



5 BIG MOVES NEXT OS

The Next Operating System (OS) is the “brain” of the entire transportation system. It connects and integrates different modes of transportation – passenger vehicles, buses, ride-sharing vehicles, delivery trucks, autonomous vehicles, bikes and scooters, and more – to improve overall efficiency and accessibility for people and goods to move throughout the region. The Next OS is a digital platform that will connect transportation infrastructure to provide a real-time view of supply and demand. This coordinated transportation network will enable people to move around the region with more sustainable and lower cost travel options.

The Next OS will optimize the existing transportation system by turning data from smart infrastructure and public and private sources into actionable information that enables local agency operators to orchestrate best use of the entire system. The full realization of the Next OS includes all modes of transportation, the infrastructure they move on, and policies that ensure the 5 Big Moves (including Complete Corridors, Transit Leap, Flexible Fleets, and Mobility Hubs) work together to deliver seamless multimodal travel.

Features

- **Transportation systems management and operations**
A comprehensive platform for local agencies to improve management of infrastructure and fleets to support active transportation and demand management, smart intersections, smart parking, congestion pricing, and curb management.
- **Mobility management**
Local agencies will be able to manage travel demand by seamlessly identifying and responding to travel needs, and the region’s residents and visitors will be able to use a mobile app to discover, plan, book, and pay for multimodal travel.
- **Data exchange and mobility marketplace**
The “brain” will manage the region’s transportation system, using data analytics to evaluate travel patterns and provide recommendations to people and local agency operators. The entire transportation system – traffic signals, roadway speeds, routing, pricing, passenger vehicles, service providers, and even bikes – will be optimized to handle transactions and offer incentives to better balance supply and demand in real-time, while serving up more transportation choices for people and freight delivery services.



WHERE DOES NEXT OS WORK BEST?

As the capstone of the 5 Big Moves, the Next OS works best when applied systemwide to orchestrate and support Complete Corridors, Transit Leap, Mobility Hubs, and Flexible Fleets. The Next OS will enable the transportation system to adapt to changing conditions in real-time, thereby creating the best travel experience regardless of the transportation mode.

Anticipated Benefits

The Next OS will transform data into actionable information for both transportation system operators and travelers.

- **Seamless transportation**

By increasing the ability to allow existing transportation systems and modes to work together, local agencies can jointly coordinate the operations of systems across jurisdictional boundaries to maximize the overall system performance and improve the travel experience for all users, providing greater accessibility, more choices, and reduced costs.

- **Efficient management**

When local agencies are able to optimize their systems, they will gain insight about transportation issues people face, the ability to pinpoint hotspots, identify problems, and deploy responsive resources more efficiently. With visibility into market use and demand, private operators – like package delivery companies or ridehailing services – will be able to make adjustments in real-time to get the most out of their fleets, cutting down on waste and reducing miles traveled.

- **Convenient and affordable transportation**

The seamless integration of all modes of transportation and an integrated app for trip planning, booking, and payment will make it easier for people to get around without a car. Seamless mobility could reduce average trip time by 10% and cost by 25-30% per trip.

- **Reliable transportation**

Integrated transit services that are managed to improve transfer connections and provide the public with accurate information will make transit more reliable and user-friendly. Passenger vehicles and fleet operators can plan more reliable trips due to benefits from travel-time savings resulting from pricing the use of the system as a means of managing congestion. Some of the proceeds of pricing the system could support incentives for people who make personal choices or trade-offs between convenience, time, cost, and other factors to help balance use of the system.

- **Integrated payment**

Consolidating payment across all transportation services will allow for a comprehensive platform for pricing the transportation system.



SUCCESS STORIES

- In Finland, the City of Helsinki implemented the world's first integrated app for commuters to access trip choices and pay for their trips. Since implementation in 2016, Helsinki's public transportation agency has provided 375 million trips through the Whim app.
- As part of the US Department of Transportation's Smart City initiative, the City of Denver launched its SMARTCITY Program that integrates data across several county and local city departments and services to better connect consumers with public services, bridging people with services, goods, travel choices, and information through technology.