

# *TransPort / Summary DRAFT*

TransPort, Subcommittee of Transportation Policy Alternatives Committee (TPAC)  
Thursday April 13, 2022, 1 to 2:45 pm, online

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## **Attendees:**

Basem Elazzabi	Coral sales
Bikram Raghubansh	PBOT
Cadell Chand	Oregon State University
Caleb Winter	Metro
Carl Olson	Clackamas County
Cindy Pederson	Metro
Dennis Mitchell	DKS
Dr. Hao Xu	University of Reno
Iona Cosma	Clackamas County
Jabra Khasho	City of Beaverton
Jim Gelhar	City of Gresham
John Fasana	Washington County
Kara Hall	Fehr & Peers
Kate Freitag, Chair	ODOT
Katherine Bell	ODOT
McKenzie Traetow	Oregon State University
Michael Olsen	Oregon State University
Mike Burkhart	ODOT
Nick Fortey	FHWA
Rick Buen	Multnomah County
Scott Langer	WSDOT
Scott Turnoy	ODOT
Shaun Quayle	Washington County
Stacy Shetler	Washington County
Summer Blackhorse	Metro
Tammy Lee	PSU/PORTAL
Ted Leybold	Metro
Tina Nguyen	City of Beaverton
Trevor Whitley	LIDAR Matrix
Will Farley	City of Lake Oswego

## **Introductions and Announcements**

Chair Freitag called the meeting to order at 1:01 p.m. She asked the committee for announcements and project updates.

### **'round the Table Updates**

- Caleb Winter with Metro shared that a Federal Highway Administration (FHWA) Safe System Approach event was held on March 28. Part two of the training will be held in fall, 2022. He also noted that TriMet posted a position for Operations analyst.
- Caleb encouraged the committee to contact Justin Guinan with Oregon Department of Transportation (ODOT) to schedule a Traffic Incident Management (TIM) Coalition meeting or training.
- Tammy Lee with PORTAL announced that they had completed work on TriMet transit visualization. Additionally, they are working on station meta-data updates and final tasks for server migration, as well as the TREC undergrad summer research program. Further, she noted that they had Numina video sensors available for test projects.
- Caleb noted that the Intelligent Transportation Systems (ITS) network's next quarterly meeting would be May 25. Additionally, they are working on budget for the coming fiscal year.
- Bikram Raghubansh with the City of Portland announced that installation of fiber optics for the NE Columbia project had been impacted by trees, but hope to have the project completed by January, 2023. The NE Airport Way project right of way (ROW) has been certified by ODOT. The bid will open by mid-May. Further, the Barbour Blvd project will add an additional scope, and Central Signal Systems project is developing contract language with Q-Free. The contract should be executed by end of April. Additionally, they would like to meet with regional partners in May after the server arrives. Finally, they are actively working with TriMet and Transit Service Providers (TSPs) on controller access.
- Chair Kate Freitag with ODOT announced Mike Burkhart had been promoted to ODOT Traffic Engineer. Additionally, she noted that the I-5 and I-205 projects are going through procurement, as is the Oregon 8 fiber project. The I-5 Capital Hwy and Markham Bridge Active Transportation Management (ATM) projects are in the design phase.
- Carl Olson with Clackamas County noted that the Canby Ferry ITS project was 95 % planned with construction set to start in late fall. The Transportation Systems Management Operations (TSMO) ATC controller project is working on an IGA with ODOT to upgrade 99 intersections. Freight ITS awarded to North Star and they are starting construction. Oregon ITE has a free webinar for April 26 on HCM 7<sup>th</sup> edition. The Quad Conference between Vancouver BC, Washington and Oregon will be hosted in Vancouver BC. For information go to [OregonITE.org](http://OregonITE.org)
- Jim Gelhar with City of Gresham stated that their virtual messaging system (VMS) sign fastener procurement is still in process. However, Bluetooth is up and running.
- Shaun Quayle with Washington County will be leaving TransPort. Further, he noted that controllers for detection and communication are in place for the adaptive system. FLIR is having issues, but Intelight will correct that within the next few months. Additionally, they are wrapping up research with Oregon State University (OSU) with ped and bike. Stacy Shetler with Washington County noted that the 911 center is moving to west Hillsboro. John Fasana of Washington County will now be responsible for TSMO projects.
- Tina Nguyen with City of Beaverton stated that they have a contract in place for the Allen Blvd project.
- Will Farley with the City of Lake Oswego announced that the Boones Ferry project is nearly complete and has working signals and communication.

### **TransPort Vice-Chair Election (action item)**

Caleb Winter announced that AJ O'Connor with TriMet had been nominated for a one-year term as TransPort Vice-chair. Caleb reminded the committee that member agencies had the option to vote for AJ O'Connor, or provide additional member nominations. He provided a list of voting members and a Google form to collect votes.

Chair Freitag declared a quorum and asked for additional nominations, if any. Hearing none, she asked for a motion to nominate AJ O'Connor. Ted Leybold of Metro motioned to nominate AJ O'Connor as Vice-chair of TransPort. Carl Olson of Clackamas County seconded the motion. Chair Freitag asked if there were any members not in favor of the nomination, abstentions, or further discussion. Hearing none, Chair Freitag closed the vote and announced AJ O'Connor as Vice-chair of Transport.

### **Roadside-installed LiDAR Research and Uses**

Hao Xu, Ph.D., P.E. with the University of Reno and Trevor Whitley with LiDAR Matrix provided a presentation and video on Roadside LiDAR Sensing and Applications. Trevor noted that, as a startup program it had useful application in the real world. Dr. Xu discussed Roadside LiDAR and real time traffic signal control, options for portable roadside LiDAR, and showcased interactive data exploration. He covered deployment options, noting that the unit was portable for multiple displays. Further, Roadside LiDAR has the advantage of 360 degree scanning using one sensor per intersection. LiDAR also uses high resolution accuracy for spatial measurement and identifies all modes of transportation. Performance is not impacted by light conditions. However, Dr. Xu noted that pricing and weather were a concern.

Further, Dr. XU noted that they were able to geo-locate and define different modes of transportation in GIS using raw Cloud points from LiDAR. Sensing applications helped connect smart traffic and provided signal control for safety, and pedestrian and wildlife crossing.

Trevor gave examples of UNR LiDAR and video data and showed the portable unit for short term data collection. He noted that one lidar unit can cover a whole intersection for 24 hours, which would replace the need for using cameras at every intersection. Trevor provided data on traffic volume accuracy for vehicles, noting that it was anywhere between 1 and 3% more accurate than cameras. He further noted that LiDAR was more accurate at night than cameras, and provides better vehicle and pedestrian speed accuracy. Finally, he noted that Data capabilities accurately identify traffic conflicts and violations in terms of safety behavior, traffic patterns and other events, such as parking, curbside activity and headway gaps.

### **Raise the bar with LiDAR: Sight Distance and More**

Michael J. Olsen Ph.D. with Oregon State University provided a presentation and discussed LiDAR applications in transportation and how best to use data modeling, engineering design and asset management, analysis, road marking extraction, and safety in terms of rockfall, landslides and earthquakes. Additionally, he covered LiDAR needs and costs, point cloud segmentation and classification, and modeling. He discussed LiDAR challenges around large data volume and variable point density, framework and visualization. Further, Dr. Olsen discussed Mo-norvana segmentation and edge detection, high-speed data collection, classification and sight-distance analysis.

Dr. Olsen listed the LiDAR objectives as: developing 3D laser scanning for data to evaluate sight distance framework comparison for conventional techniques and validation, evaluating visibility changes for moving vehicles, considering differences in visibility on different forms of transportation, and providing 3D viewsheds to help manage obstructions. Dr. Olsen also discussed driver height and visibility, in terms of freight, cars, bike and pedestrian, and turn visibility. He also talked about the Sight Object Distance

Analysis (SODA) tool and how it operated, as well as Mobile LiDAR pavement detection, evaluation and classification and how that worked with the ArcGIS tool.

Dr. Olsen discussed LiDAR use for Rockfalls, landslides and earthquakes, noting that Oregon had many isolated highways, limited personnel and funds, and safety and mobility concerns in terms of proactive risk assessments. He noted that LiDAR had high detail and accuracy, but had challenges with canyons, and required someone highly skilled in data analysis. He further noted that LiDAR may be an option to keep tabs on climate change and impacts to natural earth movement. Finally, he provided additional resources to learn more about tech transfer and Apple LiDAR options.

The committee briefly discussed Gimble as a resource to help stabilize an iPad for data collection, and asked who would be best suited to work effectively on LiDAR data. Dr. Olsen suggested determining what the data needs were in order to help determine who should respond.

### **Adjourn**

There being no further business, Chair Freitag adjourned the meeting at 2:58p.m. The next meeting will be held online on May 11.