PORTLAND METRO MULTI-MODAL ARTERIAL PERFORMANCE MANAGEMENT **REGIONAL CONCEPT OF OPERATIONS & DEMONSTRATION**

SUMMARY: The Oregon Department of Transportation, Portland Metro, the City of Portland, and a host of local agency stakeholders embarked on a collaborative effort to gauge current practice, define a concept of operations, pilot test innovative multi-modal arterial performance data collection treatments and identify specific enhancements to the arterial performance management in the Portland, Oregon metropolitan region.

Project Team

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Technical Advisory Committee

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EXAMPLE CONCEPT OF OPERATIONS FEATURE



Application

Description

Use vehicle detection to collect volumes and classifications in advance of signalized arterial intersections by lane and phase.

Detector Technology

- Inductive Loops
- Radar Video
- Tubes
- Magnetometers
- Potential Uses

This data could be used for all types of projects if detection is adequate and separated by movement. It could replace turn movement counts used in planning and design projects.

Design Considerations

Speed data can be collected if detector location and technology allows. Detectors at mid-block locations could be connected to different controllers and sent to PORTAL, which can report and aggregate the data. Collecting classification and speed information with inductive loops requires dual loops. Vehicle classification will be length based. Video may be less accurate for volume counts due to occlusion and to times of low visibility

Data Fields	
Description	Format
Detector ID number	Integer
Time and date	DateTime
Vehicle length	Integer
Vehicle speed	Integer



Upgrade field controller hardware and software to log volume and

May need to add detection to wide lanes for accurate volume

. Install detection in all lanes, including turn pockets.

 Use existing advance detection at locations without extensive queuing

 Place new detection >300 feet past intersections where it is likely to support speeds of at least 10 miles per hour and clear of vehicle queues

Point Based Travel Time ≈ 2 mile spacing Arteria # Arterial **À**#0 200 ----

Emission

CITY OF PORTLAND PILOT PROJECT SUMMARY — AUTOMATED PED, BIKE, & TRANSIT ON/OFF COUNT



Zachary Horowitz & Shaun Quayle Kittelson & Associates, Inc.

ARTERIAL DATA COLLECTION VISION & GUIDANCE











NEXT STEPS: The Portland Region continues to develop tools to further automate multi-modal arterial data sources, currently funding necessary enhancements to controller software logging capabilities, central software capabilities & integration with PORTAL, the regional data archive. An upcoming June workshop will inform a large group regional agency planning and operations on the findings of this Arterial ConOps & Pilot Project, and discuss next steps.

PILOT SUMMARY -TRAVEL TIME, SPEED, & CLASS

PILOT SUMMARY - AUTOMATED INTERSECTION PERFORMANCE (CONTROLLER LOGGING)