





urban sustainability directors network

Webinar Speakers

- Moderator: Sharon Feigon, Executive Director, Shared-Use Mobility Center
- Mobility as a Service: Andy Taylor,
 Strategic Initiatives, Cubic
- Real-time Data: Regina Clewlow, VP of Business Development, Swiftly
- Implementation: Adam Mehl, Market Development Specialist, Metro Transit
- Bringing it All Together: Bibiana
 McHugh, ITS-GIS Manager, TriMet



Sharon Feigon SUMC



Regina Clewlow Swiftly



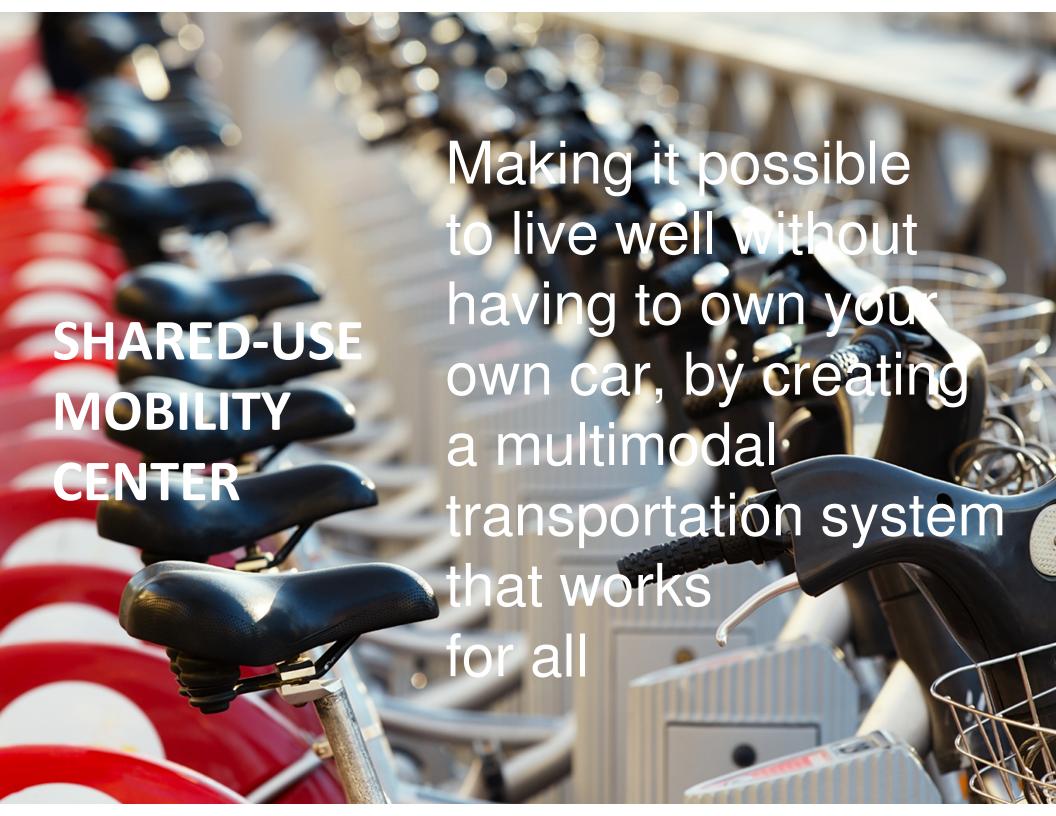
Andy Taylor Cubic



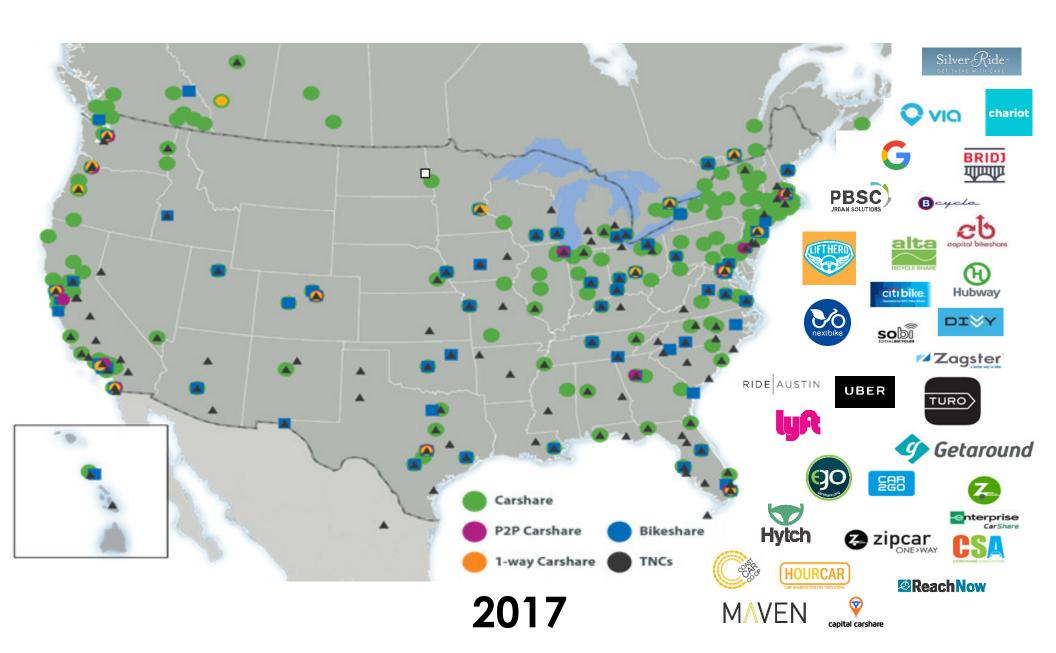
Adam Mehl Metro Transit



Bibiana McHugh TriMet



Tracking Shared Mobility in North America



Shared Mobility Typology



Public Transit



Ridesharing/Carpooling



Bikesharing



Microtransit Shuttles



Carsharing



Taxis



Ride-hailing/ Ride-splitting



Mobility Hubs



Benefits of App/Technology Based Solutions

Agency Benefits

- Improved flexibility
- Improved revenue accountability & security
- Reduced fare collection costs
- Regional fare integration opportunity
- Expanded market base
- Improved data collection

Consumer Benefits

- Multi-modal options
- Ease of use
- Improved access





- Launched the Chicago Card Plus IGO card in partnership with the CTA in 2009
- Provided a seamless way to travel using just one card—CTA buses & trains, Pace buses & IGO vehicles.
- First and only smartcard of its kind in the nation



One card, three ways to go



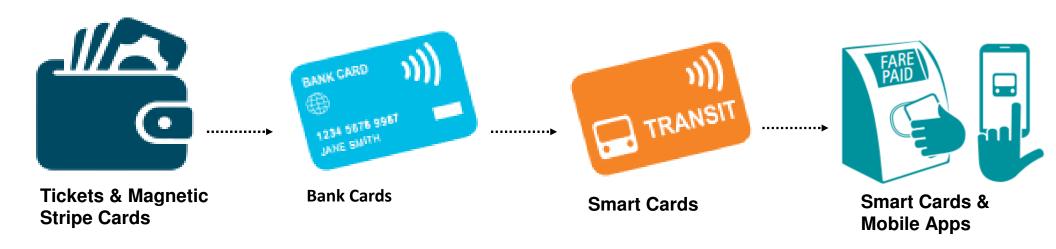






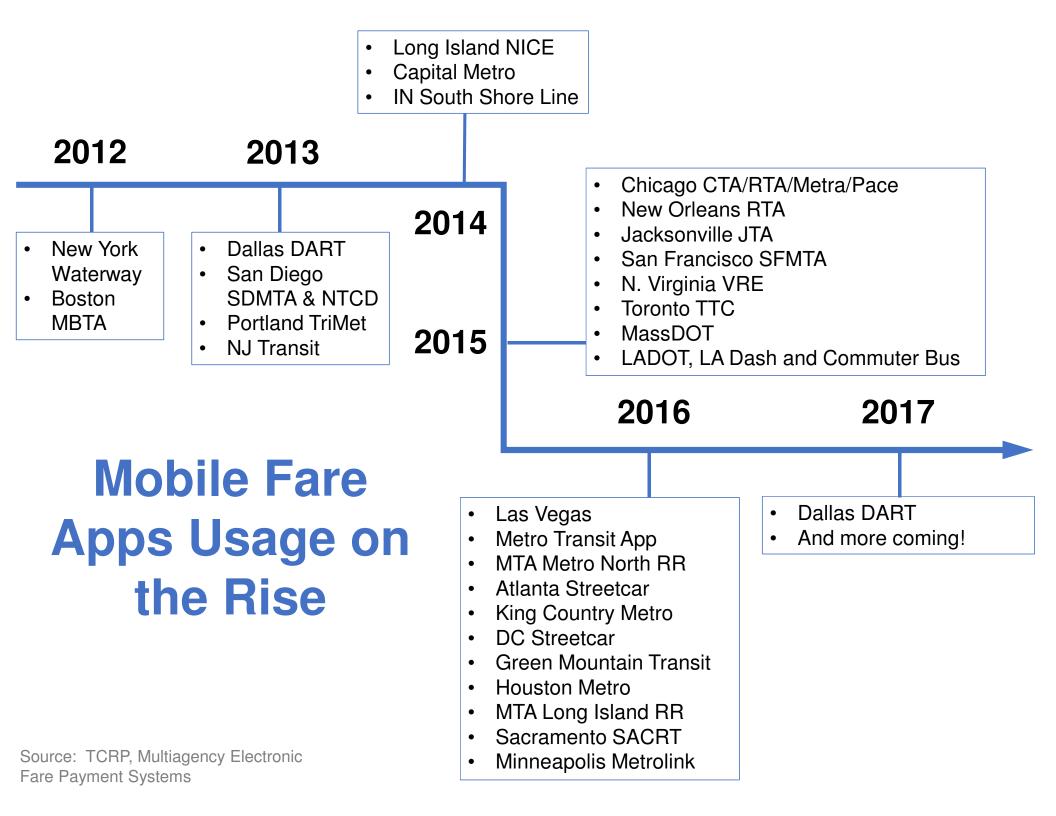


The Evolution of Technology Based Systems



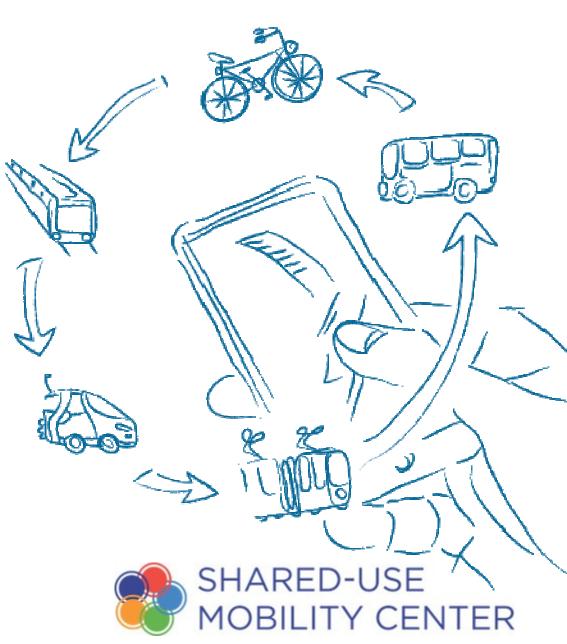
Smartcards were among the first steps toward payment integration and are widely used today.





The Next Generation: Holistic Approaches - Mobility as a Service

- Open architecture & payment Optimization
- Travel histories & billing handled together
- Integration across public and private transportation modes



European Public Sector Examples: Integrated Payment

- Swiss Railway SBB Reiseplaner: Integrates every form of transportation available, including taxi, Uber, carsharing, bikesharing, and transit. Features arrival times, costs & ticket purchase.
- Mobility Shop (Formerly HannoverMobil) in Hannover, Germany: Integrated payment including carshare & bikeshare & discounts for taxi and car rental.
- Brussels, Belgium's MOBIB Card: The Brussels public transit agency STIB's MOBIB card includes bikesharing (Villo), carsharing (Cambio), taxis, parking and Belgian railways. The card is an "electronic wallet".
- Deutsche Bahn (Germay railway) Qixxit App: Aggregates information from every major German transit agency and shared mobility providers across Germany, and includes 15 different modes of travel in all

Ob Bahn, Bus oder Flugzeug: Qixxit ist dein Reiseplaner mit über 15 Verkehrsmitteln.





Opportunities for Funding Mobility Apps



6mins

- Public-Private Partnerships
- Pilot Project Funding Streams, e.g.; MOD Sandbox program
- CMAQ & existing funding sources
- Ballot measures
- Advertising & marketing
- Infrastructure cost savings
- And more!





4:16pm

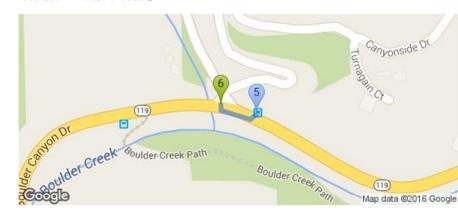


Nederiand / boulder Direction: Eldora Mtn Ski Resort 6mins · 6 stops · RTD ticket



Get off at Hwy 119 & Fourmile Cnyn Rd

4:16pm: Walk 1min · <1/4 mile



4:16pm: Ride

Fare: from \$24 (estimate)

16mins · 15 miles



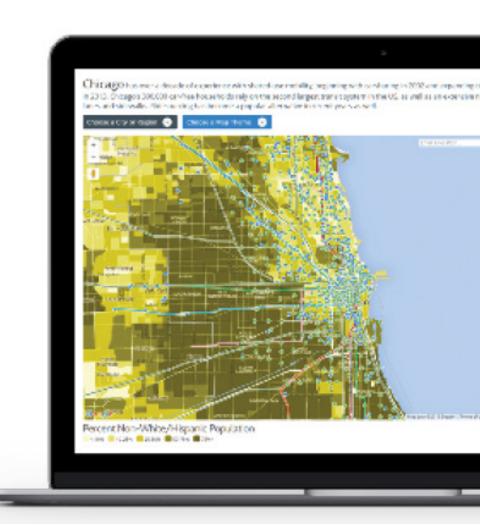


How the Shared Mobility Toolkit Can Help

Visit the **Shared Mobility toolkit** to track:

- Presentations & recording from today's webinar
- Examples of different mobile apps
- MOD Sandbox projects
- Public-Private Partnerships

Updates included across the shared mobility mapping website and policy database!





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Sharon Feigon SUMC



Andy Taylor Cubic



The MaaS Transformation: How Do We Get There?

Andy Taylor – Director of Strategy

MACRO TRENDS FORCING CHANGE

- Urbanization
 - More people in the cities
 - Congestion
 - Leads to pressure on transport networks which requires investment
- Demographics
 - Population growth
 - Aging populations
 - Millennials
 - Leads to pressure on the transport networks, risk of isolation due to lack of mobility, issues over access to ownership

- Climate Change
 - Air Quality
 - Depleted Resources
 - Greater awareness from public
 - Leads to fuel efficient, new energy sources, more regulation and changed behaviors
- Technology
 - Greater use of Smartphones
 - On-demand services
 - Personalization
 - Leads to new services and products, new business models and better analytics



TRAVELERS OF TODAY AND TOMORROW

- Defines the recent socio-economic shift that reinvented how and what we consume
- It describes a world in which consumer demand, rather than any other driver, determines the delivery of services
- A world where:
 - Usage trumps possession
 - Access rather than ownership is king
 - Where consumers' immediate needs can be satisfied with the tap of an app.



It does not simply redefine the way we consume; it encapsulates the very change in human nature – from the culture of 'me' to the culture of 'we'.





THE SOLUTION

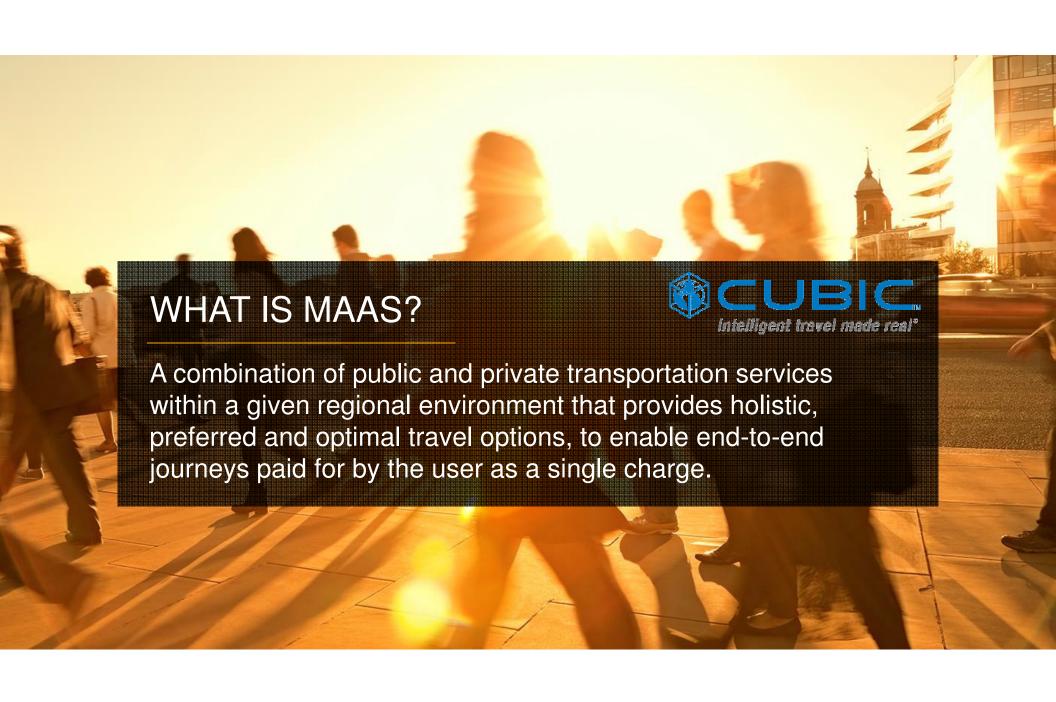
- Cities need integrated intelligent transportation solutions
- Integration of public and private transportation service providers
- All payments integrated
- Real-time data used to plan and facilitate passenger journeys
- Travellers & devices permanently connected



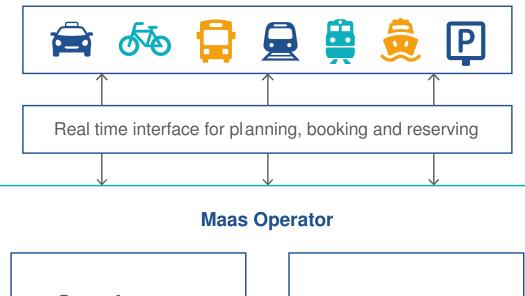
- END TO END JOURNEYS
 - From door to door
- INTEGRATED PUBLIC/PRIVATE TRANSPORTATION NETWORKS
 - Public (Rail, bus, metro, etc.)
 - Private (Lyft, Uber, Zipcar, Bikeshare, etc.)
- INTEGRATED JOURNEY PLANNING
 - First and last mile services through deep linking with 3rd party apps and APIs

- HOLISTIC, PREFERRED AND OPTIMAL SOLUTIONS
 - Multiple modes offered for travel
 - Fastest/cheapest/environmental
 - Optimal based on user preferences and service availability
- REAL-TIME PASSENGER INFORMATION
 - Real-time data for planning and execution
- ONE ACCOUNT SOLUTION
 - From an end user perspective having a single account that delivers the benefits and simplicity





MOBILITY-AS-A-SERVICE IS AT THE CORE OF SMART CITIES

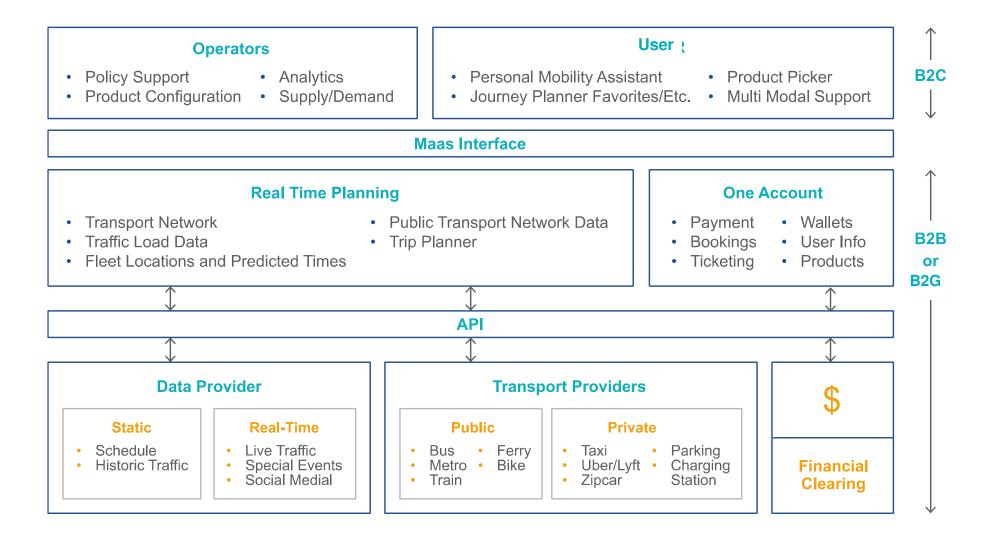


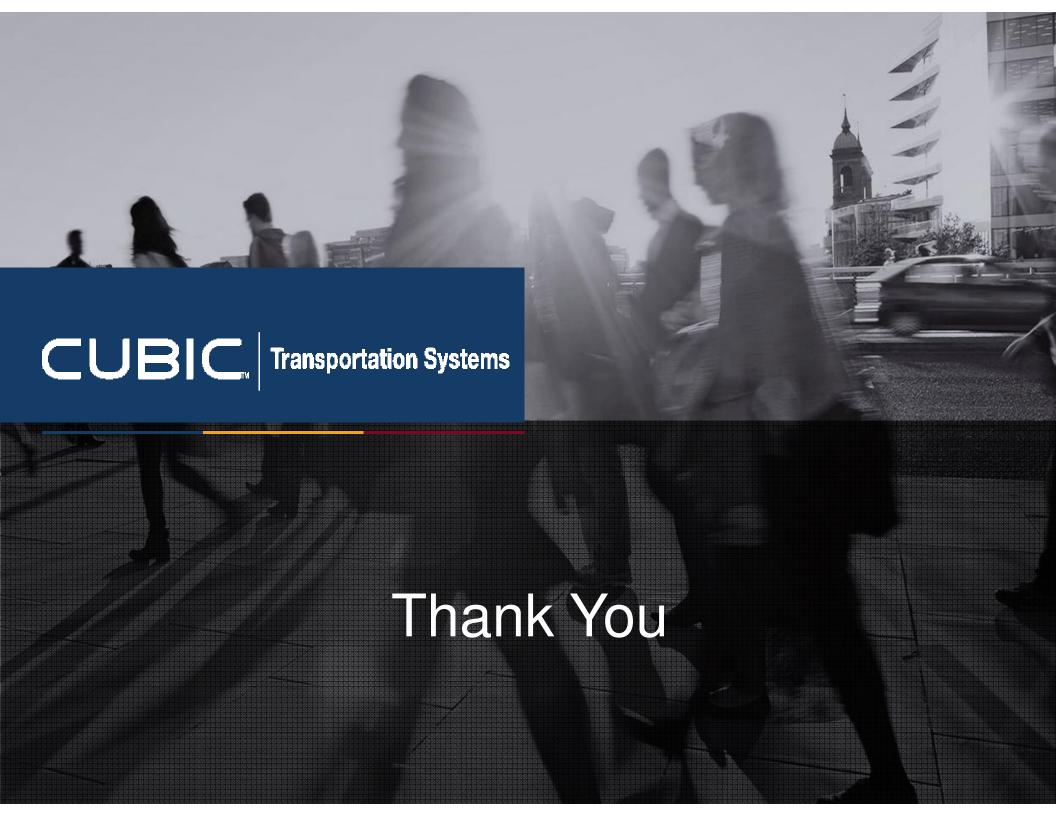


One Account
Solution for
single ticketing
across all modes

Real-Time Trip
Planning and
Tracking

NEXT LEVEL ARCHITECTURE





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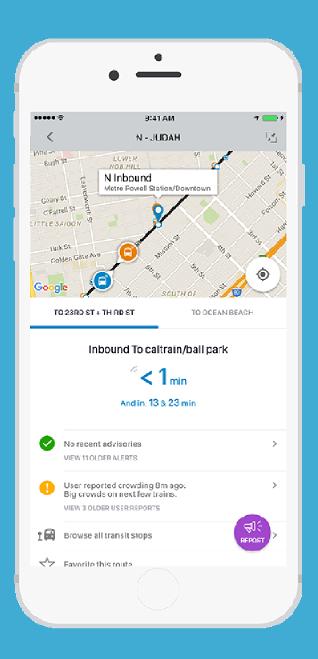
Sharon Feigon SUMC



Regina Clewlow Swiftly



Regina Clewlow, Ph.D.
VP of Business Development
regina@goswift.ly
http://goswift.ly



There is **significant disruption** in the way we move in cities.

The **mobile phone** has transformed how people learn about, access, and pay for mobility services.

There are several **fundamental building blocks** needed for transportation apps to encourage sustainable travel.

ACCURATE REAL-TIME INFORMATION

If real-time arrival information for transit services is inaccurate:

- Customers are less likely to use the transportation app.
- Choice transit riders are more likely to be dissatisfied with their experience.
- It will be more difficult to attract new customers to sustainable options such as public transit.

SWIFTLY PLATFORM

Harness big data to improve the rider experience and operational performance

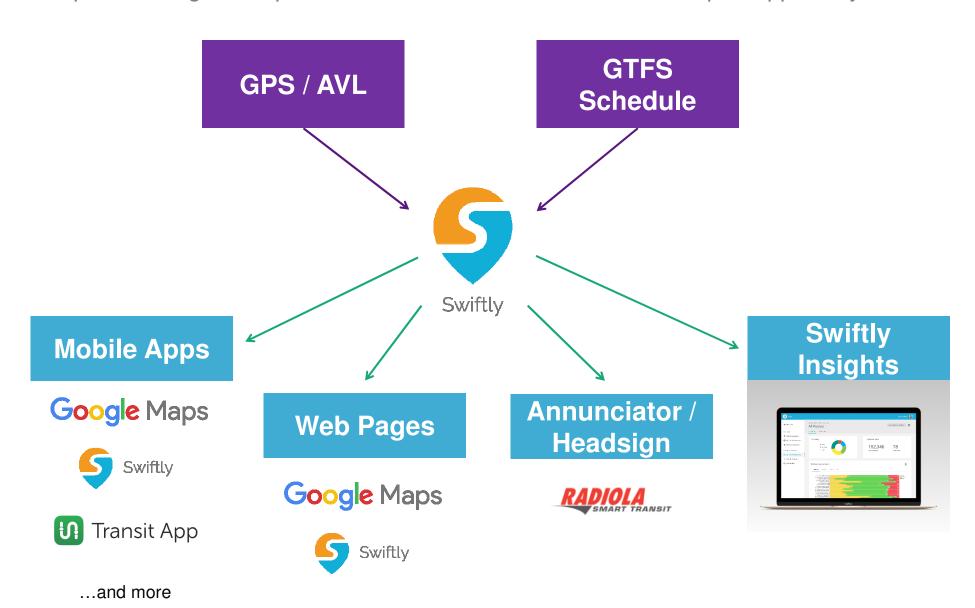
Swiftly Transitime Generates more accurate real-time information

for passengers.

Swiftly Insights
Improves your operations by leveraging on-time performance reports, AVL reports, and more.

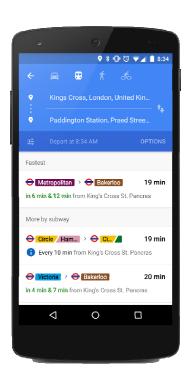
SWIFTLY TRANSITIME

Helps transit agencies publish more accurate information to an open-app ecosystem

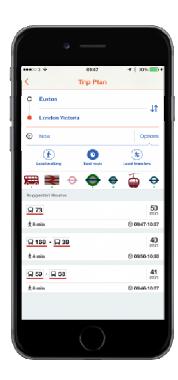


OPEN APP ECOSYSTEM

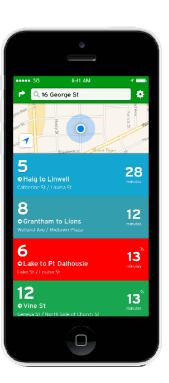
Any app can integrate with Swiftly's real-time passenger information







Moovit



Transit App

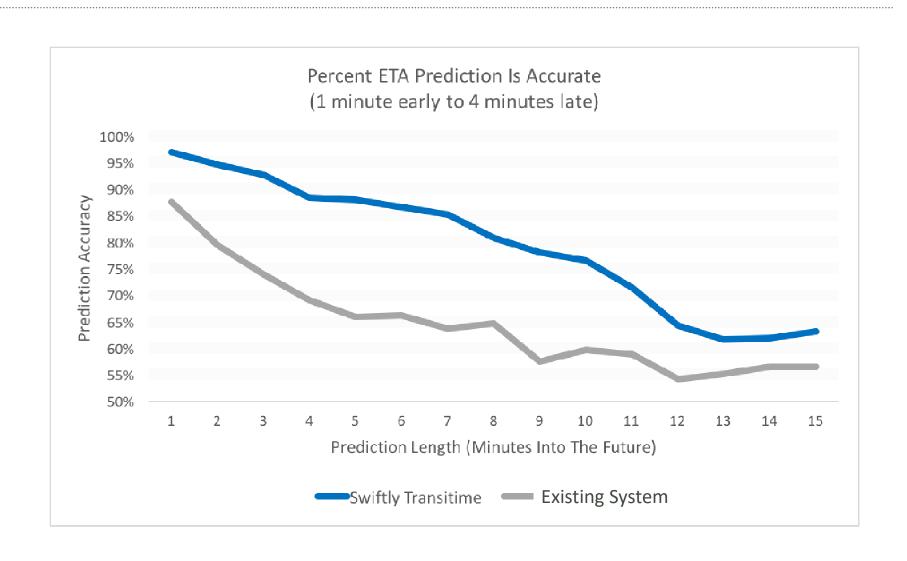
SMS & VOICE

Riders can access real-time information by texting or calling a dedicated phone number that Swiftly will setup for your agency



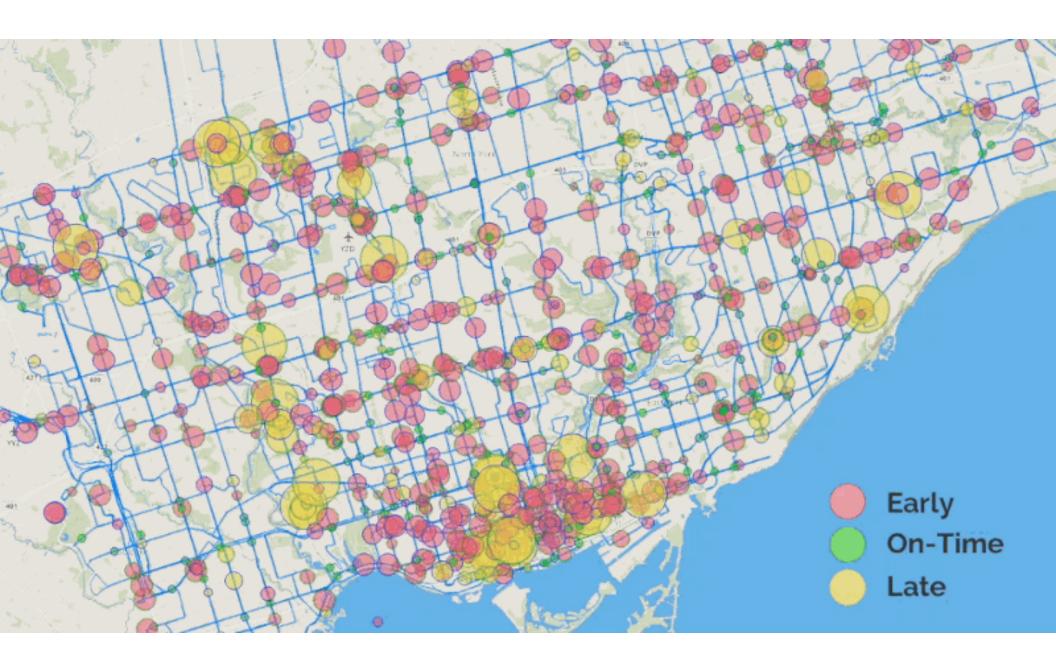
MORE ACCURATE ARRIVAL INFORMATION

LA Metro: 20% improvement over existing system



SWIFTLY INSIGHTS

Real-time and historical monitoring of system performance



EFFORTLESS DASHBOARD

Leverage big data & industry leading algorithms

Go beyond high-level performance metrics

Discover where and when operational issues are occurring

Increase efficiency, reduce operating expenses

Improve rider experience





Regina Clewlow, VP Business Development

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@ReginaClewlow

http://goswift.ly

Webinar Speakers

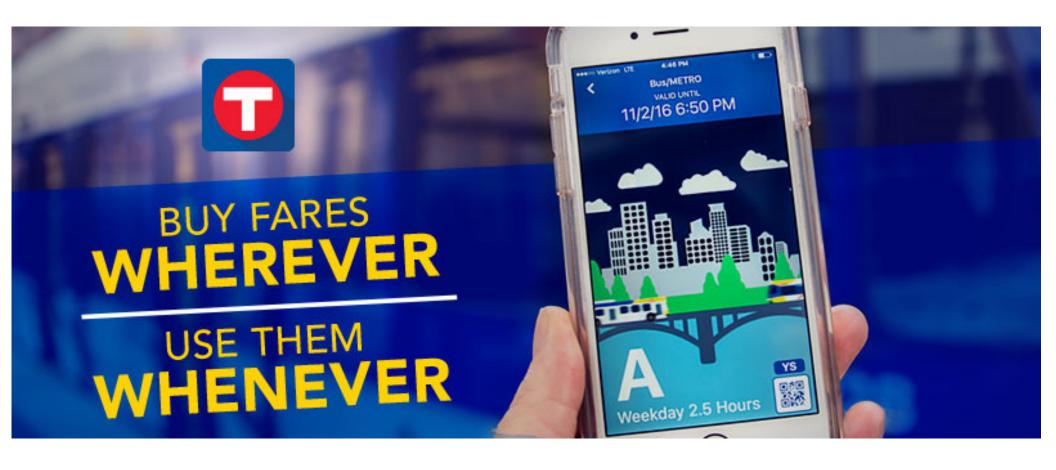
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Sharon Feigon SUMC



Adam Mehl Metro Transit

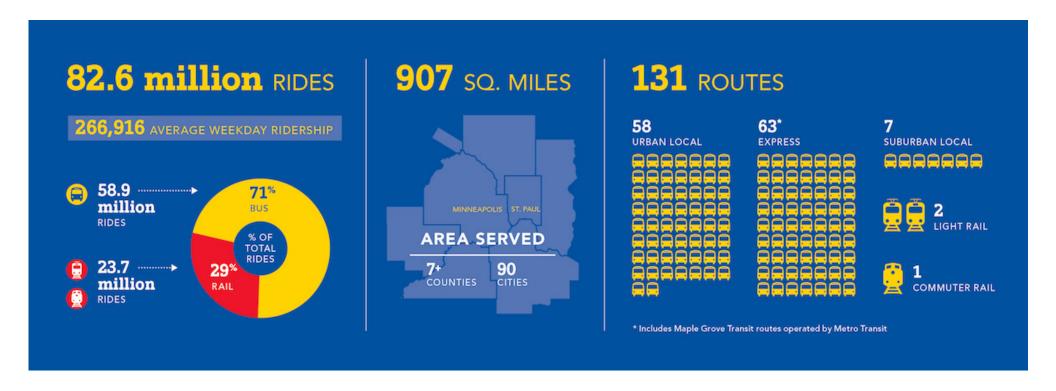


Metro Transit Mobile App: From Concept to Launch





About Metro Transit





Timeline of Events

- 2012-2013
 - Conversations begin about app
 - Engagement of decision makers and stake holders
 - Finding funding Regional Solicitation for CMAQ funds

Official	3 rd Party
We control the app and data	We only control data
Motivation: customer service	Motivation: financial/other
Free app	Free (likely ad supported) or paid
Regular update schedule	Unknown
Customer access to account, financial info, pay fares	Not possible
We have the ability to respond to feedback and resolve issues	Not possible
Trust: customers know us	Trust: unknown/lack of credibility
Promotion/incorporation of Metro Transit programs and services	Not possible
Built in feedback tools	Not possible



Timeline of Events (cont.)

- 2014
 - Continued engagement of stakeholders
 - Funds awarded
- 2015
 - Full requirements gathering
 - Full scope/specs for the app
 - Issue RFP and select vendor: moovel
- 2016
 - Development and Launch



Requirements to Reality

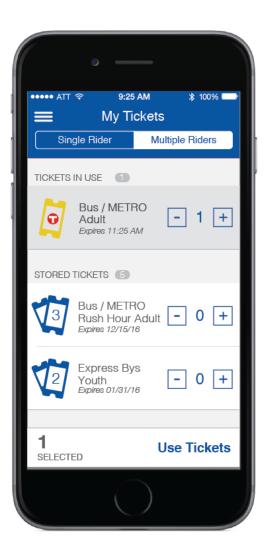
- Initial app vison was not for mobile payment
 - Navigation/Trip Tools
 - Web Store
 - Customer Communications
- From no way, no how on mobile payment to a showcase feature
 - Strong resistance internally Finance and operations
 - More stake holder meetings and engagement





Why Mobile Tickets?

- Game changer for customers
- Reduced cash usage
- More opportunity to increase bus ridership
- Equity improvements
- Reduced barriers





Lessons Learned

- Engage EVERYONE
- Find advocates
- Watch out for policy pitfalls

What's Next

- Improved Trip Planning
- Integration of multi-modal options
- Grow ridership and usage



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 Executive Director, Shared-Use
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- Bringing it All Together:
 Bibiana McHugh, ITS-GIS
 Manager, TriMet



Sharon Feigon SUMC



Bibiana McHugh TriMet





TriMet

Tri-County Metropolitan Transportation District of Oregon 2016 MOD Sandbox Grant Awardee

Federal Transit Administration

About

Funding

Regulations & Guidance



Mobility on Demand (MOD) Sandbox Program



What's New

 In October, 2016, FTA announced project selections for \$8 million in funding for Mobility on Demand public transportation projects. The MOD Sandbox Program is part of a larger research effort at DOT that supports transit agencies and communities as they integrate new mobility tools like smart phone apps, bike- and car-sharing, and demand-responsive bus and van services. MOD projects help make transportation systems more efficient and accessible, particularly for people who lack access to a car.



Related Links

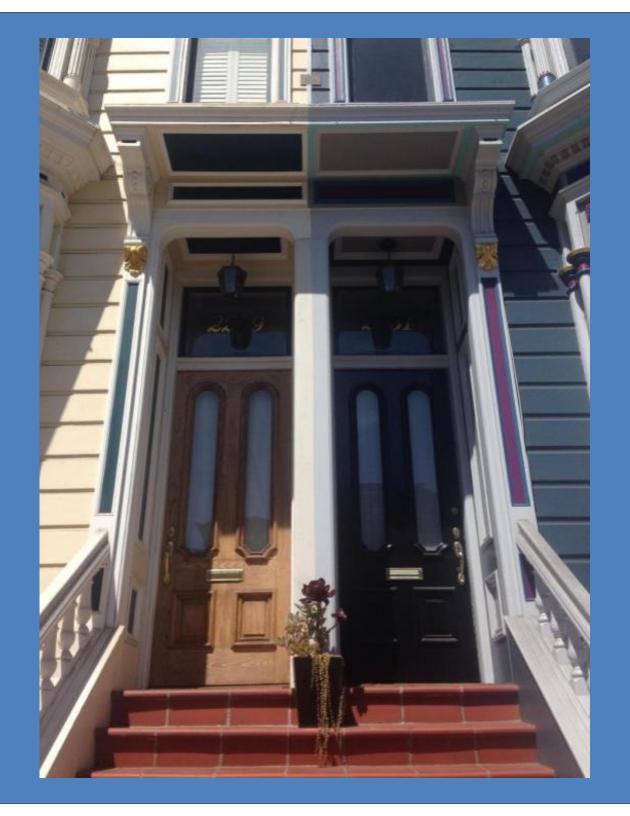
- FY 2016 Mobility on Demand (MOD)
 Sandbox Program Projects
- MOD Grant Notice Page
- Press Release: 2016 MOD Funding Opportunity
- Press Release: US DOT Announces Advanced Technology Transportation Grants
- · Shared Mobility guidance

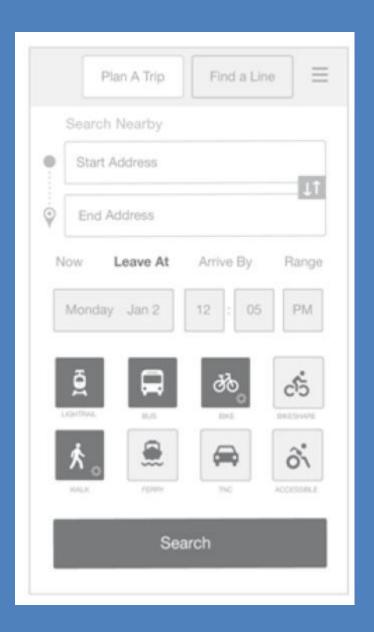
Related Documents

- 2016 Mobility on Demand Sandbox Demonstration Program Supplemental Form
- Mobility on Demand (MOD) Sandbox Webinar May 25, 2016

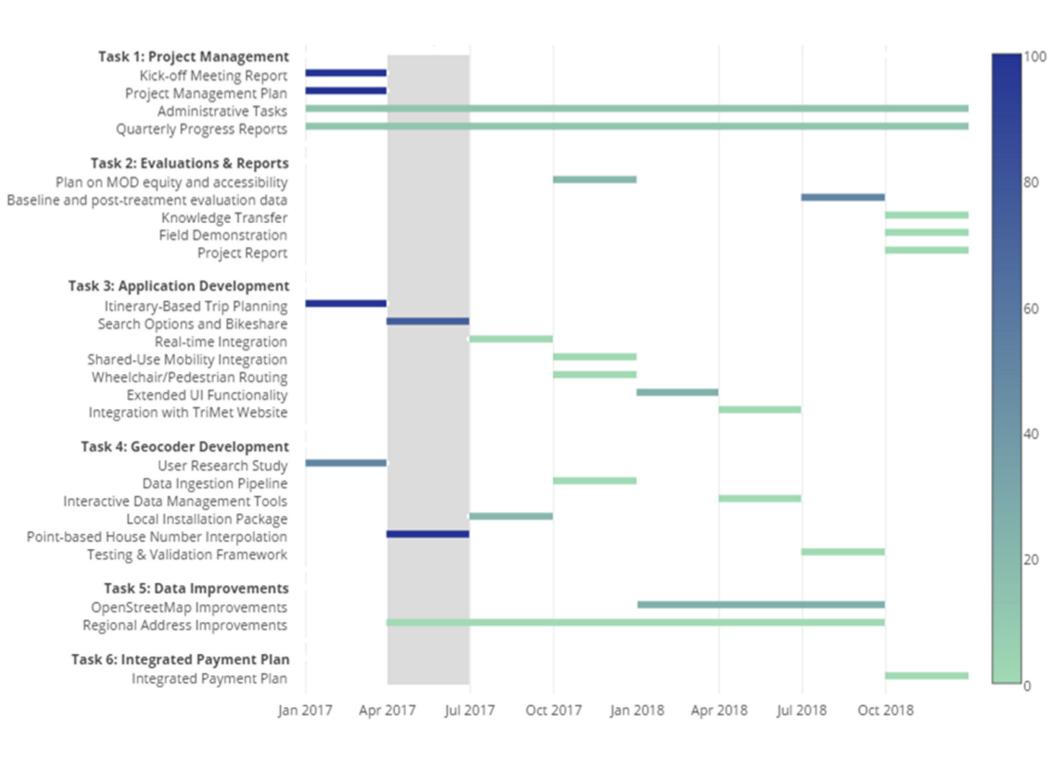
Contact Us

Office of Research, Demonstration, and Innovation









Key Project Partners



Project Management



OpenTripPlanner (OTP) Enhancements



Pelias Geocoder Enhancements



Open Data Improvements



Integrated Payment Plan

MOD Sandbox Partner























Data Provider



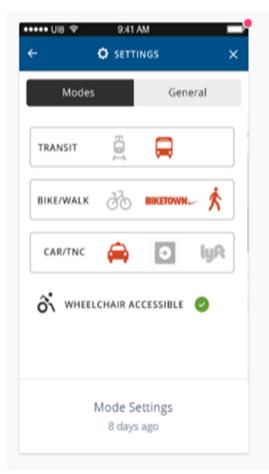


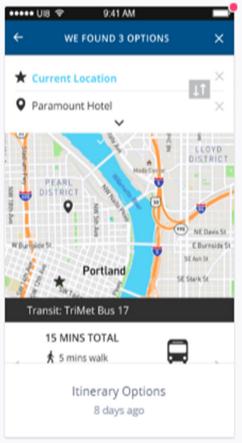


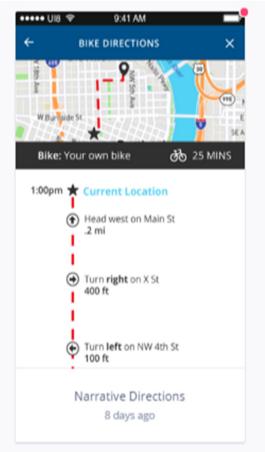


OpenTripPlanner (OTP)

Extend OTP code base as a foundation to support the integration of transit trip planning with shared-use-mobility modes and real-time information.







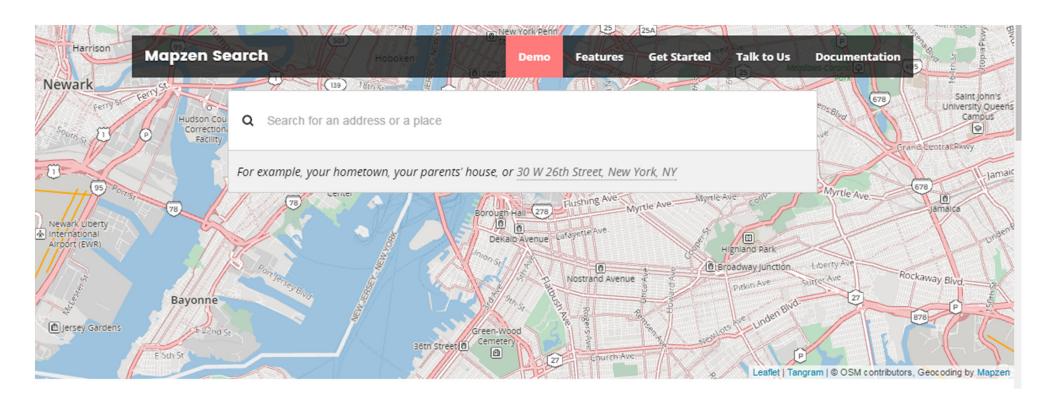


OTP Deployments



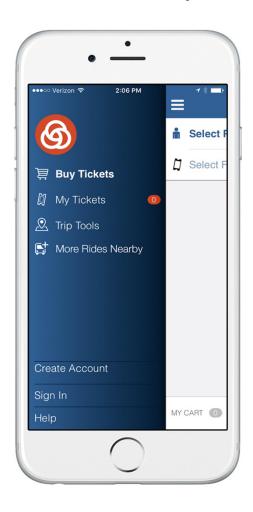
Mapzen's Pelias Geocoder

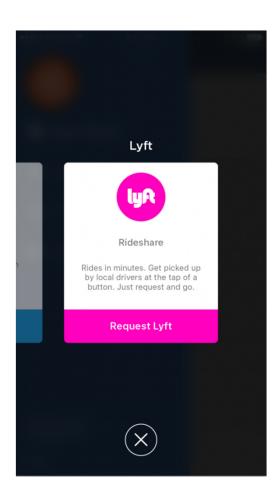
A non-proprietary and non-restrictive option for address locating that can achieve significant cost savings for transit agencies, government agencies, and the public.



moovel's RideTap

Feature in TriMet's mobile ticket app that enables easy access to nearby transportation options.





"Innovation is driving our world forward, and we want public transportation providers to seize opportunities to embrace new ideas and solutions."

Former Transportation Secretary Anthony Foxx





Home: MOD Sandbox

MOD Sandbox Grant 2017 - 2019

TriMet's OpenTripPlanner Shared-Use Mobility (OTP SUM) project will create a complete open platform for the integration of transit and shared-use mobility options. With an improved address locator, Mapzen's Pelias geocoder, the open data, software and user interfaces, responsive on both web and mobile, will help customers make informed decisions about their mobility choices, including the critical first and last miles of transit trips where a bus or train alone doesn't provide full access.

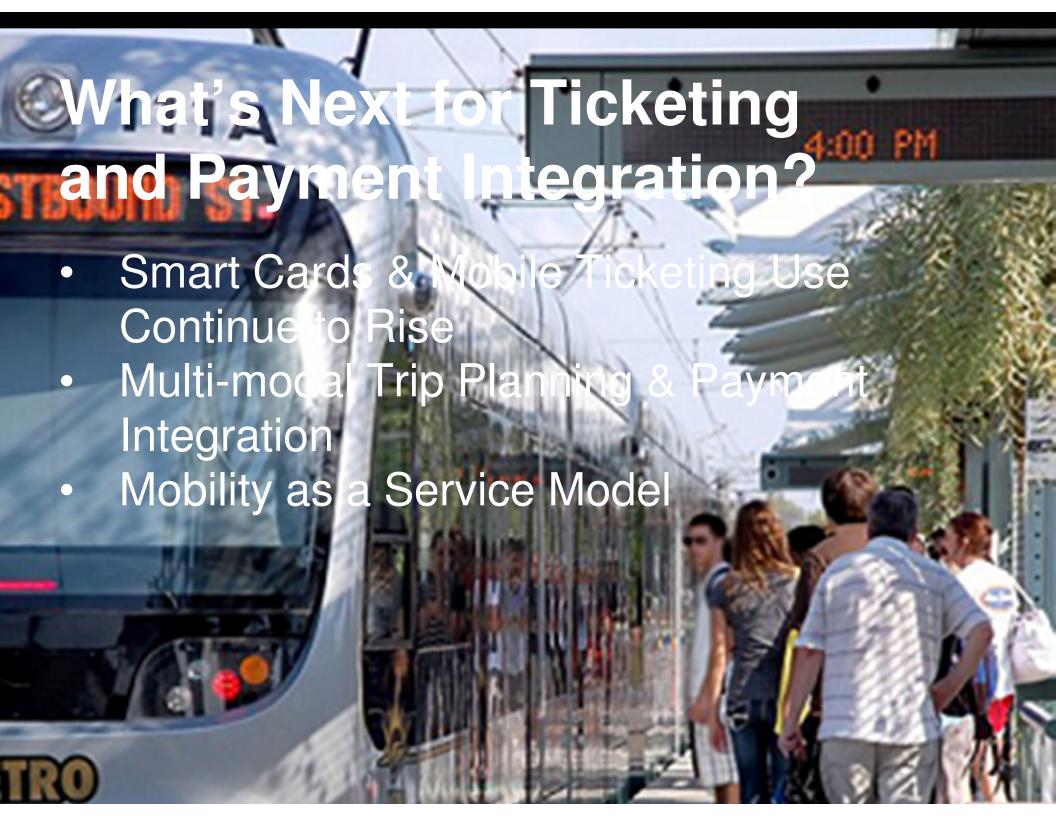
This dashboard provides a snapshot of the MOD Sandbox project's progress. These key indicators help us track progress toward project deliverables and the budget. In addition, we will be sharing project updates and lessons learned through this dashboard.

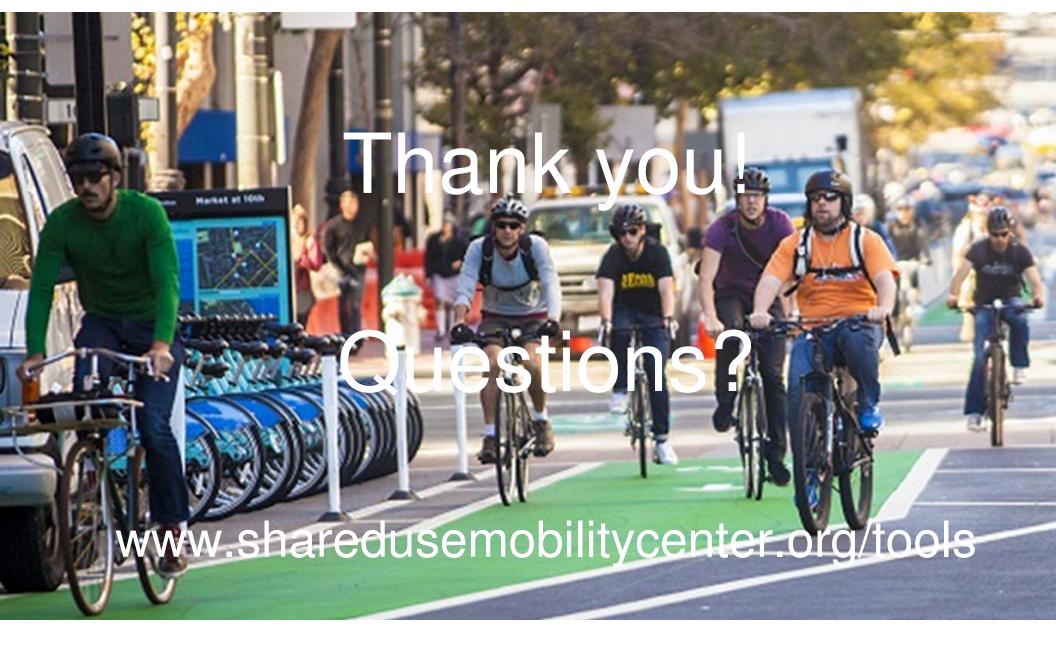
About MOD Sandbox Grant

About OpenTripPlanner (OTP)

About the Pelias Geocoder











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Thank you to the DePaul Chaddick Institute for Metropolitan Development for hosting this webinar