



Orange County Transportation Authority Innovation Update

Topics

- What OCTA is Doing
 - Transit Technology Improvements
 - Mobile Applications
- What the Industry is Doing
 - Mobility as a Service
 - Autonomous and Connected Vehicles
- A look Ahead



Transit Technology

- Mobile Ticketing
 - 560 readers
 - 48,000 accounts
 - 615,000 purchases
- Automatic Vehicle Location
- Automated Passenger Counting
- Analytics



Mobile Application Rideshare

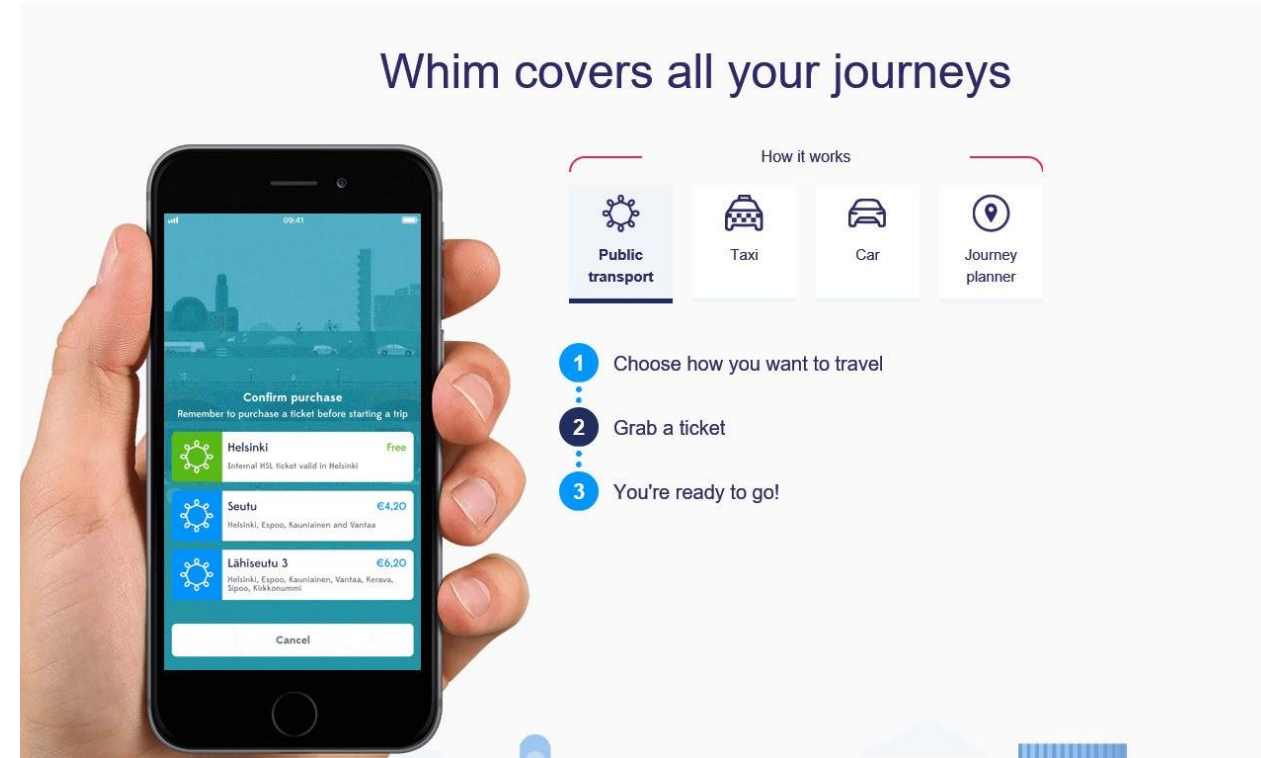
- Transit Network Companies
 - Uber 5.5 million rides per day
 - Lyft 1 million rides per day
 - San Clemente Pilot
- Dynamic Carpooling
 - Waze Carpool - Irvine Pilot
- Microtransit
 - OC Flex Pilot



Mobility As a Service

- Trip planning and payment across all shared modes of public and private transportation
 - Whim – Helsinki, Finland
 - Transdev – Babcock Ranch, Florida
 - moovel – Germany

Whim covers all your journeys



How it works

- Public transport
- Taxi
- Car
- Journey planner

- 1 Choose how you want to travel
- 2 Grab a ticket
- 3 You're ready to go!

Autonomous and Connected Vehicles

- 2020
 - Auto manufacturers claim they will have fully-automated vehicles (Level 5 AVs) commercially available
- 2030
 - Conservative estimates for AV adoption show a 10 to 20 percent market penetration, with AVs accounting for 10 to 30 percent of vehicle miles travelled
- 2050
 - Conservative estimates for AV adoption forecast 90 percent market penetration



Autonomous and Connected Vehicles

- U.S. DOT Autonomous Vehicle Proving Ground Program
 - San Diego
 - SANDAG partnered with the City of Chula Vista and Caltrans
 - Contra Costa County
 - GoMentum Station
- CA DMV
 - Approved regulations to allow for driverless testing. Trucks pending
- Shared fleet versus private car-ownership
 - Significant impacts to congestion, good or bad depending
 - Policy intervention will be needed to avoid an increase in total vehicle miles travelled



Shared Autonomous Vehicles

- Easymile
 - Bishop Ranch, San Ramon CA
 - First driverless bus approved to run on public roads in California, 3/6/18
- Navya
 - Las Vegas, NV



A Look Ahead

- Augmented Reality
 - Travel-demand mitigation tool by reducing the need for travel to physical locations
- Hyperloop
 - Routes have been proposed across the globe, including one between San Diego and Los Angeles that would take less than 13 minutes
- Delivery Robots
 - Starship and Marble have developed prototypes, and some have been released on San Francisco streets
- Drones and Flying Cars
 - Amazon, Uber, and Porsche have taken interest



A Look Ahead



EHANG 184 Autonomous Aerial Vehicle



Max weight 220 pounds
Flight time 30 minutes
Max distance 31 miles
Max speed 62 mph

