

TransPort / Meeting Summary

Wednesday, May 9, 2018, 1:00 to 2:30 p.m.

ODOT Region 1, Room A/B

Meeting Attendees:

Kate Freitag – Chair	Oregon Department of Transportation
A.J. O’Connor – Vice Chair	TriMet
Adrian Pearmine	Oregon Department of Transportation
Alison Tanaka	Kittelson & Associates
Andrew Dick	Oregon Department of Transportation
Bikram Raghubansh	Clackamas County
Bill Baldwin	BlueMAC Analytics
Caleb Winter	Metro
Eliot Rose	Metro
Frank H. L.	Trans Intelligence
Jim Gelhar	City of Gresham
Joe Marek	Clackamas County
Julie Kentosh	Oregon Department of Transportation
Kristin Tufte	Portland State University
Nathaniel Price	Federal Highway Administration
Peter Koonce	City of Portland
Randy Marsh	City of Hillsboro
Shaun Quayle	Washington County
Shyam Sharma	Oregon Department of Transportation
Stacy Shetler	Washington County
Tina Nguyen	City of Beaverton
Willie Rotich	City of Portland
Zong Tian	University of Nevada, Reno

Introductions and Announcements

Chair Freitag with the Oregon Department of Transportation (ODOT) called TransPort, a Subcommittee of the Transportation Policy Alternatives Committee (TPAC), meeting to order at 1:00 p.m. and asked for introductions and announcements.

Mr. Winter announced on behalf of Nancy Kraushaar that the City of Wilsonville is recruiting to fill Mike Ward’s position; a civil engineer. Mike is now at City of Lake Oswego.

Round Table Updates:

Chair Freitag called for update from the Subcommittee:

- Chair Freitag gave ODOT Region 1 updates: Progress on the TIGER Grant, including a planned ODOT fiber outage during installation. Washington County will finish soon and I-84 signage is expected to be complete June 2018. The US 26/Oregon 35 Mt Hood Active Traffic Management (ATM) is switching from cellular to fiber and expects signage to be commissioned in August 2018. The TIGER Grant is expected to commission in June 2018. The I-84 gate system at the Multnomah

Falls parking lot was retooled for slower activation and has had fewer strikes ever since.

- Mr. Rotich gave City of Portland updates: completed contract negotiations with consultants for the North Going Swan Island and Columbia Intelligent Transportation System (ITS) projects and hope to have the paper work signed soon. The Central Signal System Request for Proposals (RFP) was posted and proposals are expected back mid-month.
- Nathaniel Price, FHWA, encouraged participation in the ITE traffic signal benchmarking survey. (TransPort was subsequently emailed a link to the survey that was due May 15).
- Ms. Tufte with Portland State University (PSU) gave updates on POTAL (continued to work on travel time plots; Tammy working on documentation) and Connected Vehicle Streetcar project with University of Arizona is getting started.
- Mr. Marek with Clackamas County gave progress: encouraged agencies to update their tracking of fiber assets in case fixes are needed. He will join the upcoming Cooperative Telecommunications Infrastructure Committee (CTIC) meeting.
- Mr. Koonce gave updates for City of Portland related to a recent meeting with Portland Fire Bureau related to fine tuning signal priority. He encouraged more TransPort discussion with Fire Bureaus about upgrades to the signal priority system.
- Mr. Gelhar gave updates for the City of Gresham discussed fiber optic expansion in multiple areas in east county.
- Mr. Raghubansh gave updates for Clackamas County: Sunnyside Adaptive is wrapping up with an evaluation; Clackamas Freight ITS planning is wrapping up. Clackamas County is going through the certification process with ODOT to be able to issue an RFP for Canby Ferry ITS. They are trying Access cameras that are a series of fixed cameras, pointing in four directions instead of pan-tilt-zoom (PTZ). They are bringing fiber to 9 more signals on Kruse Way and Boones Ferry.
- Mr. Dick gave an update for ODOT's Office of Innovation: The autonomous vehicle taskforce held their kick off meeting and will have a workshop on May 23, 2018. Portland, Metro and TriMet are represented on the taskforce. The first meeting established ground rules and nominated a chairperson and laying out the Subcommittees to be focused on: law enforcement and crash reporting, lessons in registration, insurance and liability, and cyber security. They will have their first report in September 2018 and a follow up report September 2019. He mentioned two sources for AV-related national research and guidelines:
 - National Cooperative Highway Research Program (NCHRP) announced new research projects for FY2019:
http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP_Announcement2019.pdf
 - **American Association of Motor Vehicle Administrators (AAMVA) guidelines:**
<https://www.aamva.org/GuidelinesTestingDeploymentHAVs-May2018/>

Finally, he discussed an RFP for an Emerging Technology Impacts Assessment that closes May 14, 2018. The RFP parallels the work going on at Metro, TriMet and the City of Portland for AV service, mobility on demand, ridesharing, bike sharing, electric scooter sharing and more. Information acquired will address the range of impacts on the current system and what is required for future technology. They hope to have enough information for ODOT make long-terms future plans.

- Mr. Marek asked about committee representation for suburban and rural AV needs. Mr. Rose, Metro, offered to help agencies in the Metro region to get in touch with the best AV task force representative.
- Mr. Quayle and Mr. Shetler gave updates for Washington County: On behalf of Tigard, they are testing new bicycle detection and are using a Raspberry Pi to help verify tests. In contracting with Intelight for smart red clearance extension with MaxTime. Working on asset management plan with WSP specific to signals, signing, striping and other traffic-specific elements of assets. Intern has looked at data from 124 bluetooth readers to pinpoint top 10 areas of congestion in the County. Other projects include Tualatin-Sherwood phase 2, which includes setting up MaxAdapt with a MaxView

server; Durham ATMS project, installing wireless communications, switches, adding PTZ cameras. TIGER ATM configuring equipment in preparation for fiber. Pilot project for GPS preemption with Tualatin Valley Fire and Rescue (Farmington and Tualatin-Sherwood Road).

- Mr. O'Connor gave updates for TriMet: next generation Transit Signal Priority (TSP) concept for the region is getting closer with lessons learned from Montreal and New York who have already implemented similar set ups. The Rail Operations Optimization Technology (ROOT) project will bring light rail up to bus levels, along with considerations made during the replacement of 26 Bombardier Type 1 light-rail vehicles and refurbishment of Type 2 and Type 3 vehicles. The Hop Fastpass is continuing to expand and they are close to deploying it with paratransit users. Hop is also being integrated into BIKETOWN and the TriMet bike locker system. This Friday, they are finishing the aging infrastructure switches and tracks downtown.
- Mr. Winter gave updates for Metro: Related to ITS Architecture, ARC-IT (RAD-IT and SET-IT) tools were upgraded and can be downloaded, helping with ITS project readiness <https://local.iteris.com/arc-it/html/resources/tools.html>. CTIC and ITS Network Management Team meets May 16, 2018. The Traffic Incident Management (TIM) Coalition meets May 29, 2018 10:30am to noon, Oregon State Police - Portland Office located @ 8085 SE Deer Creek Lane, Milwaukie 97222. Haizhong Wang from Oregon State University is looking for agencies with mobility hubs to assist him in an application for a Department of Energy (DOE) grant related to high performance computing.

Smarter Signal Timing Plans

Chair Freitag introduced Mr. Quayle and Mr. Tian, who provided a presentation and information on Smarter Signal Timing plans. They presented the latest version of TranSync which is a signal timing tool and mobile app to help identify signal timing issues and save time implementing new timing plans.

Presentation link: <https://www.dropbox.com/s/r2jpr3tkmko0ruj/TechnologyOnTiming-OregonTE.pptx?dl=0>

Mr. Tian gave information on the desktop and mobile version of TranSync software. On a mobile device (e.g., iPad), it can be used while traveling an arterial to observe signal timing. Signal engineers can address commonly asked questions (see slides) like: timing doesn't match between controllers. How do you identify that quickly? What if we don't have volumes and still need to do coordinated signal timing? How do we know we've optimized in performance measures with before/after information? Have we entered the correct offset according to where it is referenced?

Mr. Quayle discussed the current TIGER project. Early on, he found signal clock drift issues due to communications being down. He stated that they didn't sync clocks before running TranSync in order to show where errors were occurring due to clock drift. Phase orders were then corrected.

Mr. Quayle pointed out that Synchro, while a very useful tool, requires very precise traffic counts that take time, effort and expense. Counts cut budget for what is very effective: going out into the field and tweaking and observing. He shared examples from Washington County's Scholls Ferry project (see slides). Q&A included additional ways the tool helped Washington County:

- identify arterial bottlenecks, with queuing that backed up through several intersections
- quantifying stops and duration of stops
- phases for shoulder AM, peak AM, shoulder PM, PM peak
- more ways to do signal performance measures in the future, such as measure a comprehensive project of replacing controllers across the region
- relatively inexpensive way to check timing on an arterial; it's an investment in time to manually drive the corridor
- helps to know where on the arterial you are related to signal timing and minimizes time in the field.

So far, they have not heard complaints or commendations from the public related to these changes.

Regional Traffic Signal Needs and Opportunities

Chair Freitag introduced the next agenda item to discuss regional traffic signal needs. Mr. Winter, with Metro discussed timing issues related to detection, which signal performance measures to emphasize, progress on multimodal detection and needs, including bike, transit and freight, and identifying needs shared across the region. Eventually this discussion could lead to a big investment (e.g., BUILD Grant), but at least a clear path for incremental investment. Discussion included:

- ATC controllers are capable of more signal performance measures (SPM), resulting also from considerations for detection.
- A general preference is to move away from loop detectors to non-obtrusive detection (not disturbing pavement) like radar; however, loop detectors can detect lane-by-lane accurately. Multimodal detection needs lane-by-lane detection.
- Radar has advantages for dynamic dilemma zone protection and may be able to detect lane-by-lane with technology improvements. Another advantage of radar is that it can detect the mass of vehicles.
- Redundancy would mean putting two sets of detection but that is often value engineered out of projects.
- Design will be different for single lane arterials vs. multiple lanes.
- Video cameras are used for monitoring but not for detection.
- Fiber conversion from copper is important for connected vehicles and smart city applications, though the City of Portland is starting smart city pilots with wireless communications. Data communications will become clearer as needs are defined for Transit Signal Priority, Signal Performance Measures. Copper has issues with interference (depends on shielding).
- Bike lane detection solutions are needed. Washington County is using ECO Counter in one location.
- CityIQ camera-based data won't be used for detection. Accuracy for cars is reported about 60%. A series of virtual "tripwires" will detect bikes, pedestrians and cars. More video solutions are coming on the market for comparison and validation.

Conclusion: Controller upgrades are the most important and are needed at a wide scale when resources permit. Design issues are important now to understand where to place detectors and also consider communications needs. Chair Freitag encouraged the Subcommittee to bring this discussion back at a future meeting.

Adjourn

There being no further discussion, Chair Freitag adjourned the meeting at 2: 35p.m.

Meeting summary respectfully submitted by Caleb Winter and Pamela Blackhorse.