

ODOT SMART MOBILITY NETWORK

GRANT EVALUATION

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Oregon Smart Mobility Network

ODOT - I-205 ATM and AUX Lane

ODOT - OR212/224 Arterial Corridor Mgmt.

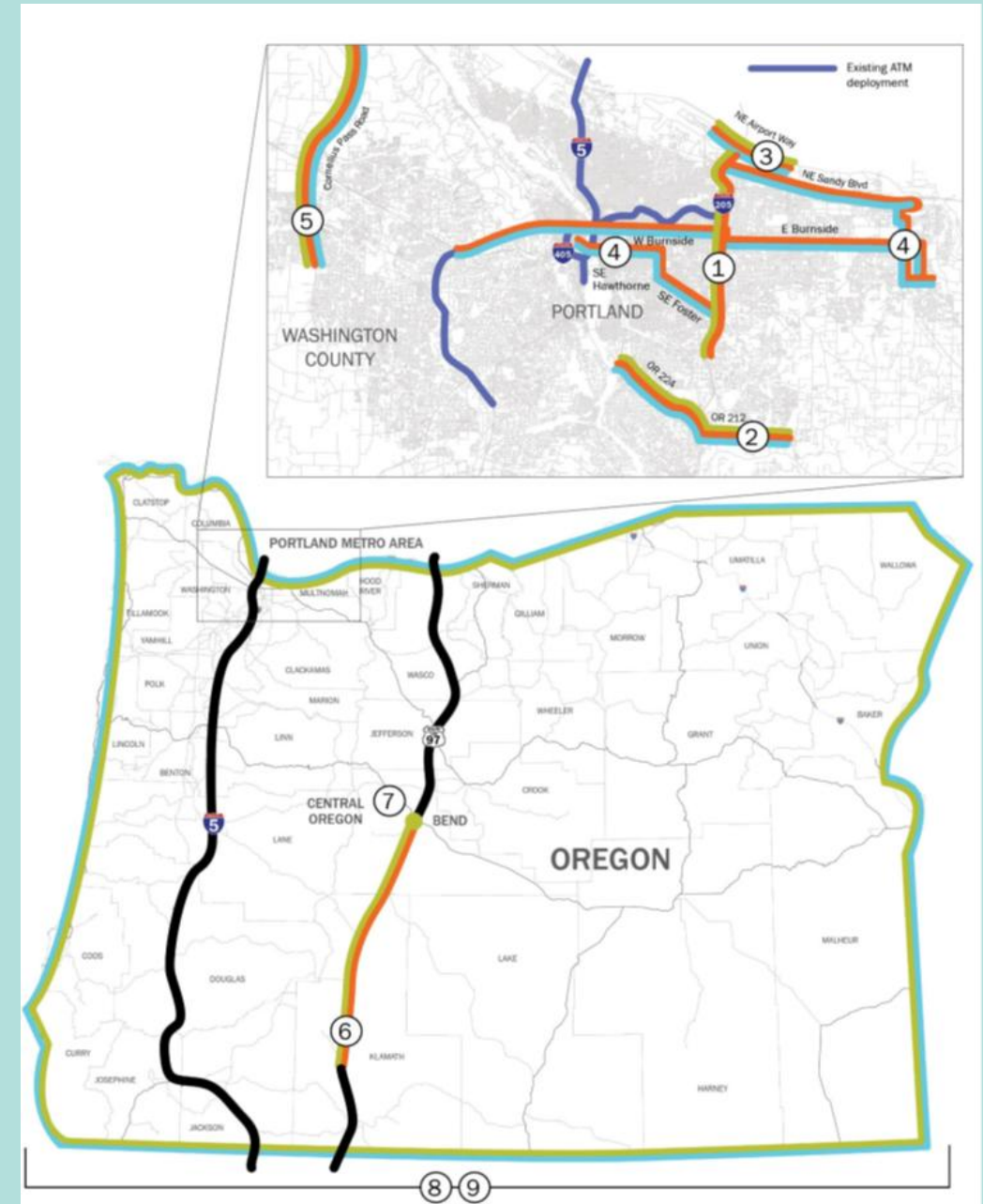
PBOT - East Airport Way Arterial Corridor

TRIMET - Next Generation TSP

WASH CO.- Cornelius Pass Arterial Corr Mgmt.

ODOT - US97 Road Weather Management

BEND - Colorado/Arizona Couplet ATSPMs



OREGON Smart Mobility Network

SAFETY

- Reduce Traffic Crashes (weather and congestion)
- Reduce red light running / near miss events
- Reduce speed at curve warning

MOBILITY

- Improve travel time reliability
- Improve mobility
- Improve freight travel time

OPERATIONS

- Mitigate recurring bottlenecks
- Reduce detection outages
- Improve reliability

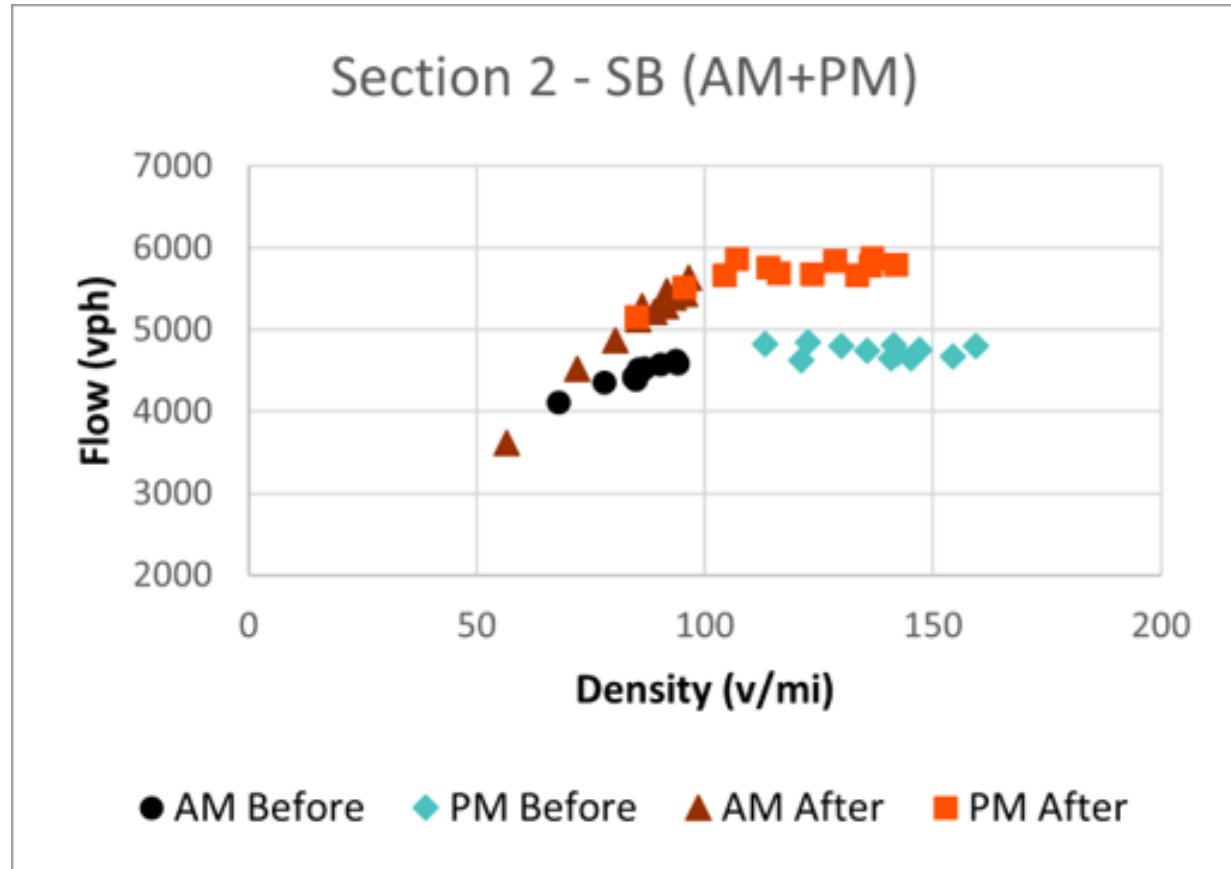
ODOT – I-205 ATM and Aux Lane

- Reduce traffic crashes
 - > Incident logs
- Improve travel time reliability
 - > RITIS data
- Mitigate recurring bottlenecks
 - > Density



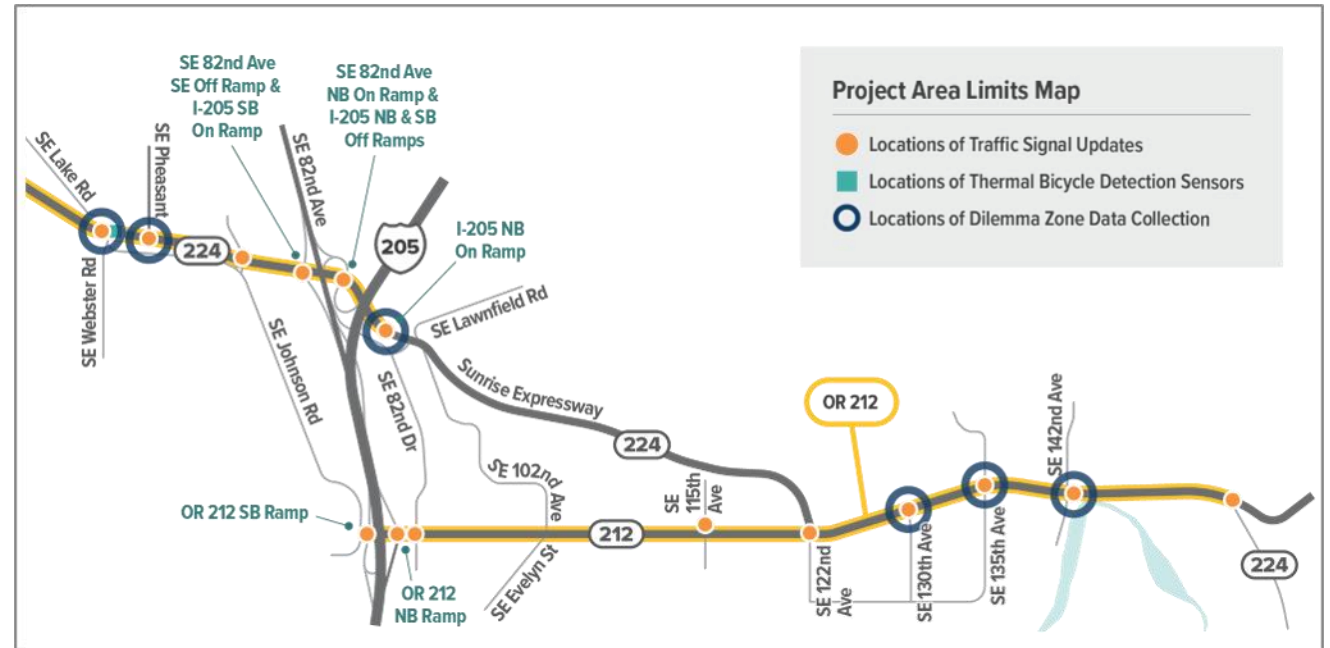
ODOT – I-205 ATM and Aux Lane

- Reduce traffic crashes
 - > 52% reduction
- Improve travel time reliability
 - > 12% reduction travel time
- Mitigate recurring bottlenecks
 - > Accommodated more vehicles
- Benefit
 - > Crash reduction, travel time savings
 - > B/C > 7



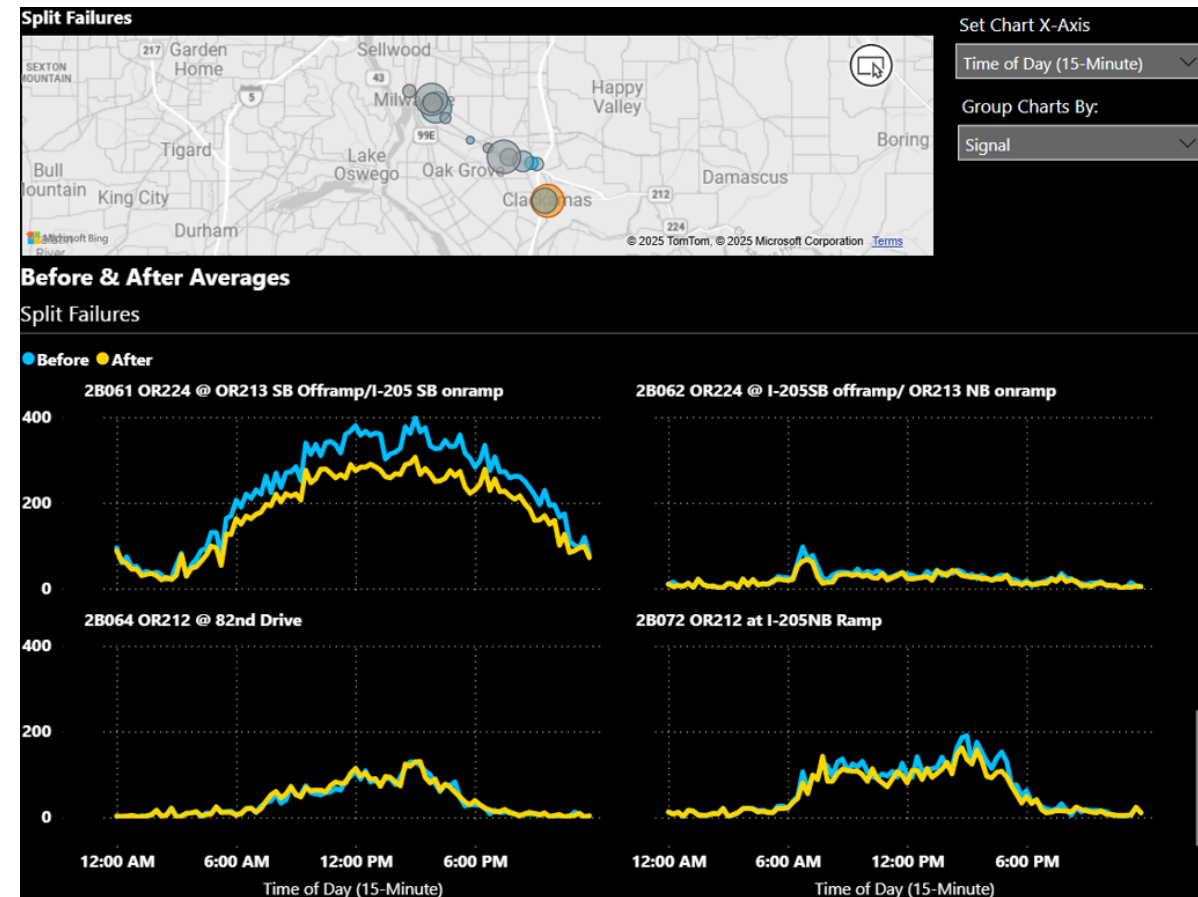
ODOT – OR212/224 Arterial Corridor Management

- Reduce red light running /near miss events
 - > Red clearance extensions
 - > Incident logs
- Improve travel time reliability
 - > RITIS data
- Improve vehicle and freight detection
 - > ATSPMs



ODOT – OR212/224 Arterial Corridor Management

- Reduce red light running /near miss events
 - > 20% decrease in incidents coded as crashes
- Improve travel time reliability
 - > Average travel time decreased slightly
 - > Variability increased slightly
- Benefits
 - > Slight delay increase
 - > Crashes
 - > $B/C < 1$



PBOT – East Airport Way Arterial Corridor

- Reduce red light running /near miss events
 - > 911 data from PPB
- Improve travel time reliability
 - > RITIS
- Improve efficiency of operations
 - > Qualitative assessment by system operators



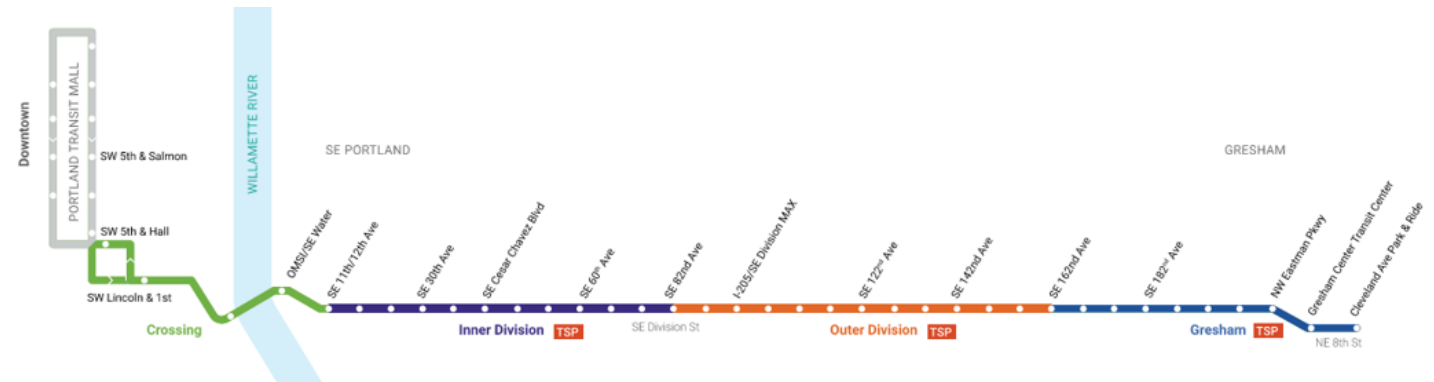
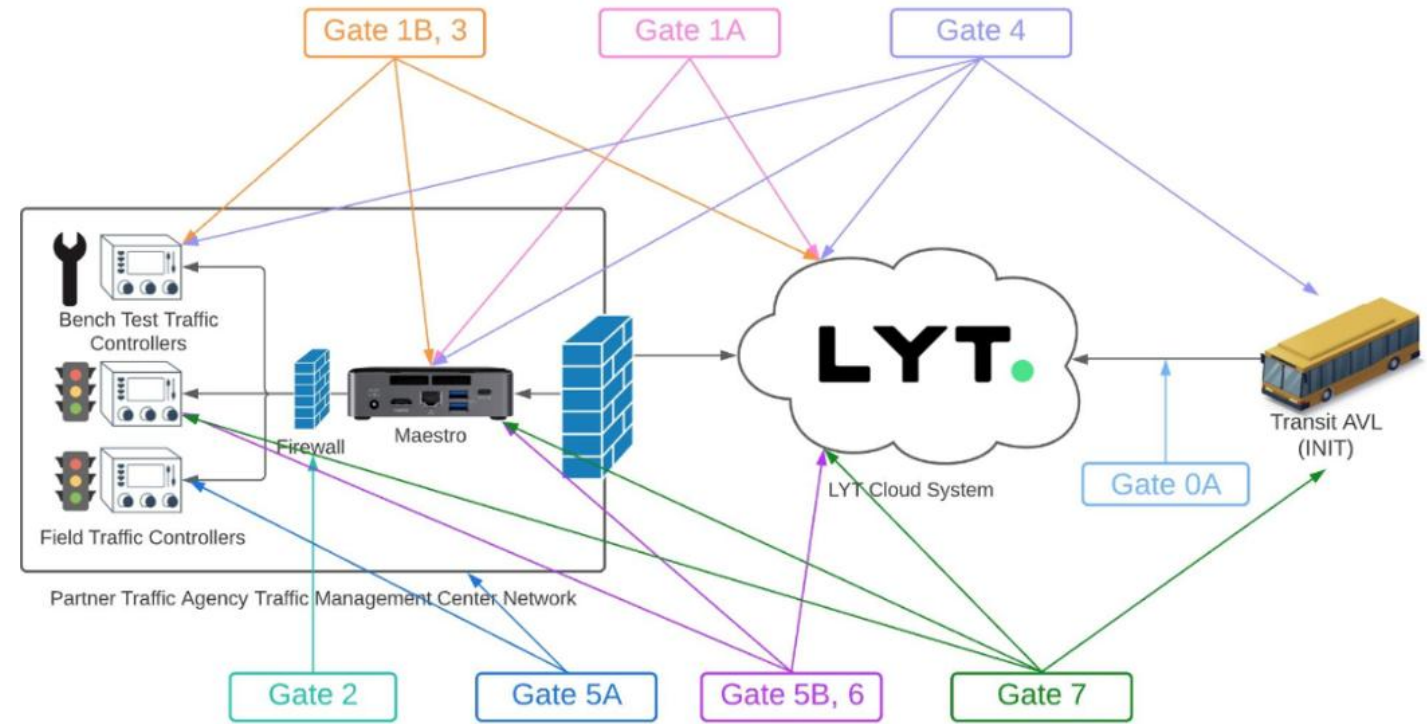
PBOT – East Airport Way Arterial Corridor

- Reduce red light running /near miss events
 - > 22% reduction overall, 29% reduction within 200' of intersections
- Improve travel time reliability
 - > WB improved slightly, EB worsened slightly
- Improve efficiency of operations
 - > Slightly easier
- Benefit
 - > Delay, crashes
 - > B/C almost 3



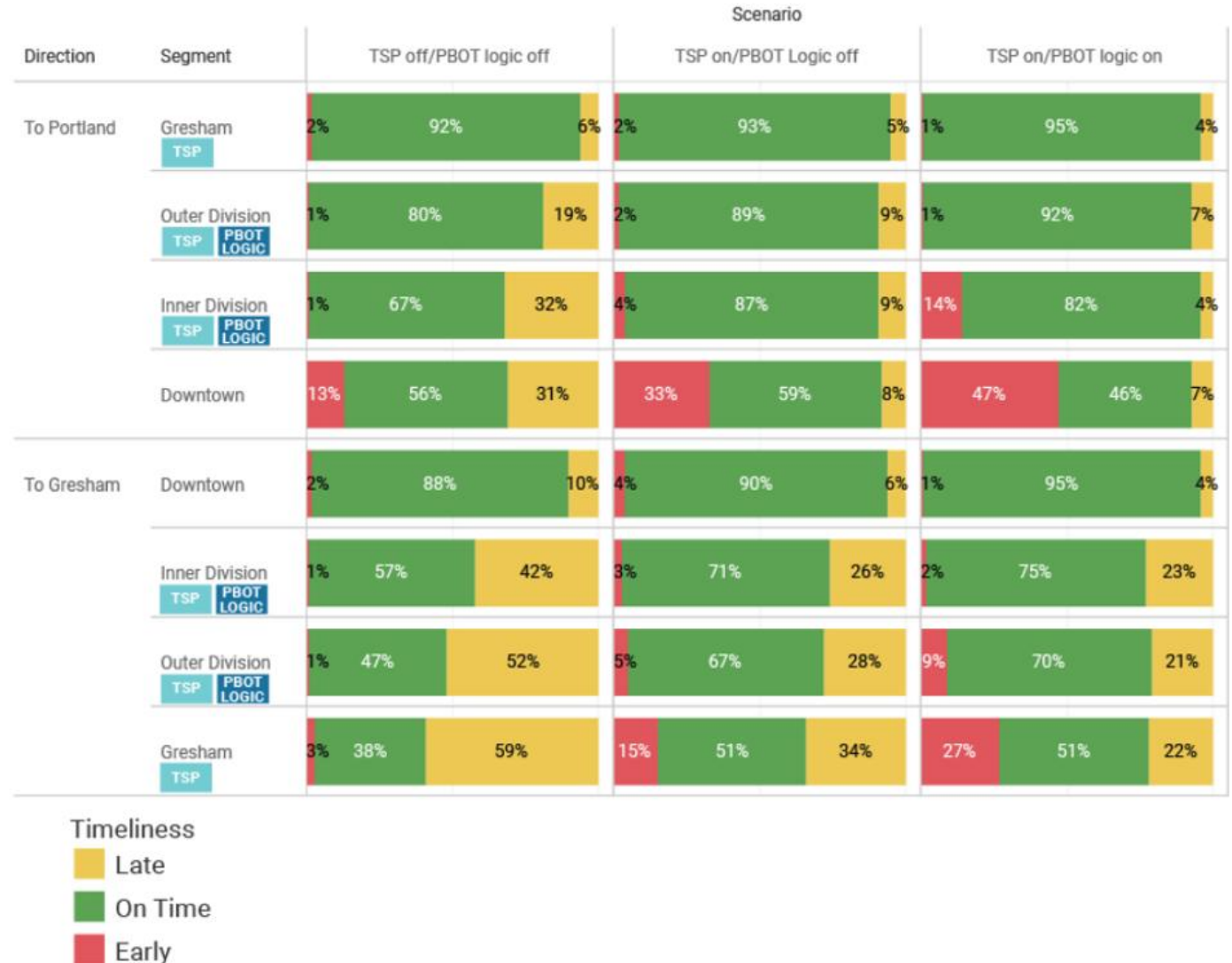
TRIMET Next Generation TSP

- Improve reliability
 - > Bus on-time arrivals
 - > AVL and schedule data
- Improve mobility
 - > Bus average travel time
 - > AVL and stop relationship



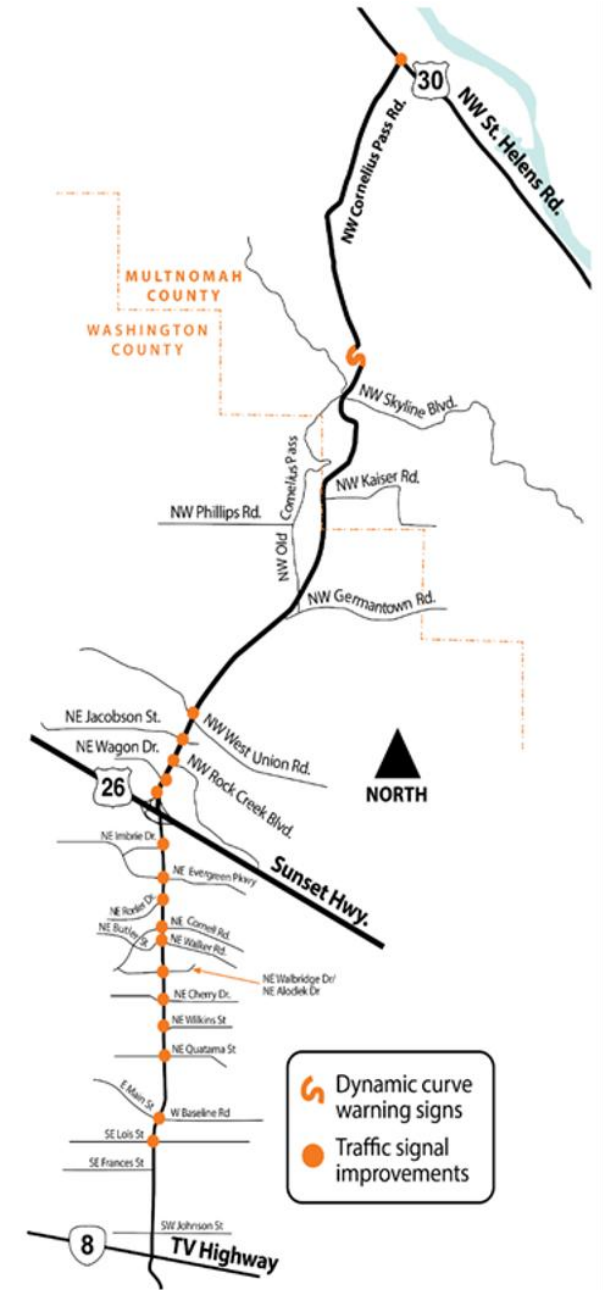
TRIMET – Next Generation TSP

- Improve reliability
 - > 14% increase in on time arrivals
- Improve mobility
 - > 6% reduction in travel time
- Benefits
 - > Travel time
 - > Fuel savings
 - > Passenger value of time



Wash Co – Cornelius Pass Arterial Corridor Management

- Reduce speed at curve warning sign
 - > Radar
- Reduce crashes in corridor
 - > ODOT incident logs / WACO Sheriff data
- Improve travel time reliability
 - > RITIS



Wash Co – Cornelius Pass Arterial Corridor Management

- Reduce speed at curve warning speed
 - > Speed decreased more on weekends vs weekdays
- Reduce crashes in urban corridor
 - > 15% reduction
- Improve travel time reliability
 - > Average travel time increased slightly



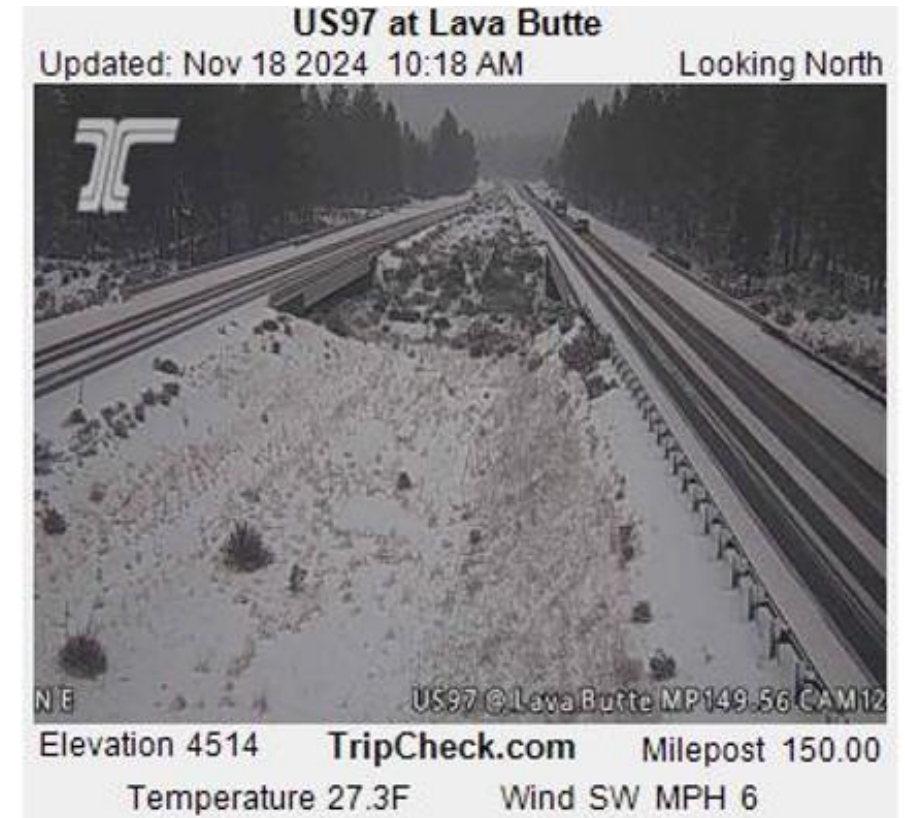
ODOT – US97 Road Weather Management

- Reduce crashes (weather and congestion)
 - > Incident logs
- Improve travel time reliability
 - > RITIS



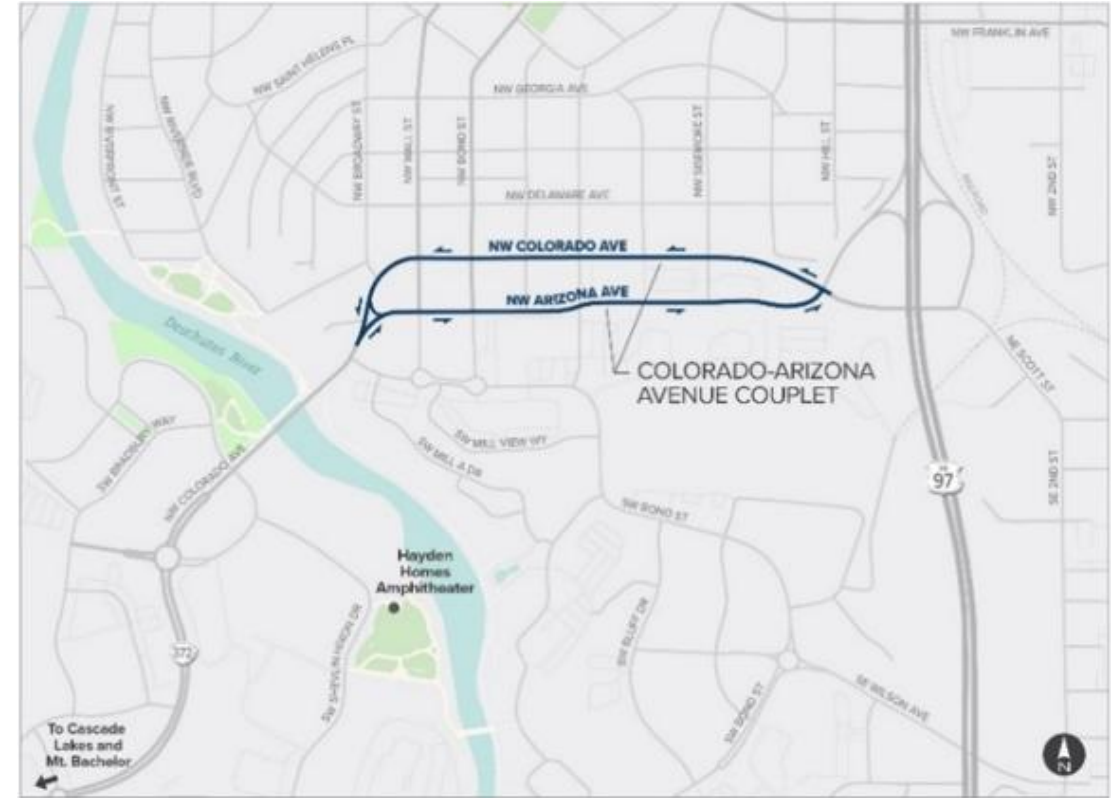
ODOT – US97 Road Weather Management

- Reduce crashes (weather and congestion)
 - > Overall crashes increased
 - > Black Ice and Spots of Ice crashes went up
 - > Bare pavement and packed snow went down.
- Improve travel time reliability
 - > Variability increased slightly
 - > Free flow speed increased slightly



Bend – Colorado/Arizona Couplet ATSPMs

- Reduce red light running / near miss events
 - > Video analytics
- Improve travel time reliability
 - > RITIS
- Improve vehicle and freight detection
 - > Assessment by operators



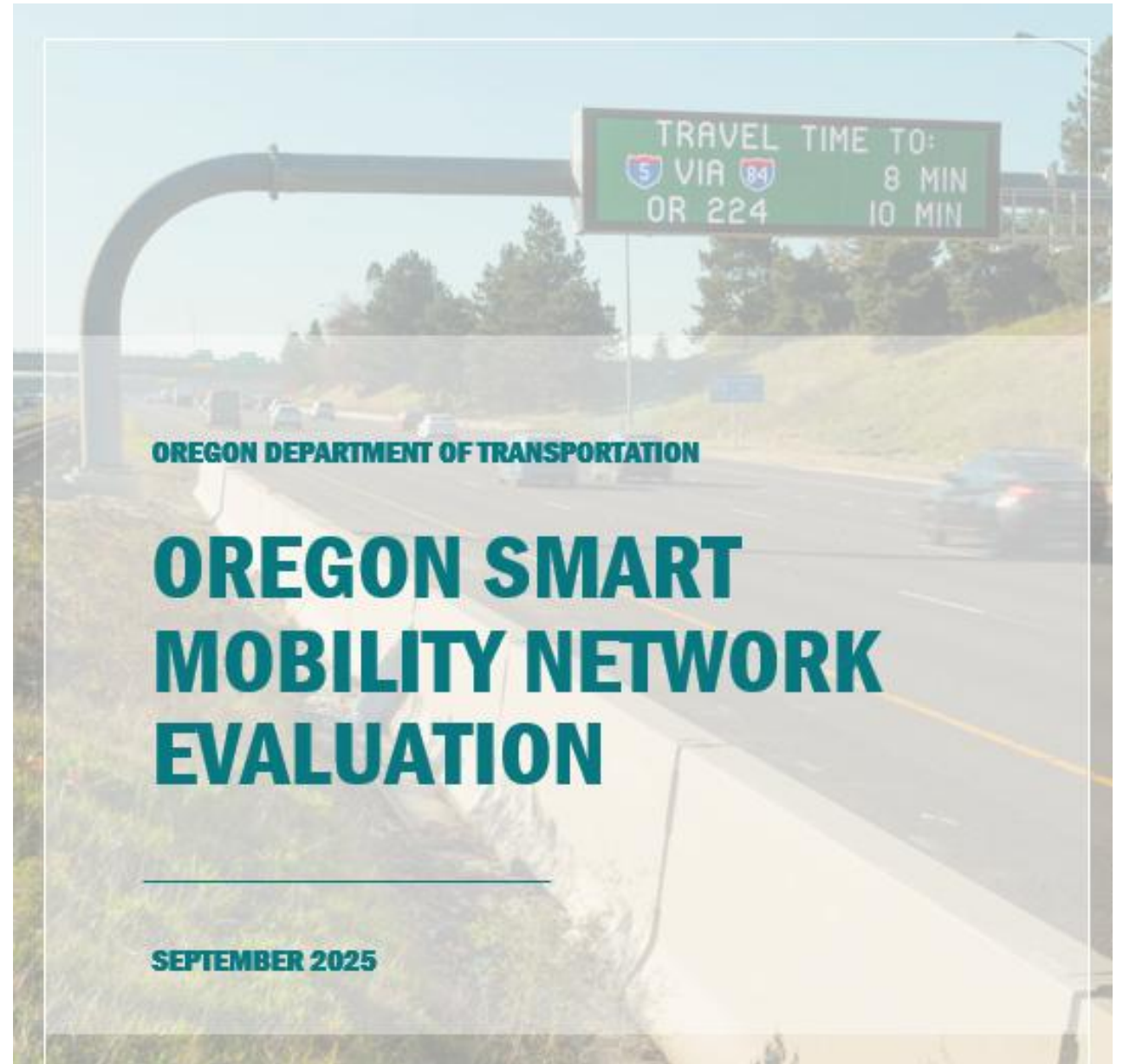
Bend – Colorado/Arizona Couplet ATSPMs

- Reduce red light running / near miss events
 - > Red light running & near miss events increased
 - > Police reported crashes decreased by more than 50%
- Improve travel time reliability
 - > Travel time and variability increased slightly
- Improve vehicle and freight detection
 - > Could identify detection failures and faults sooner



SUPPLEMENTAL DATA SOURCES

- Incident logs
- Winter Road Maintenance Reports
- 911 data
- Red clearance extensions
- Density
- ATSPMs
- Video Analytics



THANK YOU

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