Automated Traffic Signal Performance Measures (ATSPM) Request for Proposals

Public Works, Planning & Transportation Committee
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Lake County PASSAGE

What is ATSPM?

- **Automated Traffic Signal Performance Measures (ATSPM)**
  - Adds data logging capability to traffic signal infrastructure
  - Incorporates data analysis

- **ATSPM benefits* include:**
  - ***Increased Safety -*** by reducing traffic congestion
  - ***Target Maintenance -*** by providing actionable information
  - ***Improved Operations -*** active performance monitoring lets agencies address problems before they become complaints

**Source: FHWA Every Day Counts 4 Initiative*

LCDOT's involvement in ATSPM

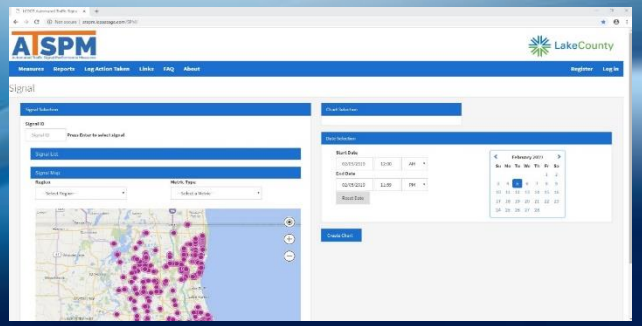
- Regarded a national expert by FHWA
- Hosted Chicago Regional ATSPM Workshop
- Steering member of the ATSPM Task Committee *(Led by FHWA)*
- 2019 Winner of ITE International Transportation Achievement Award – Operations

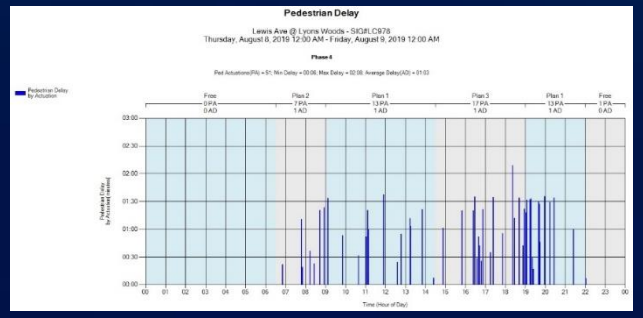
Implementing ATSPM at LCDOT

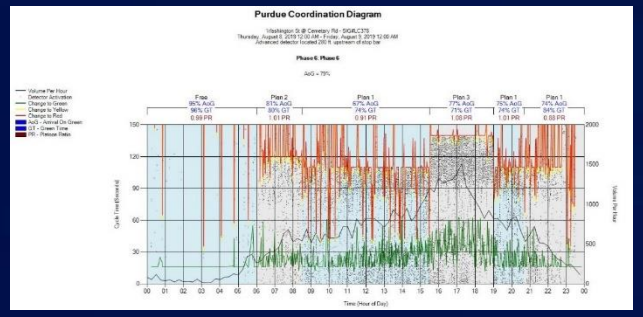
Established the following goals for an ATSPM product:

- Expandable to regional approach (with CMAP)
- Provide easy-to-interpret information
- Assist in project selection
- Conduct SCAT (Signal Coordination & Timing) studies in-house without adding staff
- Integrate with Lake County data platforms
- Use results to develop signal timing process

Implementing ATSPM at LCDOT







- Initially tried utilizing open-sourced software
- Open source upgrade an inadequate solution:

What we wanted	What we found
1. Update to Version 4.2.1	1. Errors in Version 4.2.1
2. Implement Mark1 code (GDOT)	2. OSADP versus GitHUB
3. Add Watchdog feature	3. Costs associated with GDOT Mark1
4. Work towards extra features	4. Lack of Support
	5. Hard to keep up with code updates

- Program results difficult to interpret
- Source code errors
- Lack of outside support

Implementing ATSPM at LCDOT

- June 2019: Issued a Request for Proposal (RFP)
- Sent to 27 Vendors
- Evaluated 7 Proposals
- Interviewed 3 Vendors
- Selected Traffop Corporation, Scottsdale, AZ

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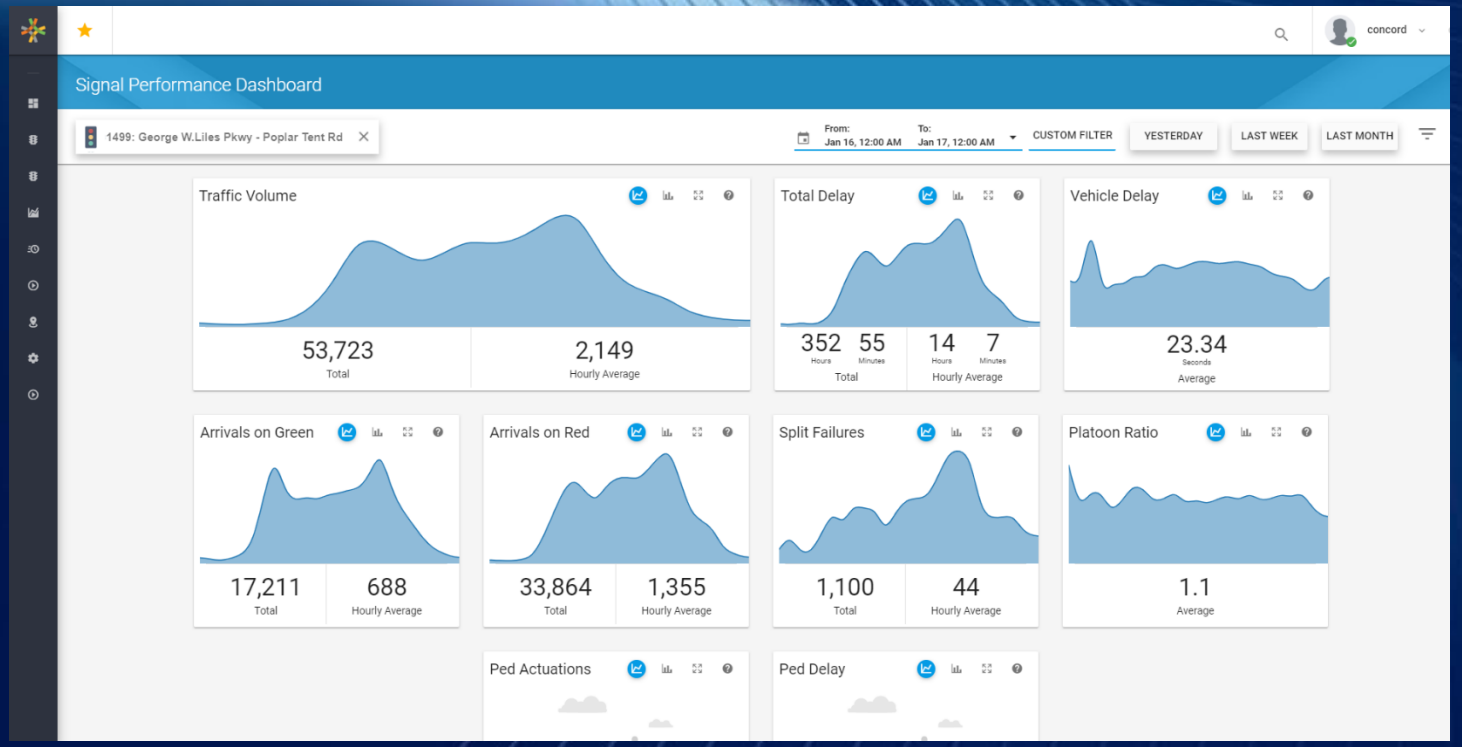
Traffop software:

Visualizes signal performance data

- Traffic Volume
- Total Delay
- Vehicle Delay
- Arrivals on Green
- Arrivals on Red
- Split Failures
- Platoon Ratio
- Pedestrian Actuations
- Pedestrian Delay



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Traffop software:

Identifies high queue lengths

- Number of vehicles stopped in a line behind the stopline at a traffic signal

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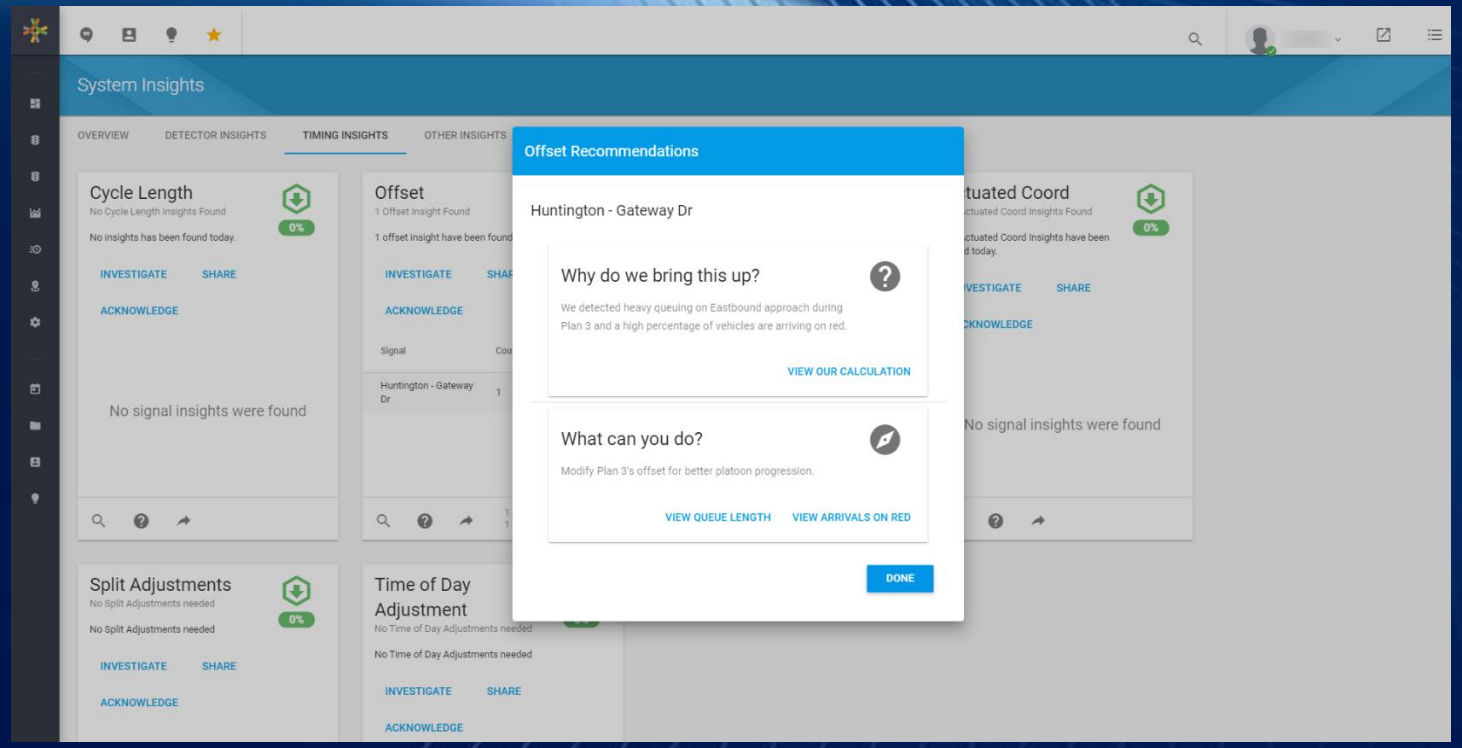
Traffop software:

Recommends ways to remedy delays

- Targeted insights to improve traffic signal timing



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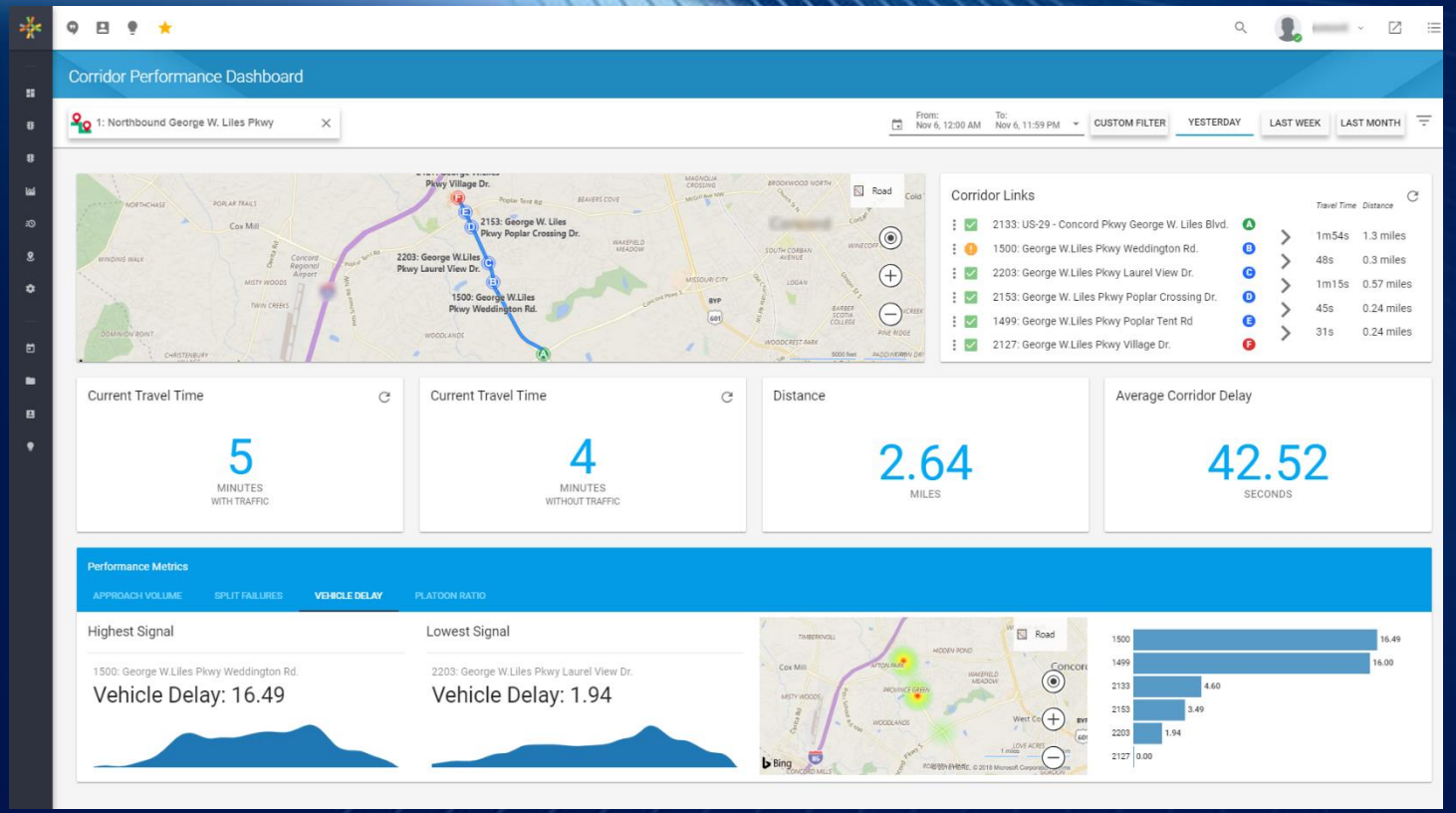
Traffop software:

Provides overview of corridor performance

- Integration with Waze travel times
- Heat map to show traffic signals with increased delay



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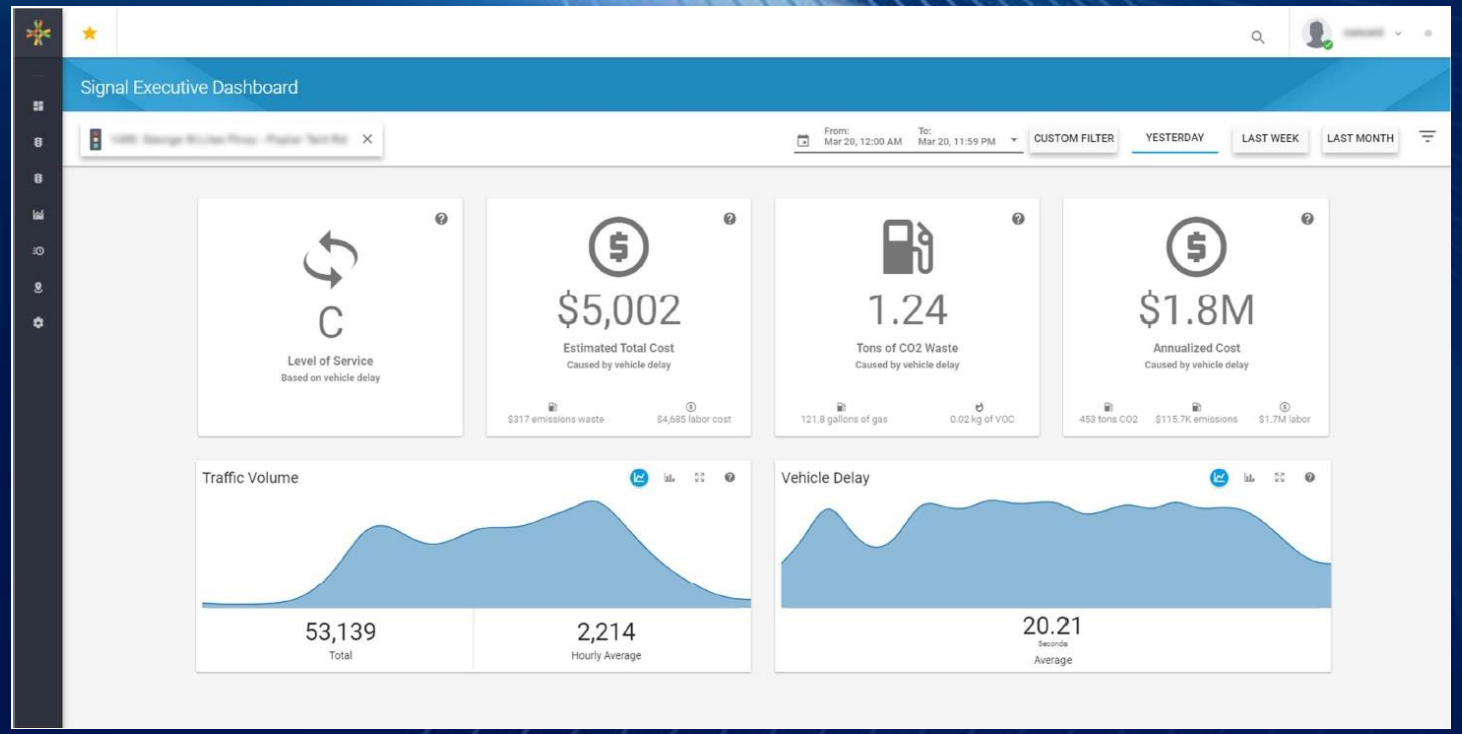
Traffop software:

Provides data used in Signal Coordination & Timing Studies (SCAT)

- Level of Service (LOS)
- Vehicle delay metrics
  - Cost
  - Carbon emissions
  - Annualized cost



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Next Steps

- Implementation schedule
- Vendor training on ATSPMs and their solution
- Agency connections to PASSAGE
- Collaboration with CMAP
- Collaboration with other regional government agencies

Chicago Metropolitan Agency for Planning

Illinois Department of Transportation

Highland Park 1869 2019

The County of DuPage · Wheaton, Illinois ·

And more…

Questions?

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