Traffic Management Division
Conditions, Needs & Accomplishments

Report to the Utah Transportation Commission
December 15, 2017

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Condition of Assets
Traffic Signals and ATMS

Link to Socrata - Asset condition and traffic performance measures

https://dashboard.udot.utah.gov/stories/s/49fu-nxav

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FY 2019 Funding Request

Program	Purpose	FY 2018	FY 2019
Traffic Signal Operations	Traffic signal maintenance and operations; consultant and contractor support	$ 5.6 M	$ 5.6 M
ATMS Deployment	New devices; fiber optics; software solutions; technology solutions	$ 3.0 M	$ 3.0 M
ATMS Maintenance	Equipment; consultant and contractor support	$ 0.8 M	$ 0.8 M
ATMS Asset Management	Lifecycle Replacement	$ 3.9 M	$ 3.9 M
	Total	**$ 13.3 M**	**$ 13.3 M**

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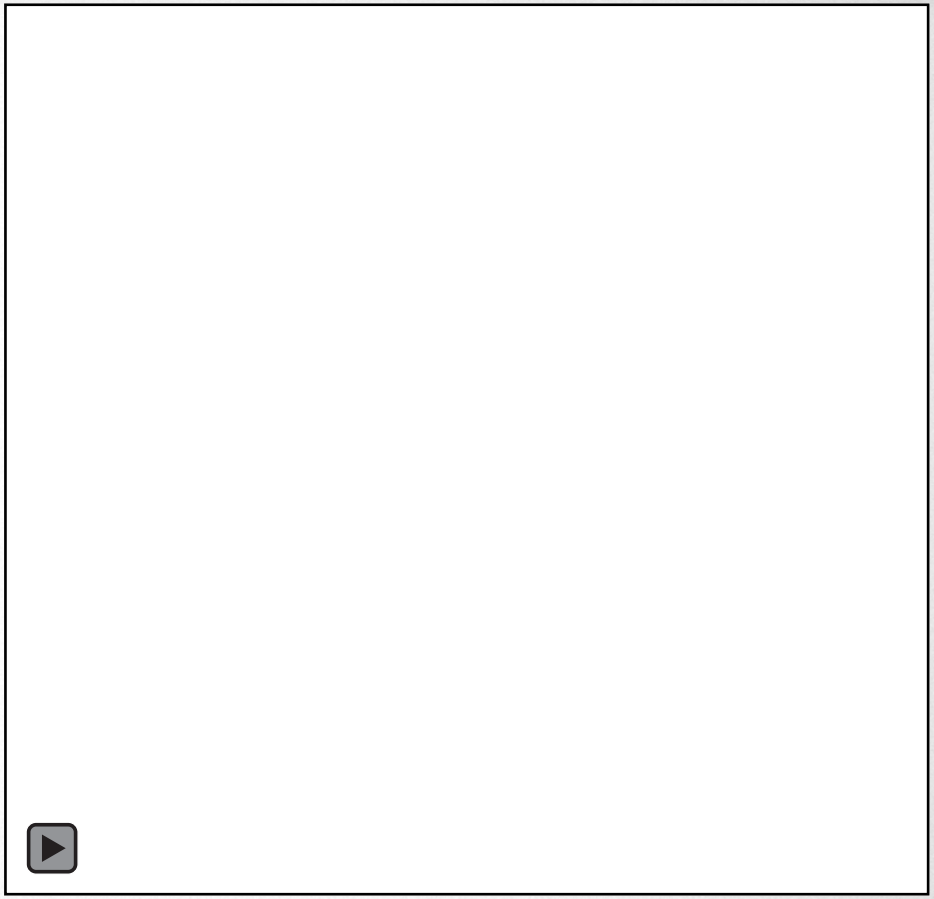
Accomplishment
Procured new HERE data

Provides coverage for:

- Rural and urban freeways
- Busy arterial surface streets
- Freeway ramps

Supports traffic analysis of:

- Real-time and historical congestion
- Work zones
- Incidents
- Before / After studies
- Traffic signal operations
- Planning studies



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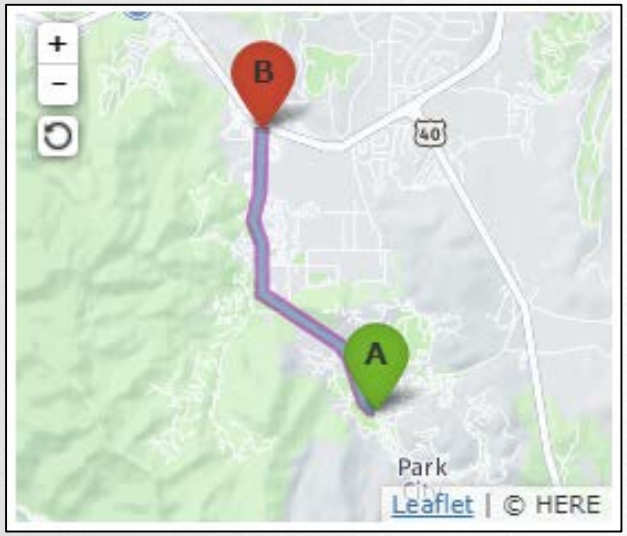
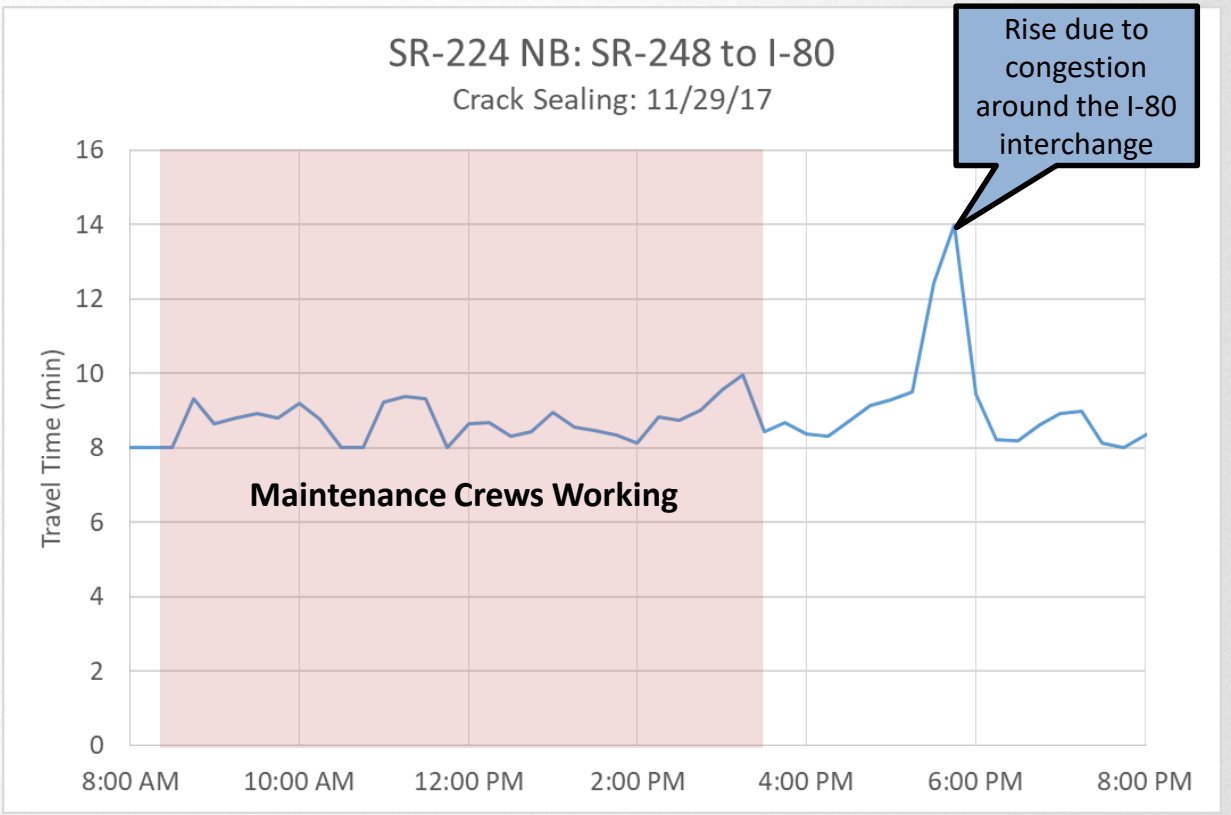
Uses for new HERE data
Optimize work hours

Region 2 Traffic & Safety used the data to minimize traffic impacts during maintenance operations

SR-224 NB: SR-248 to I-80





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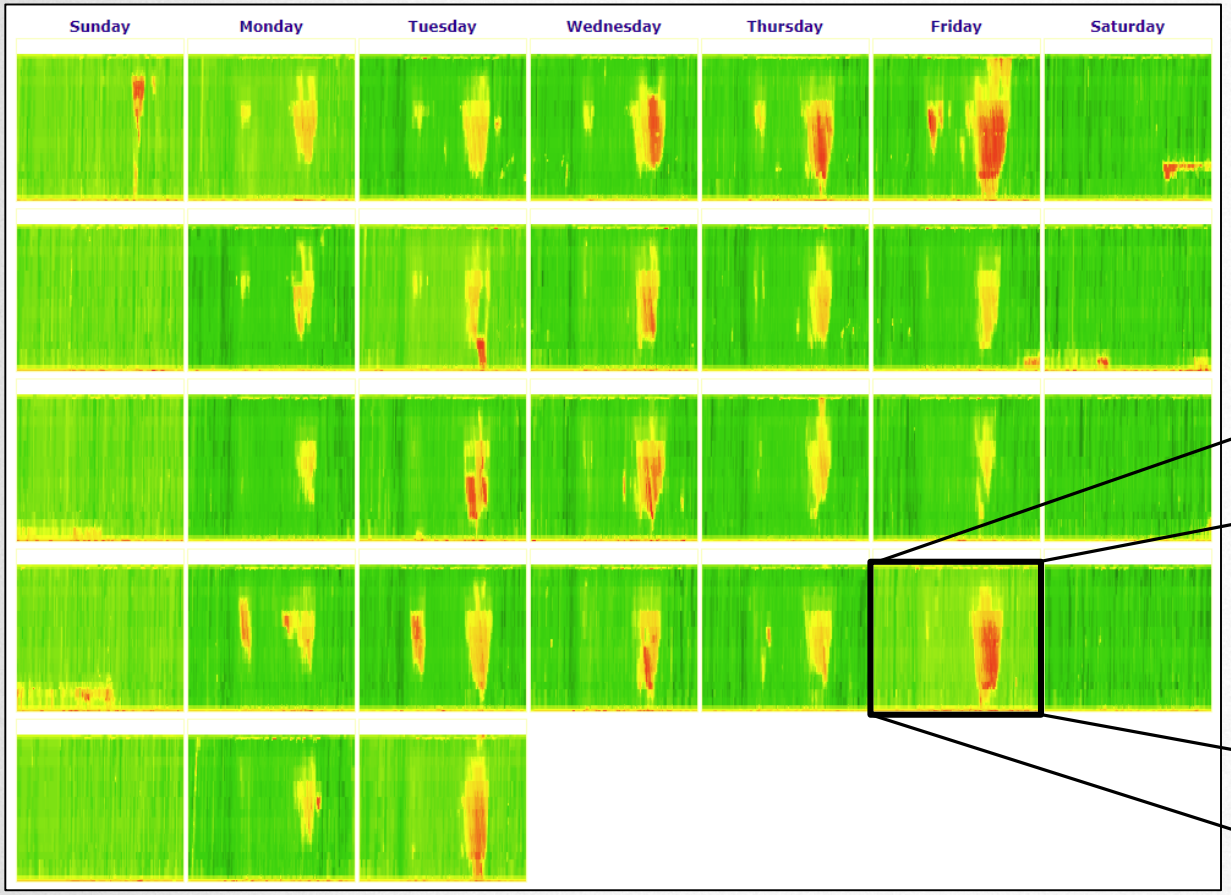
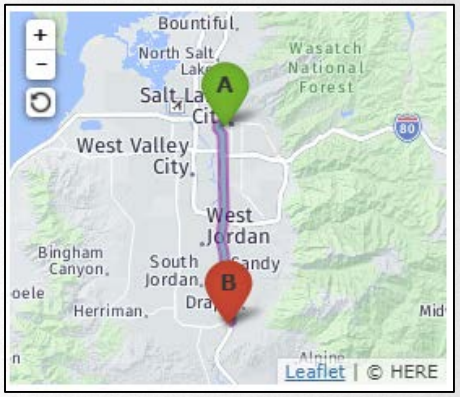
Uses for new HERE data

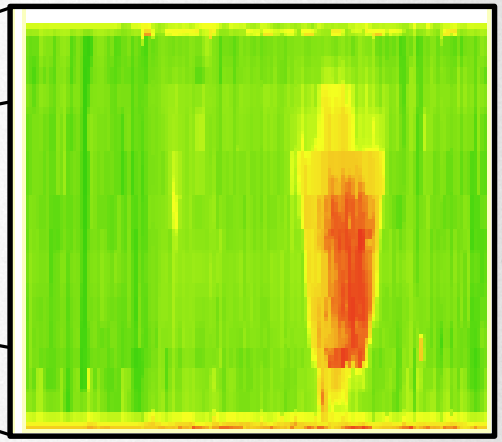
Identify trends in congestion

October 2017



I-15 SB: SLC to Bangerter





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Uses for new HERE data

Evaluate incident delays

I-84 & I-15 SB Closure from cattle semi-rollover (11/22/17)

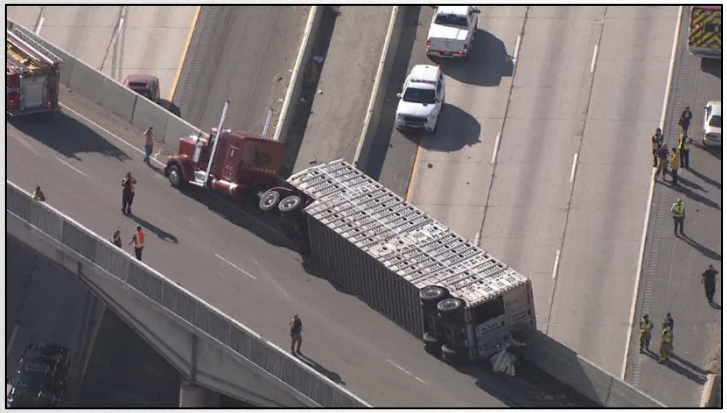
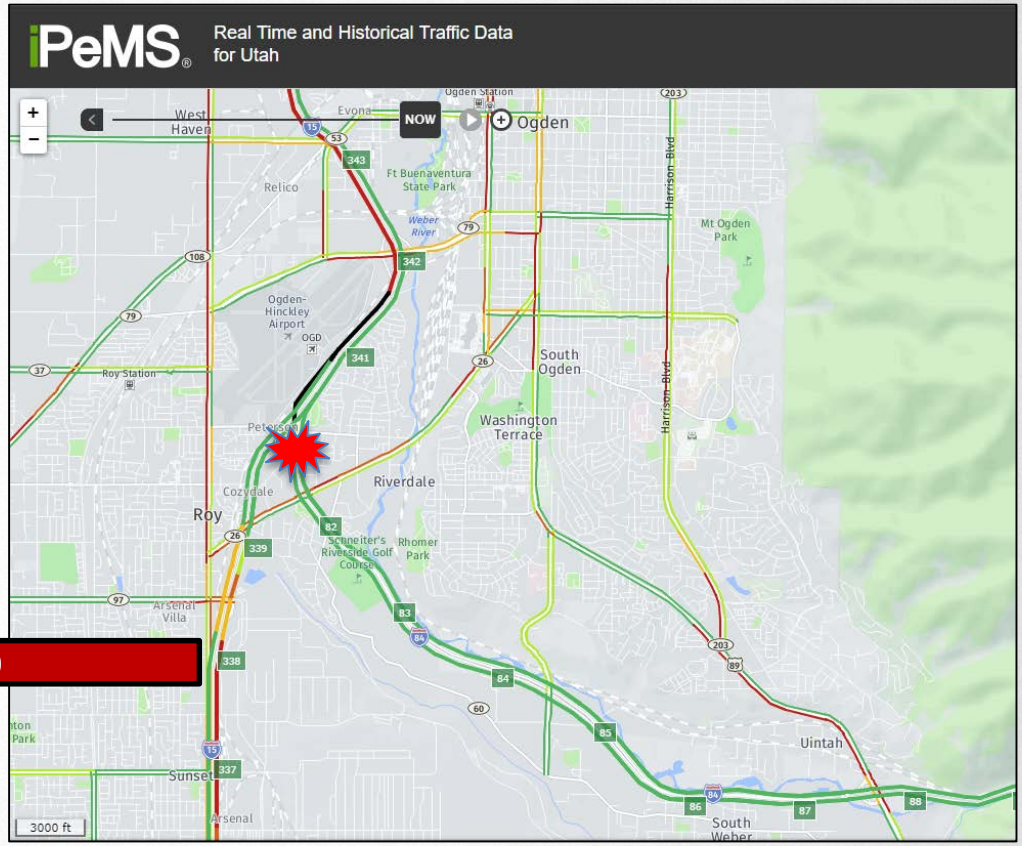


Photo from ksl.com

Detour Route Travel Times

	Typical Travel Time (min)	Delay
Main St: 2700 N to 5600 S	19	60
US-89: 12th St to I-84	16	23
Harrison: Weber St to I-84	8	18
Riverdale Rd: US-89 to I-15	8	14
	#	#



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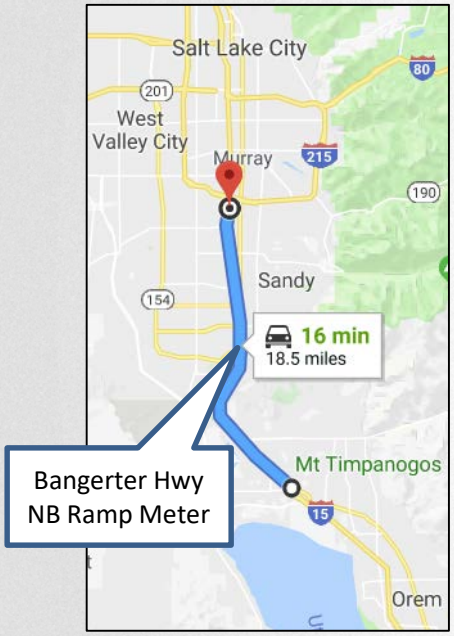
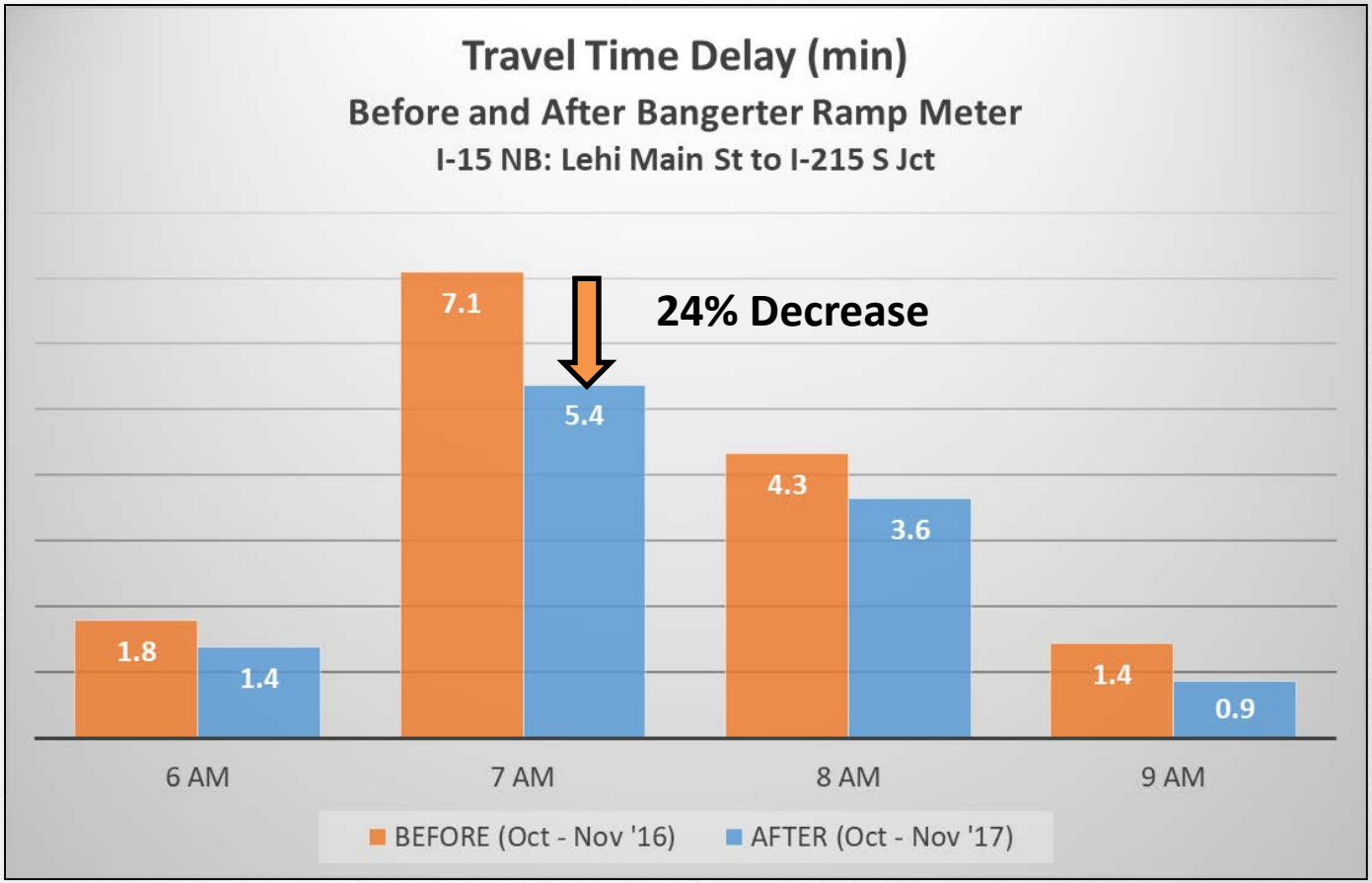
Uses for new HERE data
Before/After studies

Region 2 turned on the Bangerter ramp meter on May 19, 2017





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Accomplishment
Redwood Rd Connected Vehicle Project

Project Goals

Collaboration with UTA – Integrated Transportation

Smart Transit Signal Priority

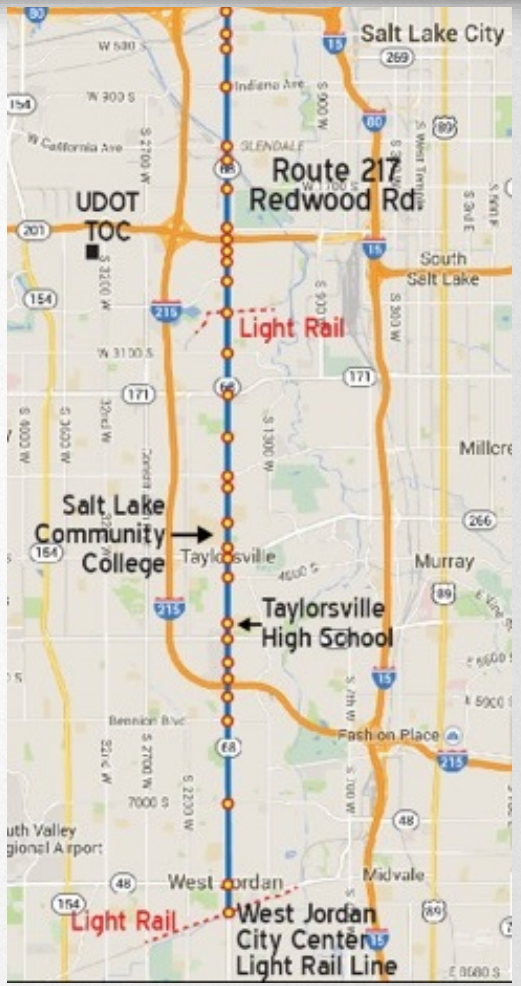
- UTA Bus Route 217 (Redwood Road)
- Goal: Increase reliability from 86% to 94%

Utah's first full DSRC corridor

- Further testing / deployment
- Prepare for equipped vehicles

Meet the national SPaT Challenge

V2I



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Redwood Rd Connected Vehicle Project
WASHTO and UDOT Annual Conference Awards

The project received a 2017 WASHTO Quality Award

The project also received the UDOT Annual Conference Award for Innovation

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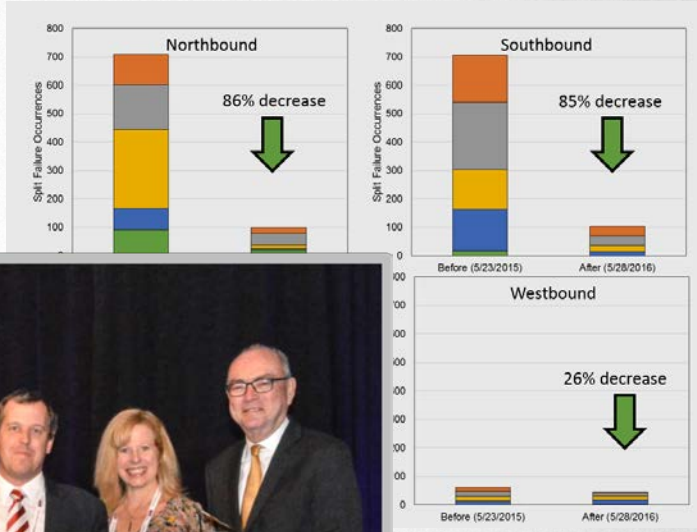
Accomplishment

Moab Peer to Peer Adaptive Signal Control

UDOT received AASHTO's 2017

Francis B. Francois Award for Innovation



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Peer to Peer Adaptive Signal Control

Another example: Mountain View Corridor

Challenge: Coordinating signal operations through closely spaced intersections

Solution: Using programming logic, information from the upstream intersection is communicated to the downstream intersection. The operation of both intersections becomes safer, more responsive and more efficient.

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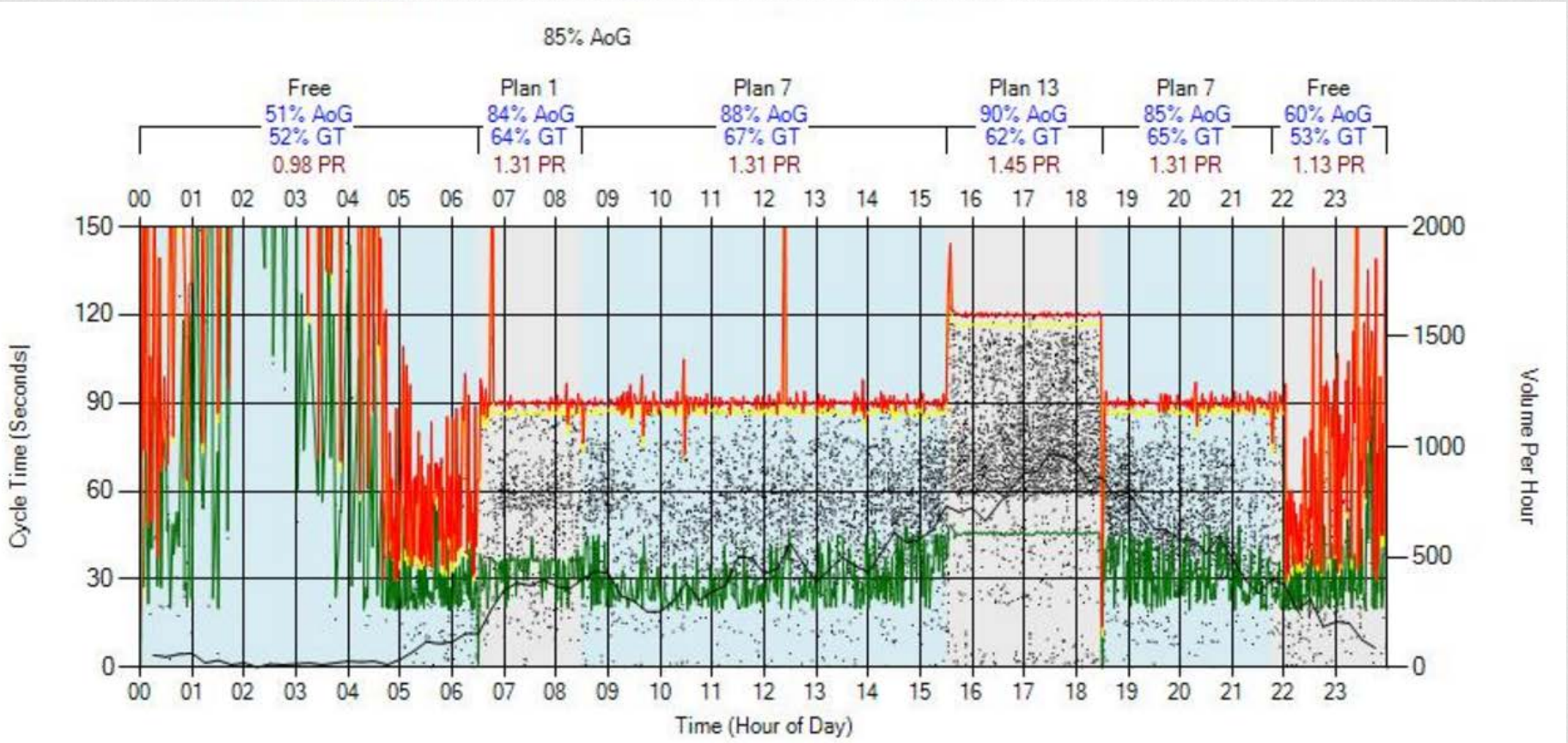
Peer to Peer Adaptive Signal Control
Mountain View Corridor Example

Mountain View Corridor at 12600 South: Westbound

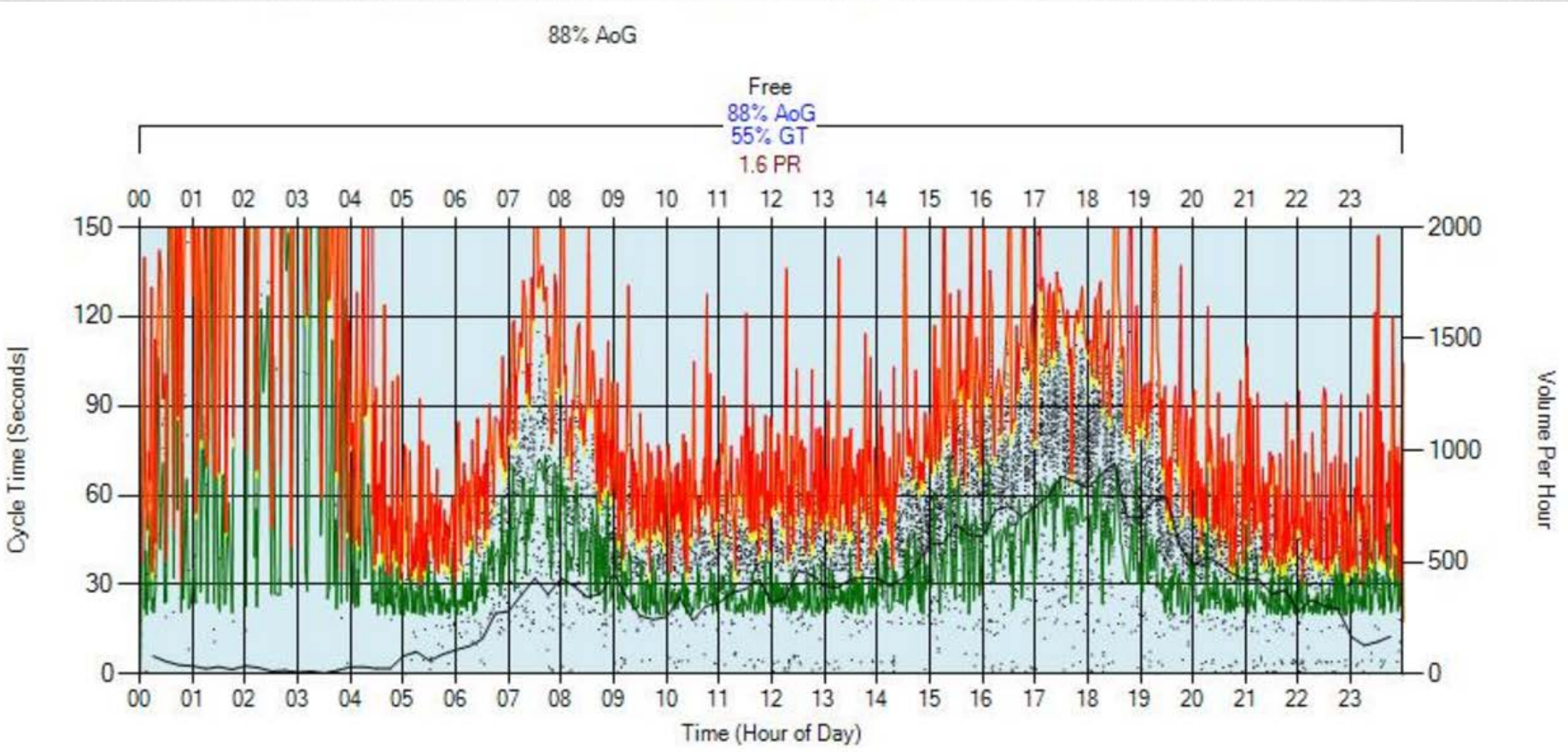
Before: 85% AoG, 90- and 120-second fixed cycle lengths



Peer to Peer Adaptive Signal Control
Mountain View Corridor Example

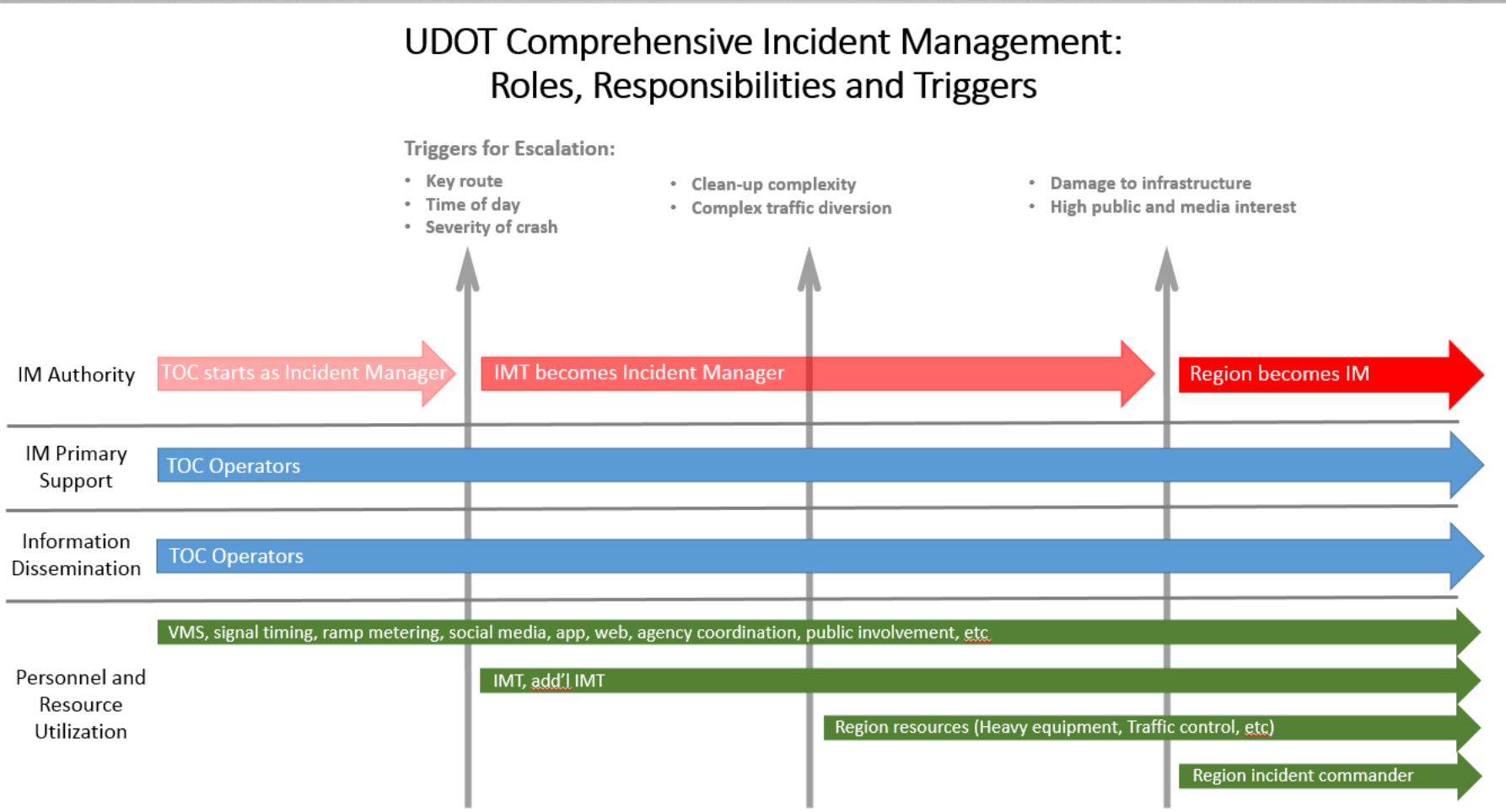
Mountain View Corridor at 12600 South Westbound

After (with Peer to Peer): 88% AoG, 70- and 110-second average dynamic cycle lengths



TMD 2018 Priority

New UDOT-wide Comprehensive Incident Management Process



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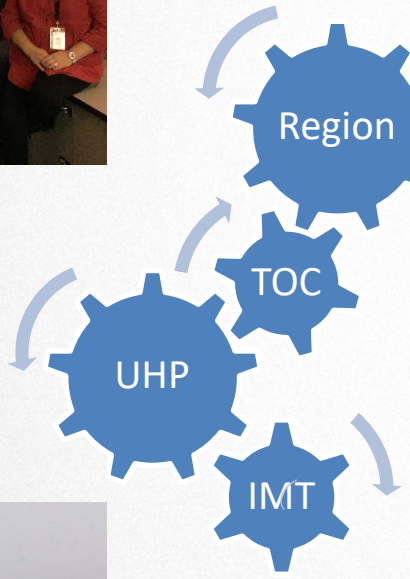
TMD 2018 Priority

New Comprehensive Incident Management Process



Key objectives

- Investment in TOC staff to reduce turnover and enhance capability
- Active management of every impactful incident
- An IMT is available for every crash impacting traffic
- UDOT/UHP data sharing for improved performance management

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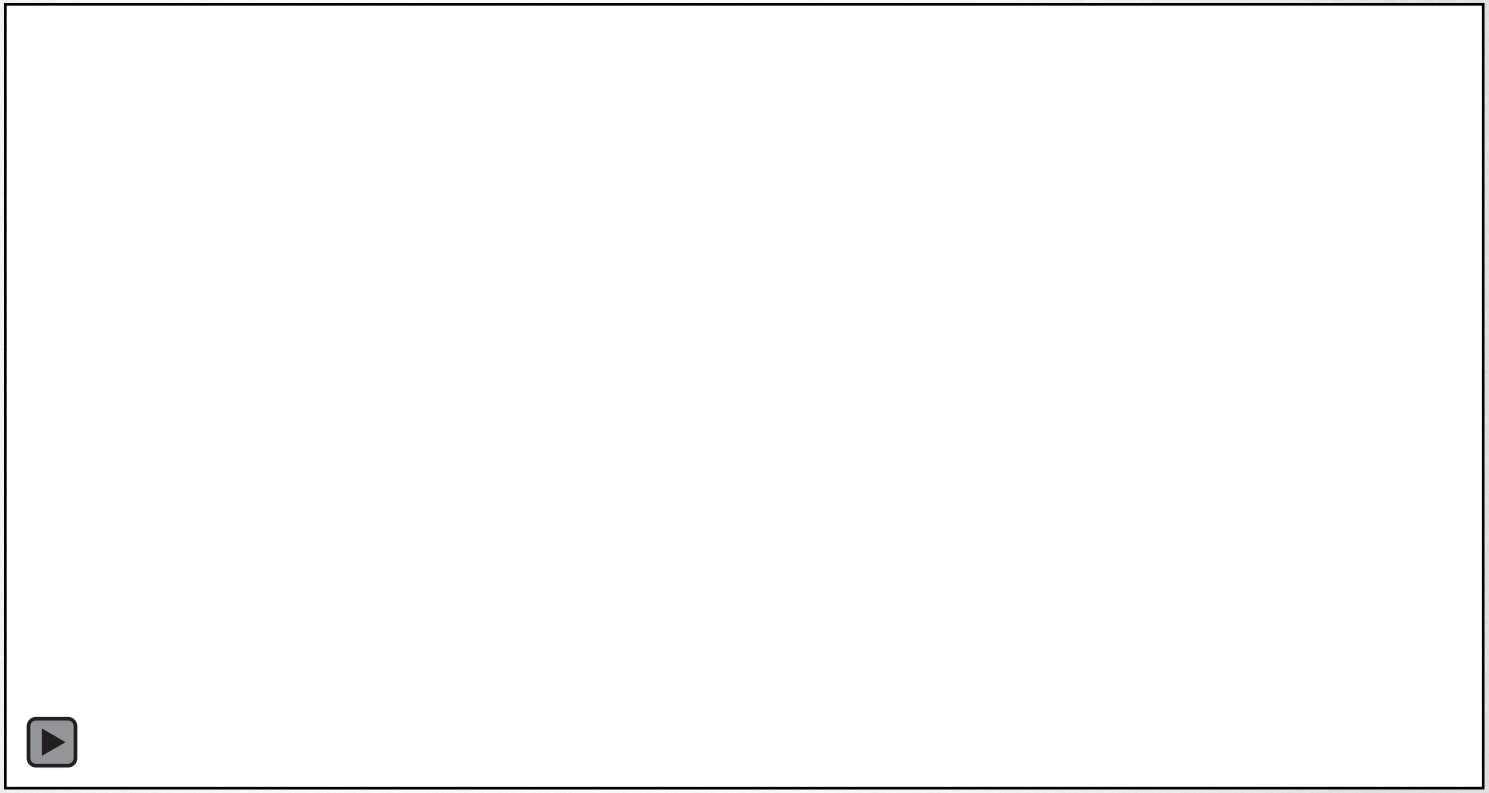
TMD 2018 Priority

Evaluate "Distributed Acoustic Sensing"

- Uses existing fiber to "hear" vehicles, animals, trains, avalanches, etc. along the roadway.
- It can detect speed and volume - further applications are being explored
- Installed in North Dakota, New Zealand, and Netherlands.
- Technology typically used for security fences, pipeline protection, etc.



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Other 2018 TMD Priorities

- Connected Vehicle Smart transit priority deployment on the Provo Orem TRIP Project
- Peer-to-peer traffic signal safety and operational enhancements
- Traffic operations dashboard
- Technology solution to address Express Lanes violators
- TSMO Business Case
- Support Little Cottonwood Canyon EIS and the recreational hot spot program

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Thank you