



DATE: January 18, 2018

TO: Transportation Commission & Technology Committee

FROM: Peter Kozinski, RoadX Program Director, Amy Ford, Chief of Advanced Mobility, Ryan Rice, Director, Transportation Systems Management and Operations

SUBJECT: RoadX and Technology Update

Purpose

Provide update on several key RoadX and TSM&O Initiatives. A comprehensive Technology Committee meeting is being planned for February or March to discuss these and other matters. However, due to limited time available in January, staff that it was important to provide at least a brief update during the Board Meeting on Thursday, that will focus on contents of this memo.

Action

None. Information only.

Details

Advanced Mobility and Organizational Structure: Executive Director Lewis plans to continue advancing mobility by embracing technology and assigned Amy Ford to serve as the Chief of Advanced Mobility to work with TSM&O and RoadX on how we continue to keep Colorado in the forefront in the country in this effort as well as begin institutionalizing "advanced mobility" in our organizational thinking and structure.

Panasonic: Following the completion of Phase 0 and the successful development of a pilot demonstration, Panasonic has begun working on Phase I of the Connected/Autonomous Vehicle Data Ecosystem which includes securing project hardware partners and developing the Vehicle-to-Infrastructure (V2I) communications data collection system.

FCC/FHWA/NHTSA: CDOT has been engaged in discussions with the FCC/FHWA/NHTSA regarding the dedication of the 5.9 spectrum to support connected and autonomous vehicle data sharing. The FCC is considering whether the spectrum can be shared with other uses such as telecomm, which the transportation industry, CDOT, AASTHO, ITS America, auto manufacturers, MADD, trucking and others oppose.

Rapid Speed Travel (Hyperloop One and Arrivo):

- Hyperloop: CDOT, through RoadX, is working with Hyperloop One and Arrivo to pursue magnetic levitation technology that can propel passenger or cargo pods up to 200 - 700 mph. CDOT has begun a State Benefits and Opportunities Study (funding \$200,000) that examines transportation demand, economic benefits, proposed routes and potential strategies, regulatory policy, environmental approach and alignment with overall CDOT high speed travel, rail and freight plans and overall transportation future. Hyperloop One technology is focused more inter-regionally, with travel speeds up to 700 mph and early concepts look at a Front Range route from Cheyenne to Pueblo.
- Arrivo technology is focused more intra-regionally or Super Urban, with travel speeds up to 200+ mph and they are exploring a metro Denver network. Each technologist will also be funding and moving forward with their own feasibility analysis that looks at individual routes, economic value capture, etc.



Smart 25: CDOT has advertised to begin construction of the Smart 25 system on northbound I-25 from Ridgeway to University. Construction (some improvement to ramps and installation of the sensors) will begin in Spring with early test in Summer 2018.

Smart Mobility Plan: TSM&O plans to begin its Smart Mobility Plan, an effort required by the FHWA to plan for ITS infrastructure for the next five to 10 years. TSM&O will be initiating effort to include more comprehensive planning for the future, using Connected and Autonomous Vehicle frameworks to determine future technology infrastructure investments (will provide more information at next TC meeting). This Plan will be completed and feed into the larger Statewide Planning process and will also inform metro Denver's Mobility Choice effort (longer term planning for the metro area).

Planning and Modeling: CDOT is moving forward with two pilot efforts to create travel demand and travel supply modeling that work to model impacts of connected and autonomous vehicles.

Autonomous Mobility Task Force: Based on SB 17-213's requirement that CDOT and CSP develop a process to approve testing of autonomous vehicles in Colorado, CDOT, CSP, and DOR formed an Autonomous Mobility Task Force to meet monthly beginning September of 2017. To date, the Task Force has received two applications to test: one for the CDOT autonomous attenuator truck, and another for EasyMile's autonomous shuttle on Panasonic's campus at their grand opening on December 4, 2017. The Task Force approved EasyMile's application and was invited to the grand opening of EasyMile's headquarters, which was attended by the Governor. The CDOT autonomous attenuator application is still being reviewed by the Task Force.

Attachments

NA

