countywide is Achieveable with "Smart Cities" Treatments Applied to these County Road Segments*							
County Road?	Route Created?	Road Name	From	To	MEAN TRAVEL TIME INDEX SCORE	LENGTH	RELIABILITY FORECAST (scores above 1 indicate less reliability)
Yes	Yes	12TH ST NE	19TH AVE NE	US 41	1.360	3.004	1.209
Yes	Yes	30TH ST / BRUCE B DOWNS BLVD	FLETCHER AVE	138TH AVE	2.364	2.938	1.280
Yes	Yes	30TH ST / BRUCE B DOWNS BLVD	FOWLER AVE	PINE DR	2.295	0.628	1.126
Yes	Yes	30TH ST / BRUCE B DOWNS BLVD	138TH AVE	BEARSS AVE	2.271	1.620	1.075
Yes	Yes	30TH ST / BRUCE B DOWNS BLVD	131ST AVE	FLETCHER AVE	1.623	1.133	1.068
Yes	Yes	30TH ST / BRUCE B DOWNS BLVD	PINE DR	131ST AVE	1.276	5.066	1.057
Yes	Yes	40TH ST	HANNA AVE	RIVERHILLS AVE	1.275	4.000	1.052
Yes	Yes	40TH ST	HILLSBOROUGH AVE	HANNA AVE	1.272	1.875	1.052
Yes	Yes	40TH ST/ MCKINLEY DR	BUSCH BLVD	BUSCH GARDENS	1.353	0.144	1.467
Yes	Yes	46TH ST	FLETCHER AVE	SKIPPER RD	1.423	0.500	1.641

Supplement to traditional corridor-level LOS

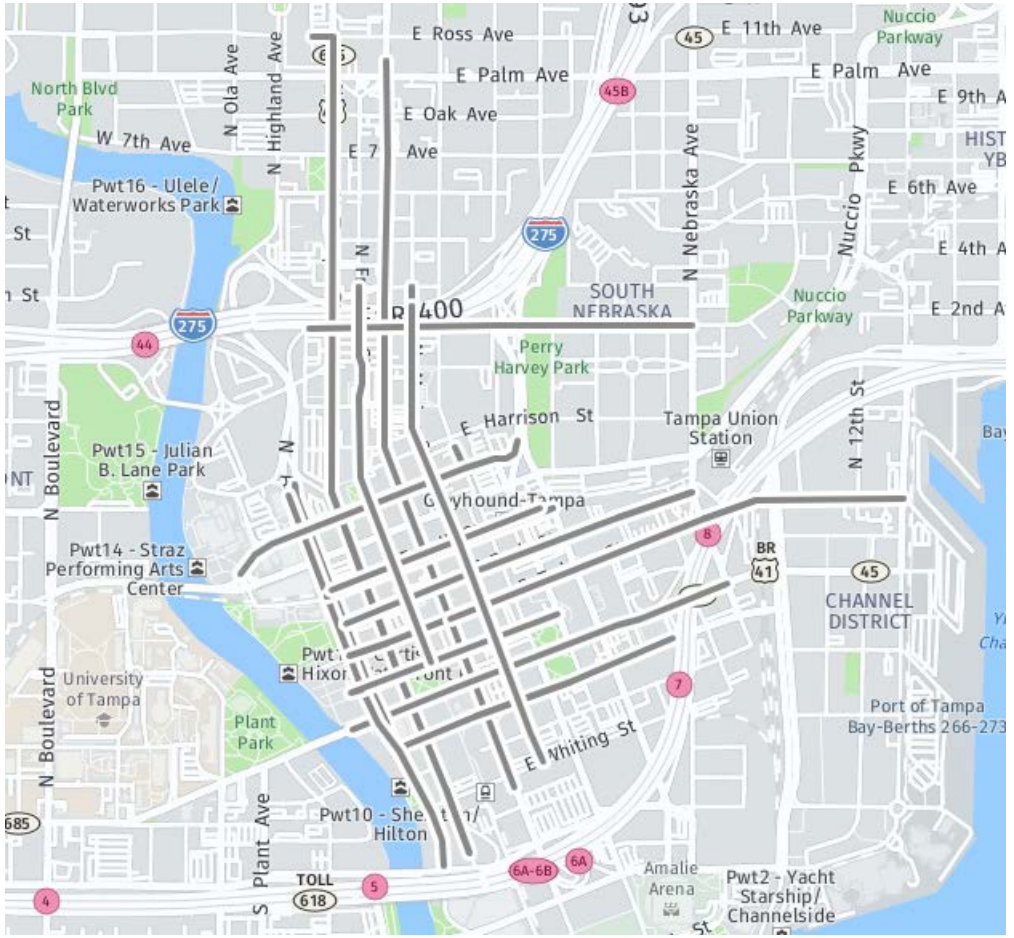
County Road?	Road Name	From	To	Length	TTI (2020)	Mean TTI (2045)	Reliability Forecast (2045)
Yes	12th St NE	19th Ave NE	US41	3.004	1.001	1.360	1.209
Yes	40th St	Busch	Busch Gardens	0.144	1.410	1.353	1.467
Yes	46th St	Fletcher Ave	Skipper Rd	0.500	1.034	1.423	1.641
Yes	Big Bend Rd	I75 N Ramp	US HWY 301	0.612	1.590	1.299	1.278
Yes	Gibsonton Dr	I75 N Ramp	US HWY 301	0.597	1.640	1.187	1.062

Traffic Management

Signal Retimings in Tampa

Retiming signals in downtown Tampa

- Step 1 – Define area for evaluation
- Step 2 – Create routes
- Step 3 – Use multi-route reports in CG = obtain before and after values for travel time and delay
- Step 4 – Use AADTs and average hourly distributions for downtown to assign volumes to each route = vehicle hours of delay and travel time



Evaluation

Travel Time and Delay Summary for All Corridors				
Time of Day	Travel Time Comparison		Delay Comparison	
	Total Change in Travel Time (veh-hr)	Percentage Change in Travel Time	Total Change in Delay (veh-hr)	Percentage Change in Delay
AM Peak - 0700 - 1000	-93.7	-8%	-55.1	-15%
Mid Day Peak - 1100 - 1300	-87.6	-9%	-52.0	-15%
PM Peak -1600 - 1800	-176.8	-11%	-118.1	-22%
Late Night - 2200 - 0000	-41.8	-17%	-31.5	-48%

Next steps for data & analytics platform

- Building dashboards on website
- Continue data exploration
  - Transit
  - O-D
  - Micro-mobility options
- Predictive analytics

Lessons learned

Learn by doing

- Be willing to be flexible or break the rules
- Lesson in organizing/coordination
- Value must be intersectional
- Governance must add value for the agencies & the public

Best practices

Suggestions for others

- Draw connections to projects & programs and talk about what could be possible
  - Vision Zero, Smart Cities
- Never stop talking about governance & related topics
  - Create a forum to discuss issues
- Regularly update the Data Business Plan
  - Scale of issues becomes more granular over time

Thank you