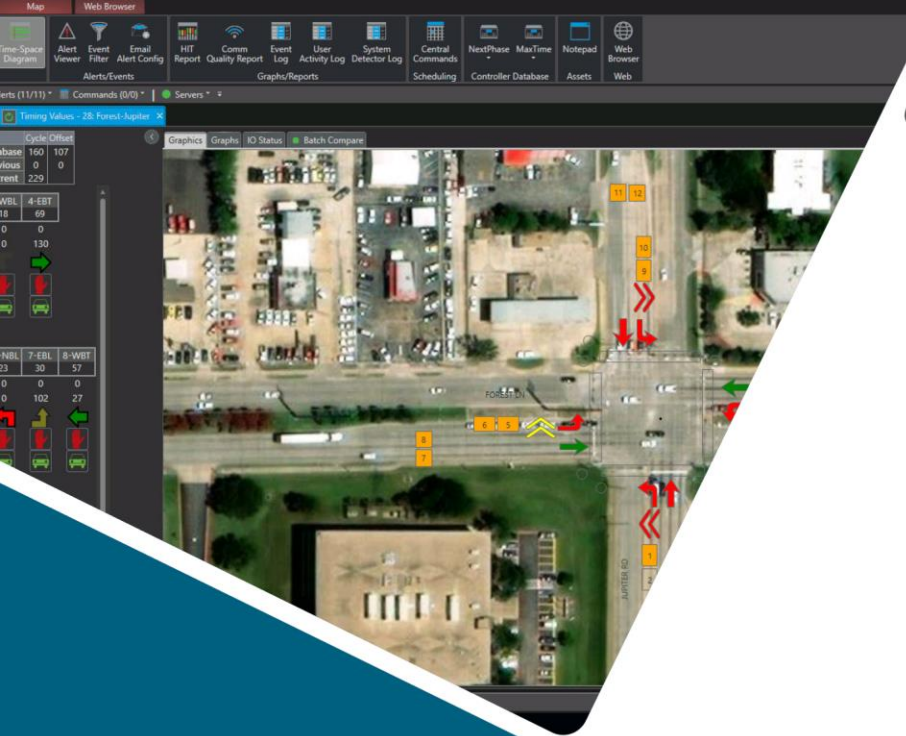




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Kimley»Horn

SMART CITIES

TECHNOLOGY FORUM

ATSPM Overview

Mark Wood & Mike Ruelle

»»KITS

A Kimley-Horn Software Solution

»»Kadence

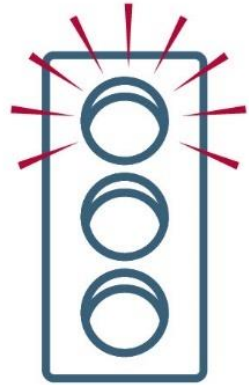
A Kimley-Horn Software Solution

»»Traction

A Kimley-Horn Software Solution

ATSPM Overview

Field



Traffic Signals



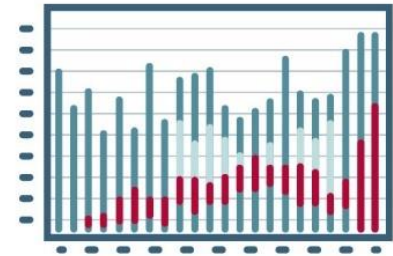
Log Files



Traffic Management Center



Database



Performance
Measure Graphs

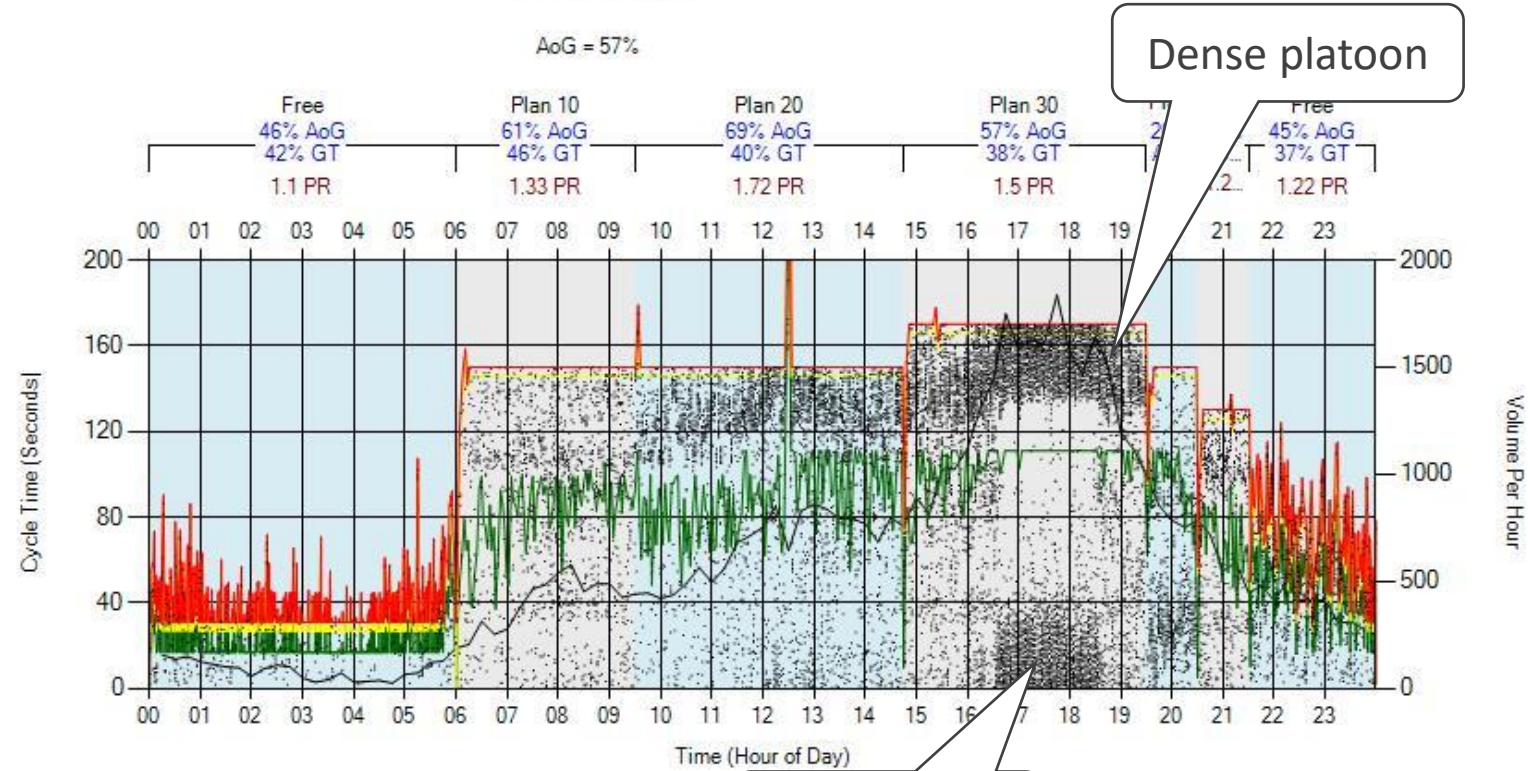
Purdue Coordination Diagram

SR 13 @ Briarwood Road - SIG#7379
Thursday, October 18, 2018 12:00 AM - Thursday, October 18, 2018 11:59 PM
Advanced detector located 300 ft. upstream of stop bar

Phase 6: Northbound

AoG = 57%

- Volume Per Hour
- Detector Activation
- Change to Green
- Change to Yellow
- Change to Red
- AoG - Arrival On Green
- GT - Green Time
- PR - Platoon Ratio



ATSPM History

- Began working with system in 2016 with ATSPM 2.0
- Attended UDOT “Train the Trainer” workshop in 2017
- Contributed more than 10,000 lines of code back to open-source repository



TECHNOLOGY FORUM

-> Signal Metrics

Selected Signal
No Signal Selected

Signals

Region: All

Metric Type: All

Filter: Signal Id

Signal List

Map

Metric Settings

Metric Type

- ☒ Purdue Phase Termination
- ☐ Split Monitor
- ☐ Pedestrian Delay
- ☐ Preemption Details
- ☐ Turning Movement Counts
- ☐ Purdue Coordination Diagram
- ☐ Approach Volume
- ☐ Approach Delay
- ☐ Arrivals On Red
- ☐ Approach Speed
- ☐ Yellow and Red Actuations
- ☐ Purdue Split Failure

Time Y Axis Maximum: 150

Volume Y Axis Maximum: 2000

Volume Bin Size: 15

Dot Size: Small

☒ Show Plan Statistics

☒ Show Volumes

[Export Data](#)

☐ Upload Current Data

Dates

Start Date: 8/11/2016 12:00 AM

End Date: 8/11/2016 11:59 PM

August 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10

1694 traffic signals

Version 3.1.5, Release Date: May 2016

Signal

Signal Selection

Signal ID

7312 Select 4700 South (SR-266) @ Atherton Dr (1050 W)

Signal List

Signal Map

Area

--Select an Area-- ▾

Region

--Select Region-- ▾

Jurisdiction

--Select a Jurisdiction-- ▾

Metric Type

--Select a Metric-- ▾

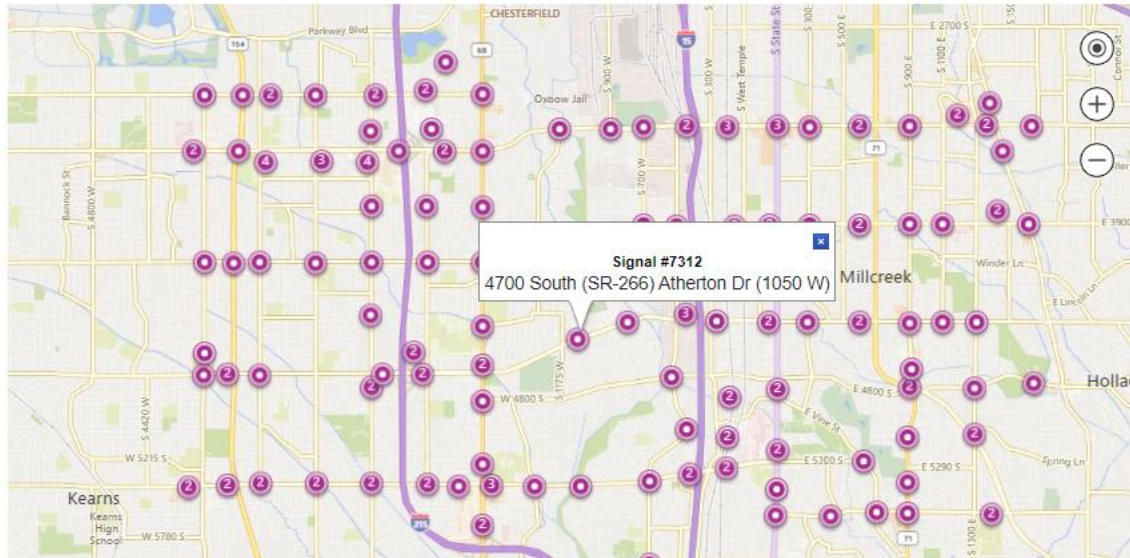


Chart Selection

Metrics List

Purdue Phase Termination
Split Monitor
Pedestrian Delay
Preemption Details
Timing and Actuation
Left Turn Gap Analysis
Purdue Split Failure
Yellow and Red Actuations
Turning Movement Counts
Approach Volume
Approach Delay
Arrivals on Red
Purdue Coordination Diagram
Approach Speed
Wait Time

Phase Termination Options

Y-axis Max

Auto

Consecutive Count

1 ▾

☒ Show Plans

☒ Show Ped Activity

Date Selection

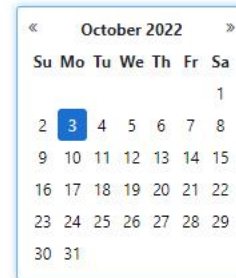
Start Date

10/03/2022 12:00 AM ▾

End Date

10/03/2022 11:59 PM ▾

Reset Date



Create Chart

Version 4.3 – What's New?

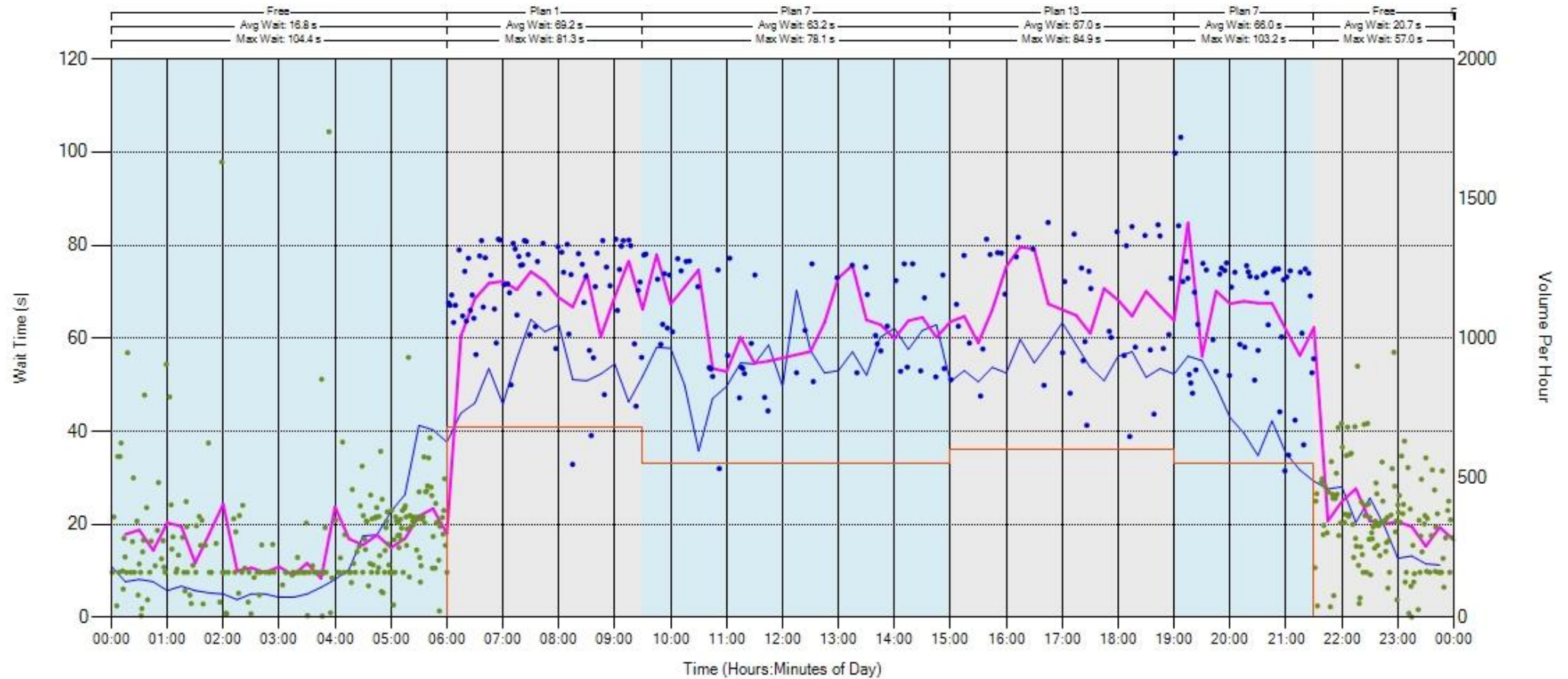
Wait Time

Redwood Road @ 3500 South - SIG#7102
Monday, October 3, 2022 12:00 AM - Tuesday, October 4, 2022 12:00 AM

Phase 2: NBT Ph2

Advance + Stop Bar Detection

- Volume Per Hour
- Gap Out
- Max Out
- Force Off
- Unknown
- Average Wait
- Programmed Split



Additional Enhancements

- Left Turn Gap Report
- Configurable default options and thresholds
- Jurisdiction and area filters
- Read-only signal configuration
- Additional bug fixes

Signal 7274

Version

8/6/2021 - Now a Cobalt

Controller Type	Description	Primary Name	Secondary Name	Latitude	Longitude	Display On Map	All Peds are 1:1
EOS	Region 2	Foothill Drive	VA Hospital Ped	40.758542	-111.842152	☒	☒

Approaches

Direction	Description	Protected Phase	Permissive Phase	Pedestrian Phase	Protected Phase Overlap	Perm. Phase Overlap	Ped. Phase Overlap	Ped. Detector(s)	Approach Speed (MPH)
Westbound	WBT Ph2	2			☐	☐	☐		40
Eastbound	EBT Ph6	6			☐	☐	☐		40

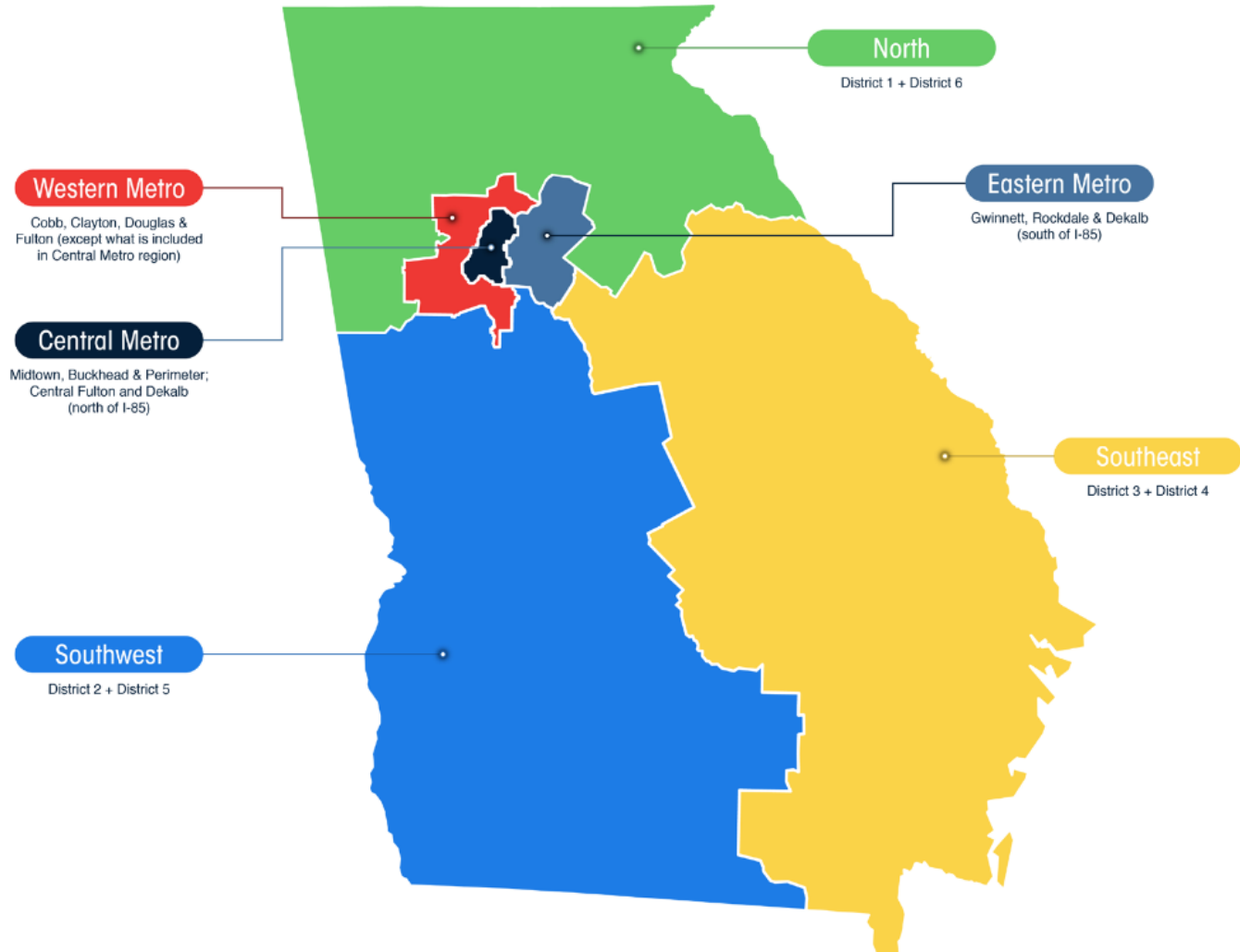
Detectors

Detector ID	Det. Channel	Direction	Phase	Perm. Phase	Overlap	Enabled	Detection Types	Detection Hardware	Latency Correction	Movement Type	Lane Number	Lane Type	Dist. From Stop Bar	Decision Point	Move. Delay	Min Speed Filter	Comment
727402	2	WB	2		False	True	Advanced Count Advanced Speed	Wavetronix Advance	0	Thru	1	Vehicle	400			5	
727404	4	EB	6		False	True	Advanced Count Advanced Speed	Wavetronix Advance	0	Thru	1	Vehicle	400			5	

The background is a solid teal color with several thin, darker teal lines intersecting diagonally and vertically, creating a geometric pattern.

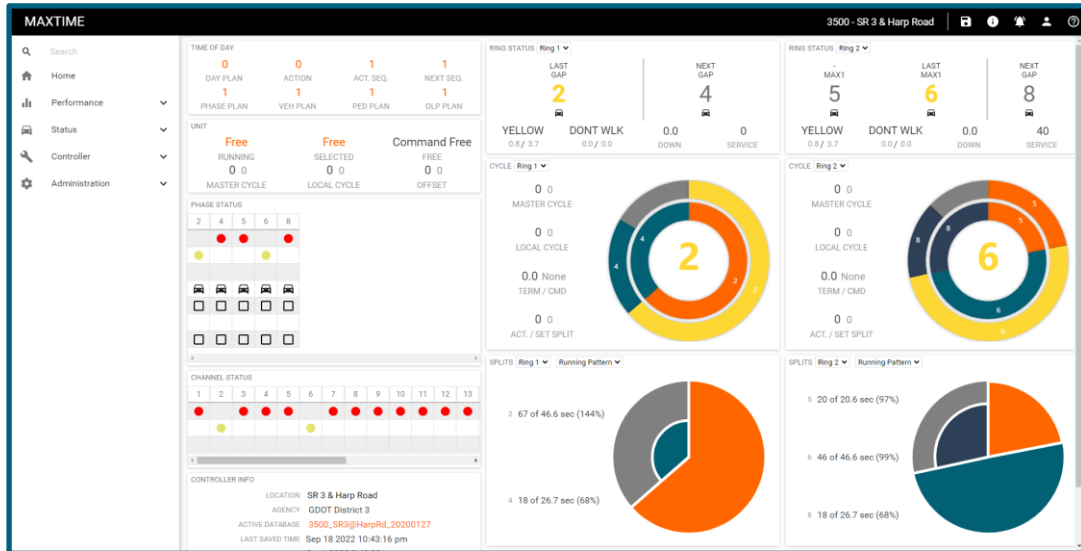
GDOT SigOps System Support and Maintenance

GDOT SigOps Program

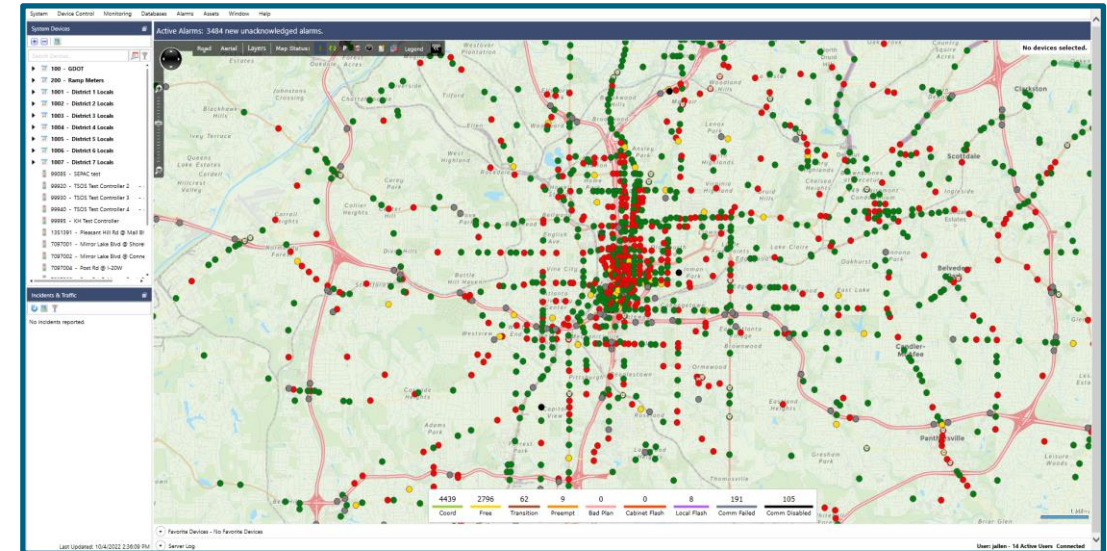


GDOT Arterial Software

MaxTime



MaxView



Upgrading to
Kinetic in late 2022



ATSPM Application Support

ATSPM

Automated Traffic Signal Performance Measures

Measures

Reports

Log Action Taken

Links

FAQ

About

GDOT

Georgia Department of Transportation

Register

Log in

Signal

Signal Selection

Signal ID

1006

Select

SR 11 @ SR 323

Signal List

Signal Map

Region

--Select Region--

Metric Type

--Select a Metric--

Chart Selection

Metrics List

Purdue Phase Termination

Split Monitor

Pedestrian Delay

Preemption Details

Turning Movement Counts

Purdue Coordination Diagram

Approach Volume

Approach Delay

Arrivals On Red

Purdue Split Failure

Left Turn Gap Analysis

Phase Termination Options

Y-axis Max

Auto

Consecutive Count

1

☒ Show Plans

☒ Show Ped Activity

Date Selection

Start Date

10/04/2022

12:00

AM

End Date

10/04/2022

11:59

PM

Reset Date

October 2022

Su

Mo

Tu

We

Th

Fr

Sa

1

2

3

4

5

6

7

8

9

10

11

12

13

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30

31

Create Chart

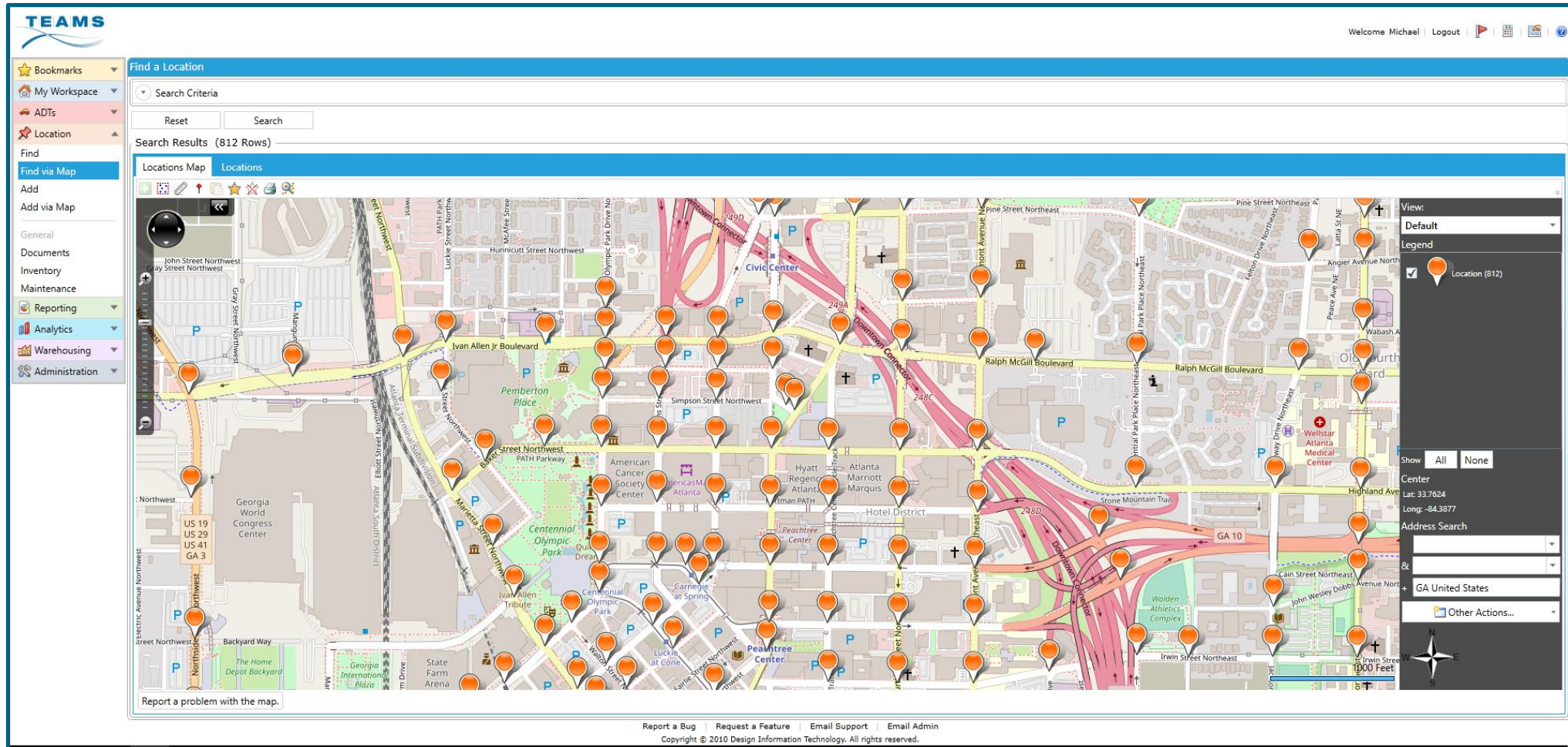
Kimley

Horn

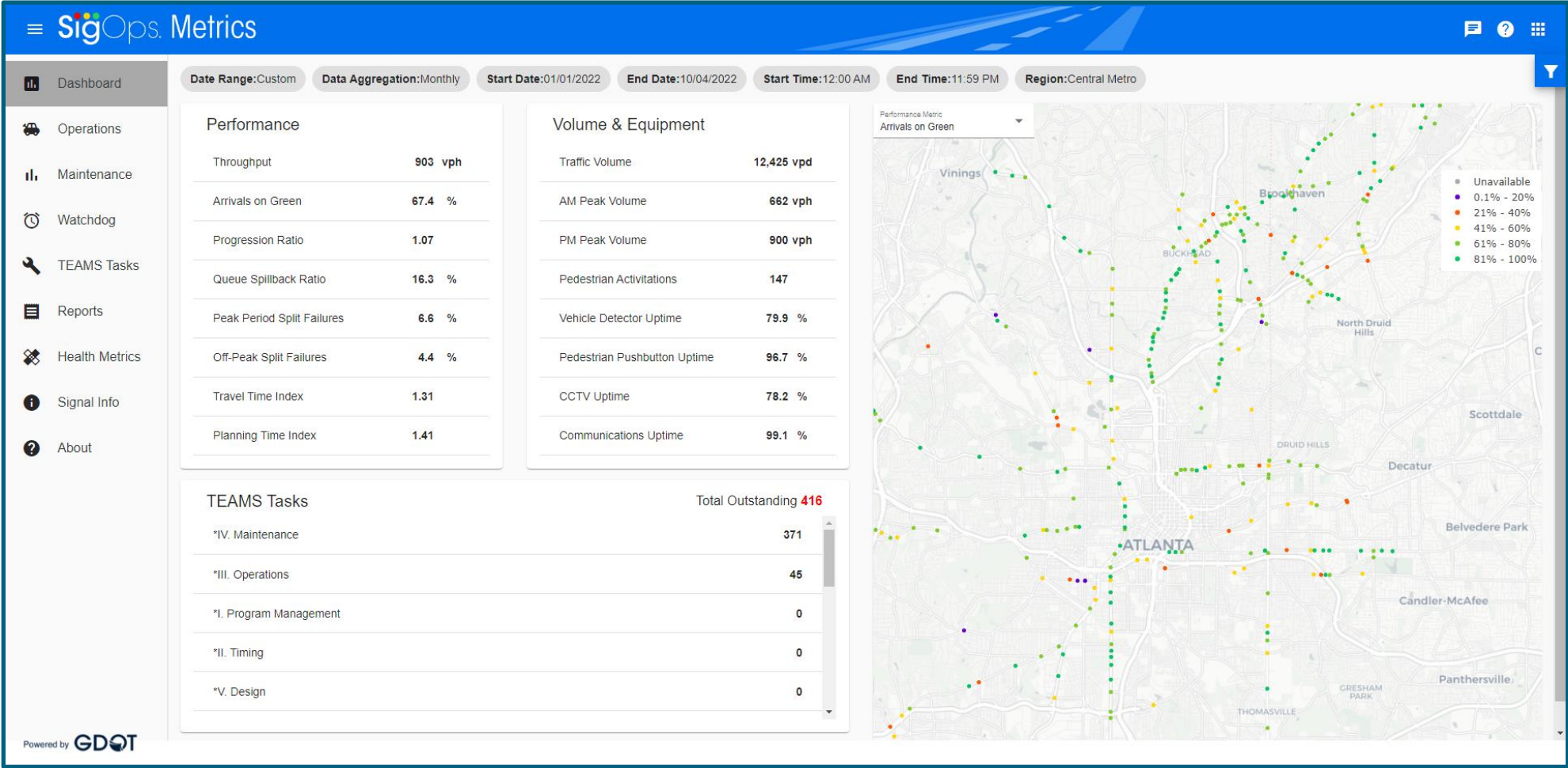
SMART CITIES

TECHNOLOGY FORUM

Procurement Support for New AMS

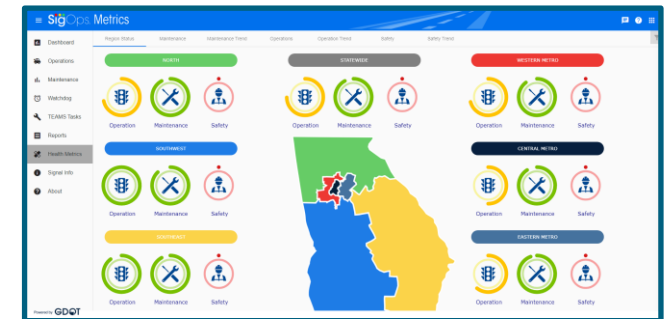


SigOps Metrics Development



SigOps Metrics – New Development

- Filters for “Operations Type” and “Priority”
- Integration of 15-min aggregations from ATSPM
- Complete rewrite of application backend
- Review and update of all metric calculations
- Old feature integration
- User authentication and administration portal
- Integration and rollout of Health Metrics
- Bonus: Interactive and exportable ATSPM charts/graphs



Traction Metrics

Performance

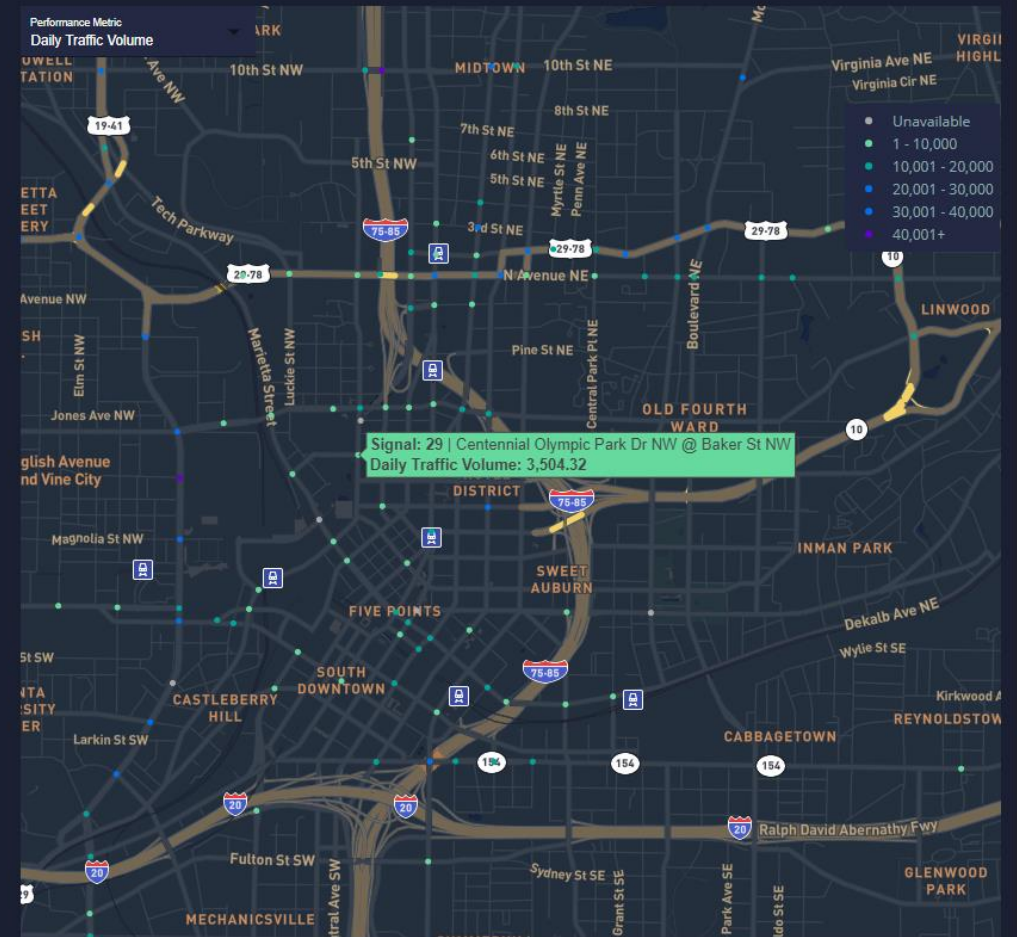
Throughput	997 vph
Arrivals on Green	69.3 %
Progression Ratio	1.05
Queue Spillback Ratio	15.4 %
Peak Period Split Failures	5.7 %
Off-Peak Split Failures	3.9 %
Travel Time Index	1.3
Planning Time Index	1.41

Volume & Equipment

Traffic Volume	14,059 vpd
AM Peak Volume	676 vph
PM Peak Volume	985 vph
Pedestrian Activations	108
Vehicle Detector Uptime	91.9 %
Pedestrian Pushbutton Uptime	95.5 %
CCTV Uptime	91.6 %
Communications Uptime	98.7 %

Corridor Anomalies

	Travel Time	Arrivals On Green
Centennial Olympic Park Dr	12:57 ↑	68% ↓
Courtland St	2:54 ↓	90% ↑
Piedmont Ave-Downtown	6:15 ↓	82% ↑
Ivan Allen/Ralph McGill Blvd-Midtown	14:08 ↑	61% ↓
Peachtree St-Downtown	3:35 ↓	88% ↑



Dashboard

Operations

Maintenance

Watchdog

Reports

Health Metrics

Signal Info

About

Date Range: Prior Year

Data Aggregation: Monthly

Region: Central Metro

Detector Uptime

Daily Pedestrian Pushbutton Activity

Pedestrian Pushbutton Uptime

CCTV Uptime

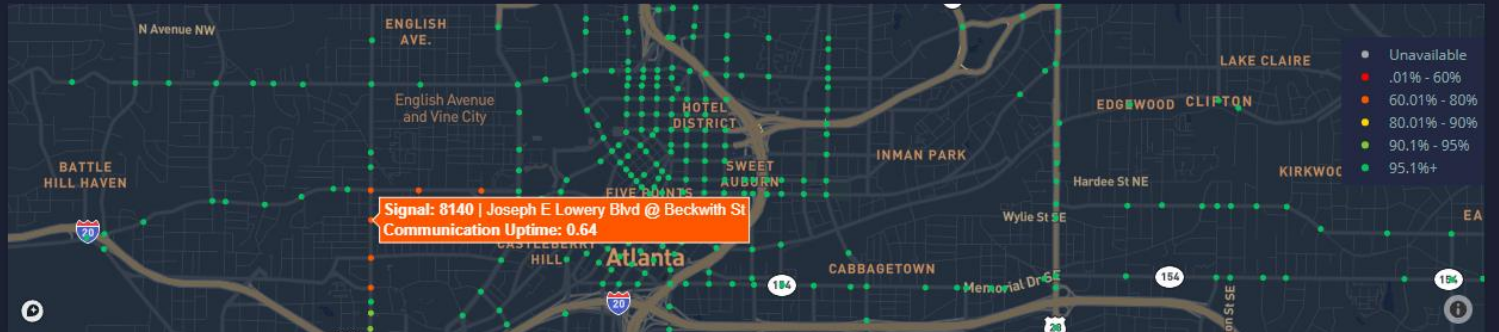
Communication Uptime

98.7%

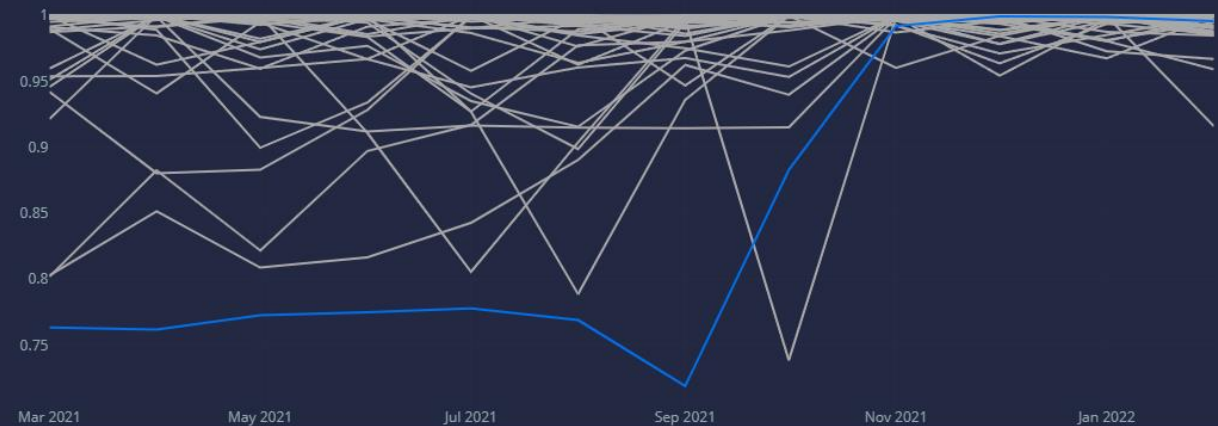
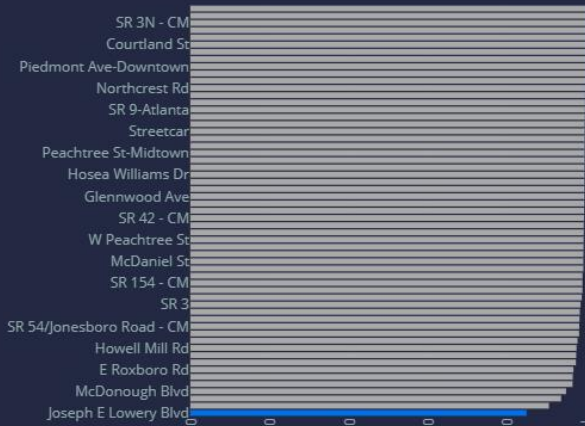
Communications Uptime

0.18%

Change from prior period



Communication Uptime [%]

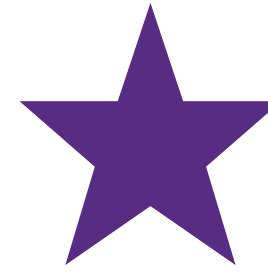


ATSPM Services



ATSPM

Installation
Configuration
Customization
Training
Troubleshooting



Additional Services

Detection layouts & recommendations
Signal retiming
Traction Metrics

The background features a dark gray gradient. On the left side, there are large, overlapping, semi-transparent geometric shapes in shades of gray, resembling stylized buildings or abstract architectural elements. At the bottom of the image, there is a silhouette of a city skyline with various building shapes, some with small square windows. The text "Thank you!" is positioned in the upper right quadrant.

Thank you!