



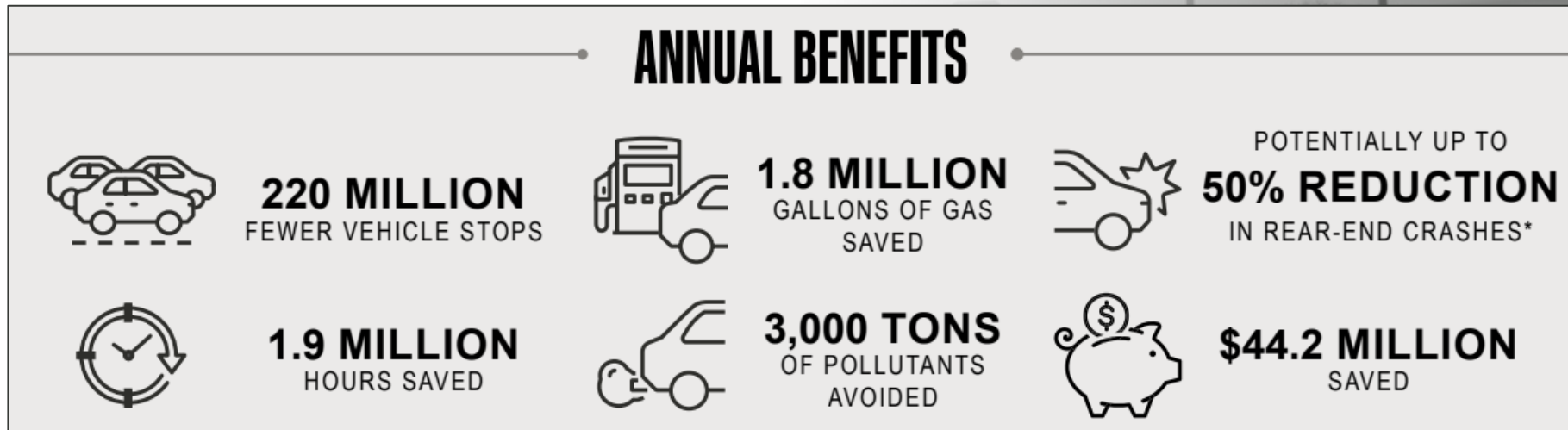
Operation Green Light SMART Grant



What is Operation Green Light?

Kansas City's Regional Arterial Management Program

- Administered through MARC
- Timing/Coordination
- Communications Network
- Central Software
- 31 Partner Agencies
- 750+ Intersections
- 200+ Roadway Miles



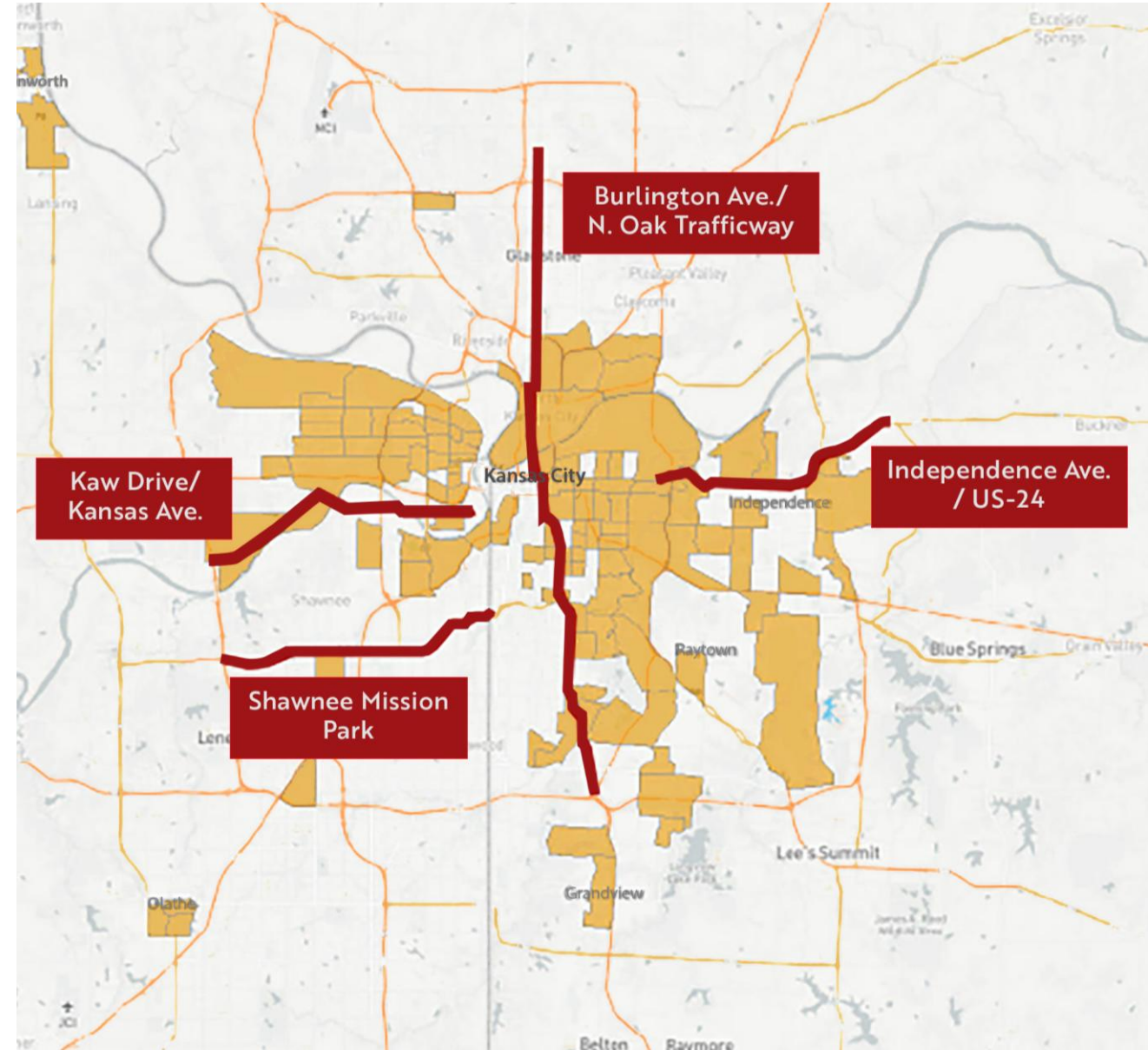
Project Background

GOAL: Data Driven Decisions

- Changes over time
- Real-time system status
- Consistent regional data (regardless of detection)
- Effective reporting

PROJECT: USDOT Smart Grant

- \$753k to evaluate four systems in 18 months
- Evaluation support team
- Systems engineering / detailed requirements
- 6 corridors
- Systems: Iteris, FlowLabs, Inrix, StreetLight Data



Evaluation Process

General

- Overall Experience
 - Contracting
 - Set-up time and complexity
 - Training / Customer service
 - Data export / reporting
 - User interface
- Compliance with Solicitation Requirements
 - Did it meet / how well did it meet
 - Secondary analysis of what was most useful
- Estimated Full Regional Costs

Evaluation Scenarios

- Safety / Crash Impacts
- Road Work Impacts
- Corridor Operational Comparison
- Corridor Before/After Analysis
- Corridor Change Over Time
- Traffic Management Dashboards
- Data Accuracy / Penetration Rates / Reliability

Results Overview

Takeaways:

- All systems provide benefit, with strengths and limitations
- All were responsive and organized
- All met most requirements to some degree
- Maturity vs. Flexibility
- The “best” depends on what you are trying to do
- Cost structures are all very different – none are “cheap”

**DETAILED COMPARISON
RESULTS ARE CONFIDENTIAL
AND PROPRIETARY**

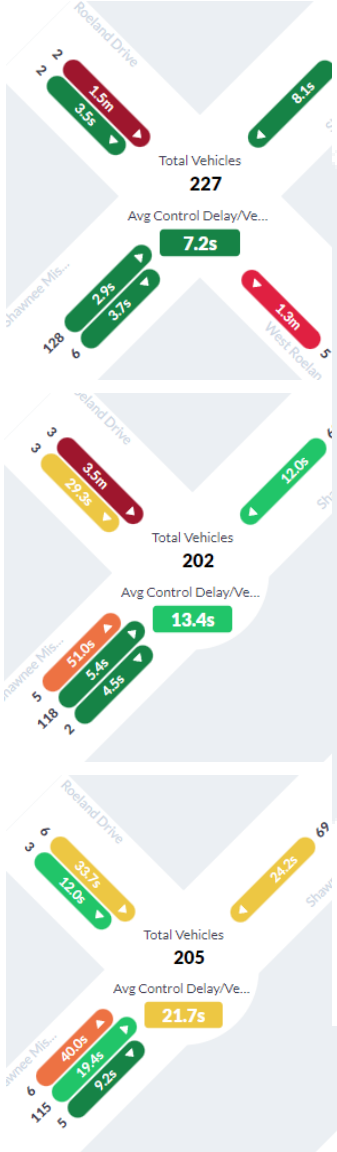
**(per license agreement and are
protected from FOIA requests)**

Inrix Signal Analytics

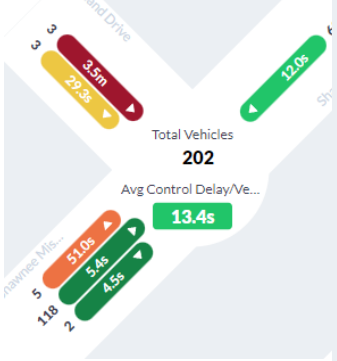
Intersections: Top 5 Control Delay Issues		2024-08-09		24 Hrs			
Worsened Control Delay (Total)		4-wk Avg		2024-08-09		Change	
1	West 135th Street & Grandview Avenue	10.4h	B	15.4h	C	+5.0h	+48%
2	Roeland Drive & Shawnee Mission Parkway	3.4h	B	7.2h	C	+3.8h	+111%
3	West 135th Street & Metcalf Avenue	35.8h	D	38.8h	D	+3.0h	+8%
4	Shawnee Mission Parkway & Nall Avenue	11.0h	C	13.1h	D	+2.1h	+19%
5	Shawnee Mission Parkway & Mission Road	6.0h	B	7.9h	B	+1.9h	+32%
Worsened Control Delay (per Vehicle)		4-wk Avg		2024-08-09		Change	
1	Roeland Drive & Shawnee Mission Parkway	11s	B	24s	C	+12s	+111%
2	West 135th Street & Grandview Avenue	18s	B	26s	C	+8s	+48%
3	Winner Road & Manchester Ave	6s	A	13s	B	+7s	+106%
4	Shawnee Mission Parkway & Nall Avenue	31s	C	36s	D	+6s	+19%
5	Shawnee Mission Parkway & Mission Road	14s	B	18s	B	+4s	+32%

Inrix Signal Analytics

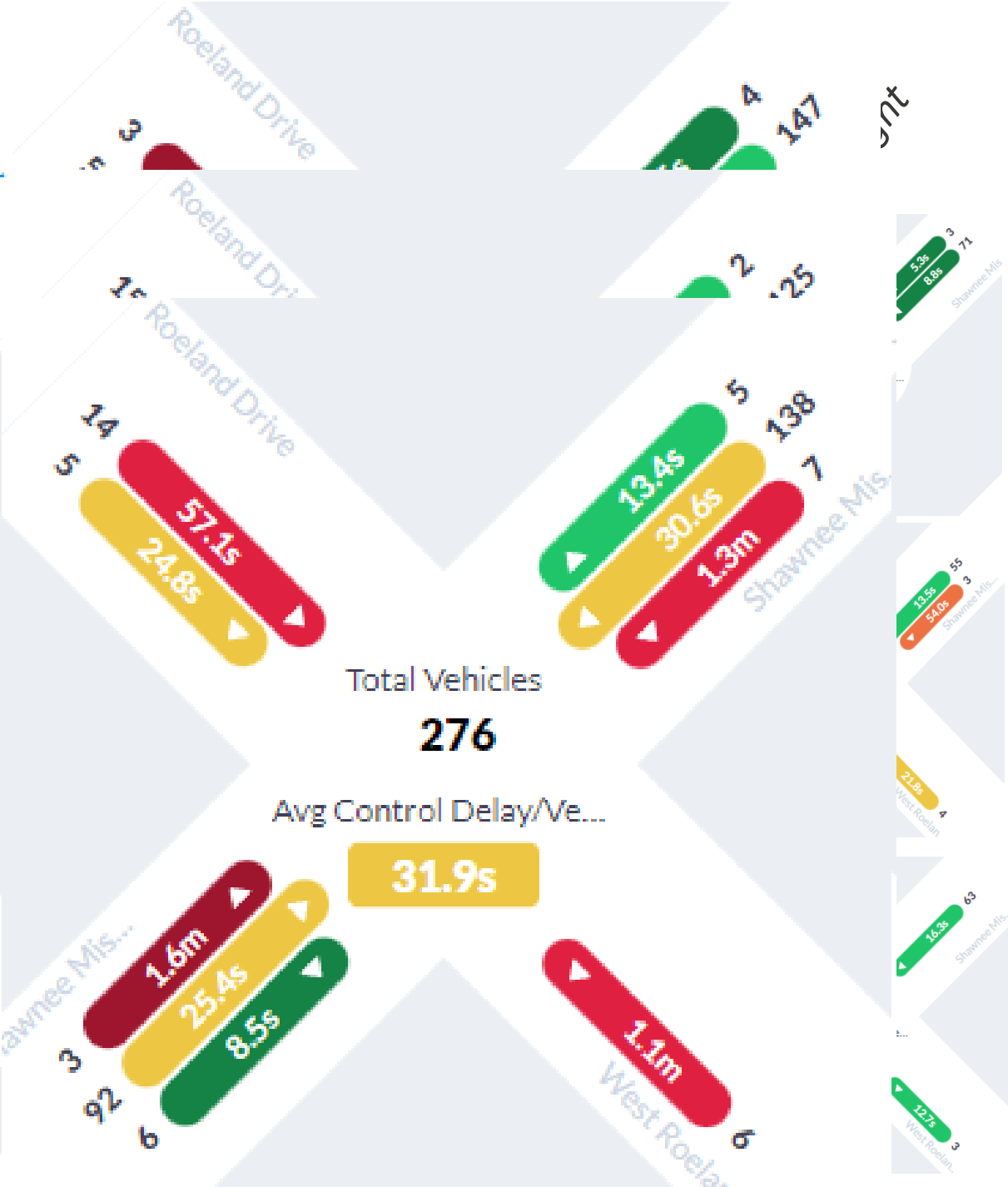
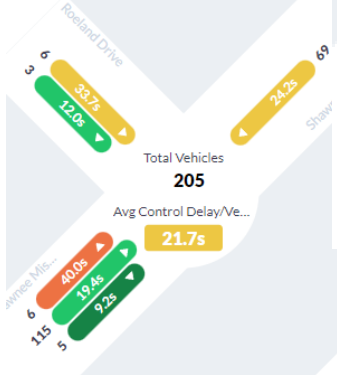
*Baseline,
7/30/2024:*



*Closure,
8/6/2024:*



*Closure, after adjustments made,
8/8/2024:*



Flow Labs

Map View Cerberus		HOURLY VOLUME # OF VEHICLES	ANNUAL COST OF DELAY	NB/EB TRAVEL TIME INDEX	NB/EB BUFFER INDEX
NETWORK	TIME OF DAY				
Kaw Dr/K-32 & I	Weekday PM Peak: 03:30PM-05:30PM	49.9%	199.9%	31.7%	2.9%
US71_M	Weekday AM Peak: 06:30AM-08:30AM	64.2%	109.1%	24.6%	68.9%
US71_M	Weekday PM Peak: 03:30PM-05:30PM	NB/EB TRAVEL TIME INDEX		22.1%	27.4%
135_W	Weekday AM Peak: 06:30AM-08:30AM	Before 1.1		16.4%	-56.2%
135_M	Weekday AM Peak: 06:30AM-08:30AM	After 1.3		14.3%	-23.4%
Kaw Dr/K-32 & I	Weekday Midday: 08:30AM-03:30PM	Change 0.2		14.0%	-8.0%
		Sample Size Before 247,156			
		Sample Size After 262,680			

Iteris ClearGuide



Route Alert Activated

Alert Name: 435 NB through KS congestion

Route Name: I-435 (N) to I-435 (N)

Congestion exceeds the threshold of **40%** longer than historic travel time.

For 5 consecutive minute(s)



Alert Activated: 04/01/25 16:20 CDT

Congestion at Activation: 45.5 %



Route Alert Activated

Alert Name: K-7 NB at Kansas Ave

Route Name: KS-7 (N) to KS-7 (N) To KANSAS AVE

More than **1 minutes** of delay relative to **56.0 mph** (freeflow).

For 10 consecutive minute(s)



Alert Activated: 04/01/25 16:31 CDT

**Minutes of delay at
Activation:** 3.3 minutes

Iteris ClearGuide

DATE RANGE: 04/24/2024 - 08/22/2024, GRANULARITY: Hour, METRIC: Control Delay
TIME OF DAY: 4:00 PM-5:00 PM, INCLUDE DAYS: Mon, Tue, Wed, Thu, Fri

Show ▾

MO-7 & W MAIN ST

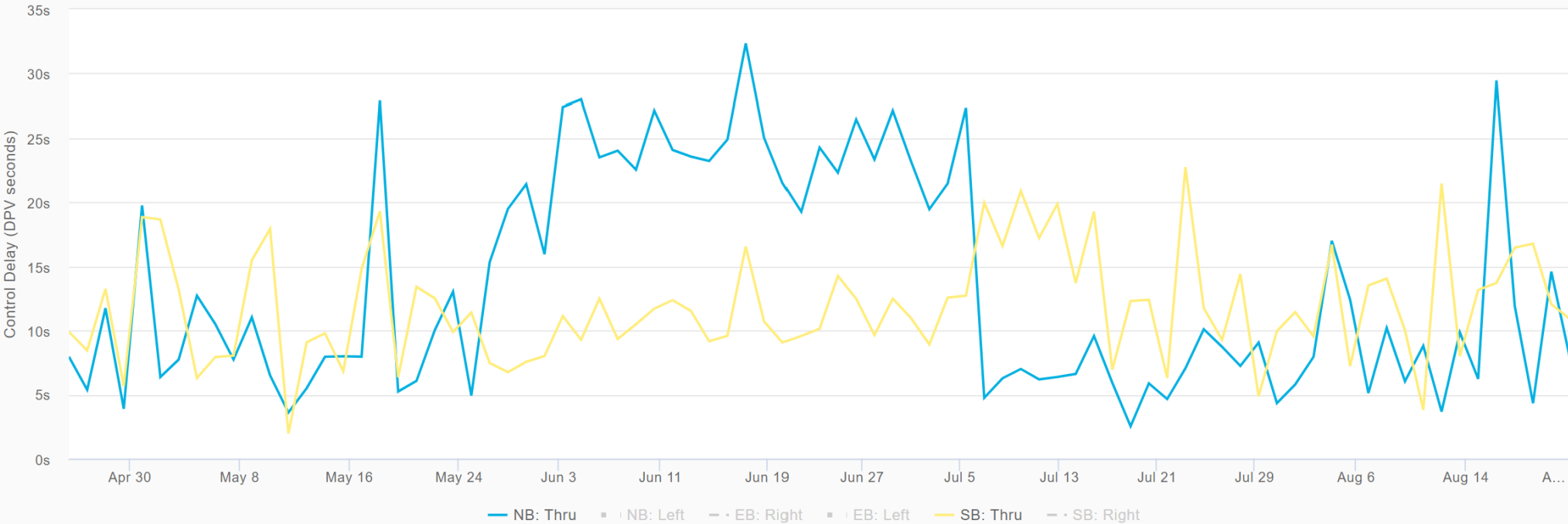
Control Delay | 04/24/2024 - 08/22/2024 | MON, TUE, WED, THU, FRI | 4:00 PM-5:00 PM

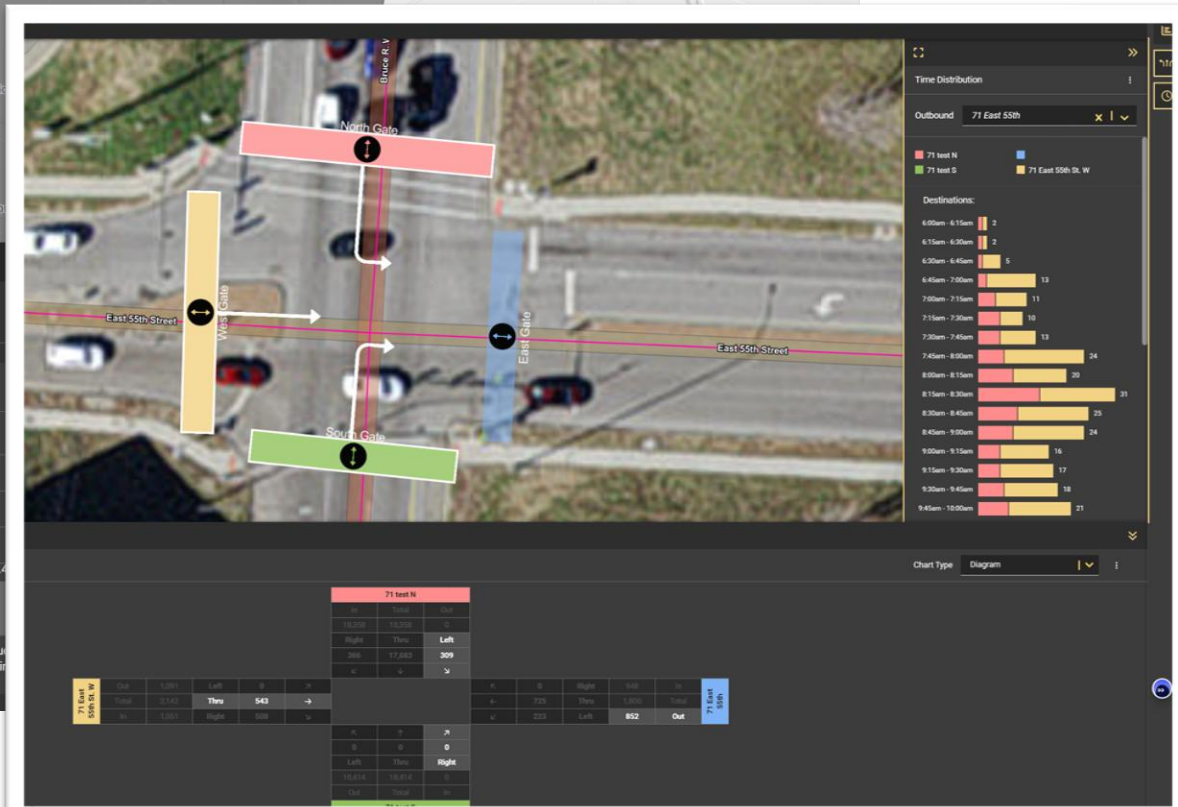
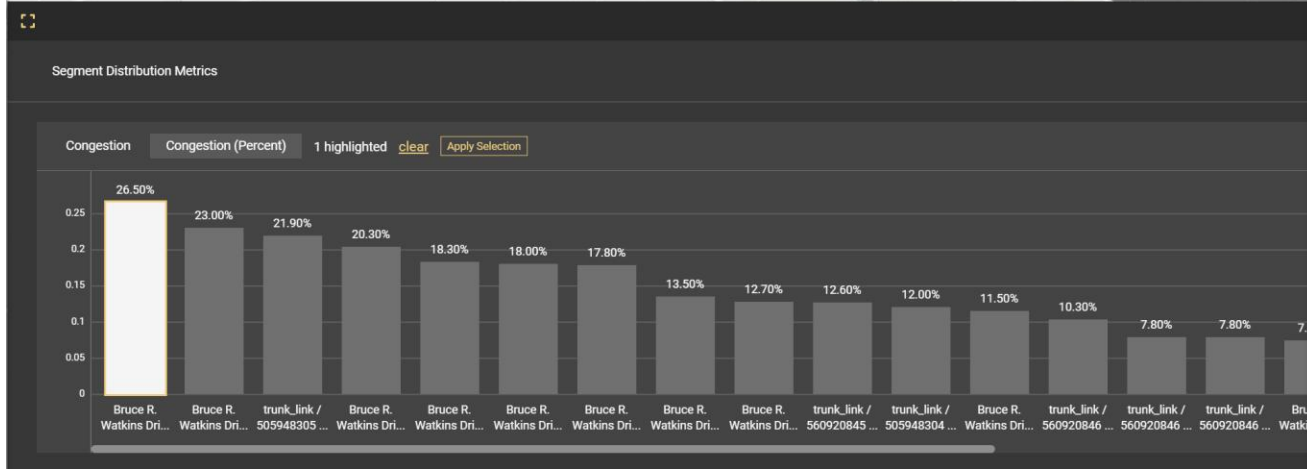
BY INTERSECTION

BY APPROACH

BY MOVEMENT

☒ NB ☐ EB ☒ SB | ☐ Left ☒ Thru ☐ Right





Challenges

General

- Time (18 months is short!)
- All want to use their own license agreement and cost structure
- Agency staff volunteer time

Technical

- Real-time data (could not get it all integrated in time)
- ATSPM data (Iteris and Flow Labs)
- Required 5 years of data - challenging for all

Lessons

Requirements and Use Cases

- Start with basic needs – be flexible with “how”
- Hard to know exactly what you want/how you will use it before you see what’s possible (and both are constantly changing)

Procurement, Etc.

- Consider a pilot or demo as part of procurement
- Ask for data AND an analytics platform (lesson from TXDOT)
- Regular check-ins are very helpful
- Build in regular contract renewals that allow for optional enhancements and new capabilities

Next Steps

- Finalize data archival requirement
- CMAQ 3302(446) MO Crowdsourcing Project
- Work with Steering Committee
 - Determine what elements were most valuable
 - Identify potential funding sources
 - Decide whether to pursue Stage 2 again (if it's not cancelled)



For More Information

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QUESTIONS