



**May 9, 2019**

**To:** Transit Committee  
**From:** Darrell E. Johnson, Chief Executive Officer  
**Subject:** Innovation Update

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**Overview**

The Orange County Transportation Authority continues to explore innovative transportation services and projects for Orange County residents, workers, and visitors. Given past successes, staff is exploring avenues to foster innovation opportunities through team efforts. A status report is provided for review.

**Recommendation**

Receive and file as an information item.

**Background**

Recent Orange County Transportation Authority (OCTA) innovation efforts have focused on leveraging technology to spur transformation. Recent examples include creating systems to provide real-time bus arrival information to passengers, deployment of mobile ticketing to reduce transaction time when purchasing bus passes, and exploration of new transit services, such as micro-transit and partnerships with transportation network companies. Many of these new approaches are completed or underway and have proven successful to date.

Deploying new technologies is just one path to innovation. However, innovation is also about developing better solutions for OCTA-related projects and services. Better solutions may include making a process more efficient (e.g., reducing time and/or cost) by technology or other means. Alternatively, innovation may include developing effective strategies to address existing or emerging issues (e.g., new transit service to address changing markets).

Innovation requires a diverse set of skills to prove successful, and OCTA uses a team approach to ensure broad perspectives. At least one staff member from each division has been invited to participate on this team. The team goals include:

- Leverage internal and external expertise in a team environment,
- Decide on appropriate OCTA roles and revisit decisions periodically,
- Be transparent with lessons learned, and
- Invest public funds wisely as projects and programs move forward.

To provide focus for OCTA's innovation team, a qualitative framework was developed in fall 2018. This framework is used to consider whether OCTA should monitor, shape, test, or implement specific innovation concepts (Attachment A). Monitoring entails keeping abreast of new developments through industry forums and meetings. Shaping includes providing feedback and recommended best practices on specific innovation efforts. Testing involves pilot projects for potential future deployment on a broader scale. Implementation would take shelf-ready efforts to full deployment, considering costs, benefits, risks, and other factors.

To determine whether OCTA should simply monitor or fully deploy a specific innovation, the framework includes a qualitative process that is intended to help define relevance to OCTA. This will include consideration of benefits, costs, complexity, and readiness. For example, innovations with direct relevance to OCTA's authority and responsibilities, and that have high benefits and low costs, may be considered for implementation. Conversely, innovations with low benefits, high costs, complex technology, and unclear institutional arrangements may need more time to mature.

### ***Discussion***

Keeping with the goal of leveraging internal and external expertise, the team has interviewed 12 different transportation technology providers in the last few months. These interviews were conducted to gain private sector insights into emerging technologies. The vendors include a combination of hardware and software companies with an interest in improving public sector innovation in the transportation space. Based on these interviews, as well as watching industry trends, the team is:

- Monitoring and exploring
  - Connected/autonomous vehicle benefits and impacts to the transportation system, and
  - Integrated transit route planning and payment apps to further streamline the customer experience.

- Testing
  - Real-time signal performance measures in support of the Measure M Signal Synchronization Program,
  - Vehicle-to-infrastructure communications on portions of Anaheim Boulevard,
  - On-demand transit through OC Flex service,
  - New ways to collect public input on innovative ideas,
  - The accuracy of real-time bus arrival information based on customer feedback, and
  - Hydrogen fuel cell buses to further reduce greenhouse gas emissions.

The innovation team will provide periodic updates, or separate status reports, for projects in the testing phase. As ideas mature, recommendations will be brought forward for testing through pilot projects or full deployment, contingent on the process discussed above.

**Summary**

OCTA uses a team approach to innovation, and a key goal for the team is to explore innovation from a variety of perspectives. Various monitoring and testing efforts are currently underway.

**Attachment**

- A. Draft Innovation Framework

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