

OPTIONAL  
CLIENT LOGO

# Autonomous Vehicles in MaaS Applications



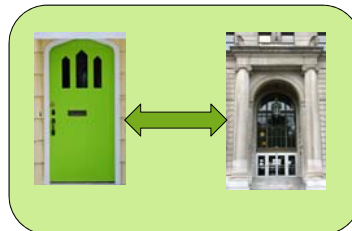
Jill MacKay, IBI Group  
ITE San Diego Section  
2017 Annual Meeting & Conference  
June 20, 2017

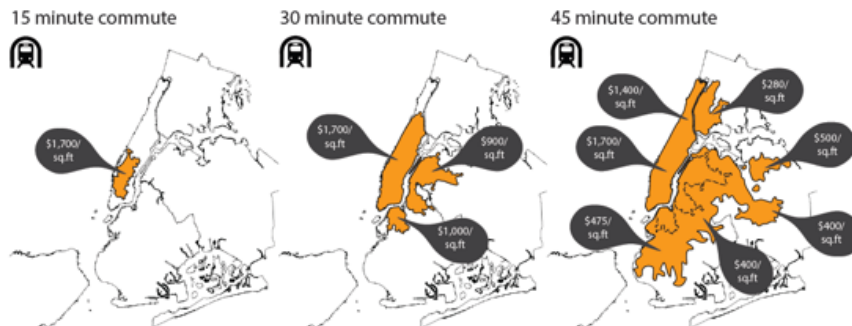
## AUTOMATED VEHICLES IN MaaS APPLICATIONS

## The Problem



Source: King County Auditor



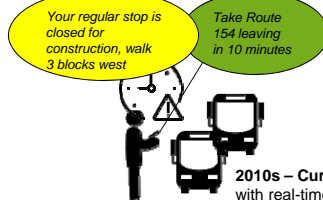


Increasingly, affordable urban housing is located away from the city center and public transit



Take Route 154 leaving at 2:50pm...

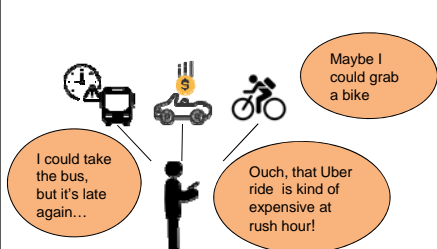
Early 2000s - Basic trip planners using static schedules and limited real-time information



Your regular stop is closed for construction, walk 3 blocks west

Take Route 154 leaving in 10 minutes

2010s – Current: Regional trip planners with real-time information and service alerts

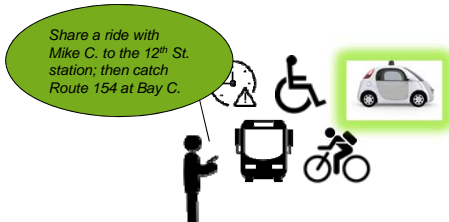


I could take the bus, but it's late again...

Maybe I could grab a bike

Ouch, that Uber ride is kind of expensive at rush hour!

Today: Lots of apps, lots of options, but they don't talk very well



Share a ride with Mike C. to the 12th St. station; then catch Route 154 at Bay C.

Near Future: Integrated MaaS apps with multimodal, accessible trips door-to-door, integration with AVs to streamline availability and cost savings.

Icons by flaticon.com

- Builds on TriMet's OTP work started in 2009
- FTA MOD Sandbox Grant awarded for 2017-2019
- Consortium of 20 public and private agencies and companies
- Currently midway through development



**STRATEGY**

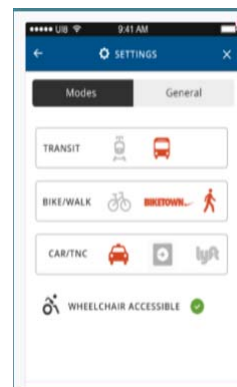
Use open source software, open data, and open standards to facilitate wide adoption.

**APPROACH**

Solve last mile problem through technology, innovation and collaboration.

- **OpenTripPlanner (OTP)** - Extend code to incorporate SUM modes, real-time info, enhanced accessibility narrative.
- **Open Mapzen Pelias Geocoder** - Extend functionality for govt agencies, and improve match rate.
- **Open Data** - Improve OpenAddresses and OpenStreetMap (OSM) in support of comprehensive trip planning and geocoding.
- **Integrated Payment Plan**

Source: TriMet



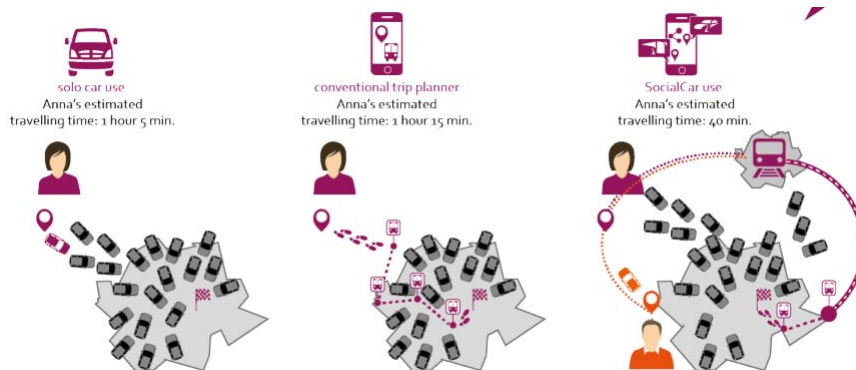
[TriMet.org/MOD](http://TriMet.org/MOD)

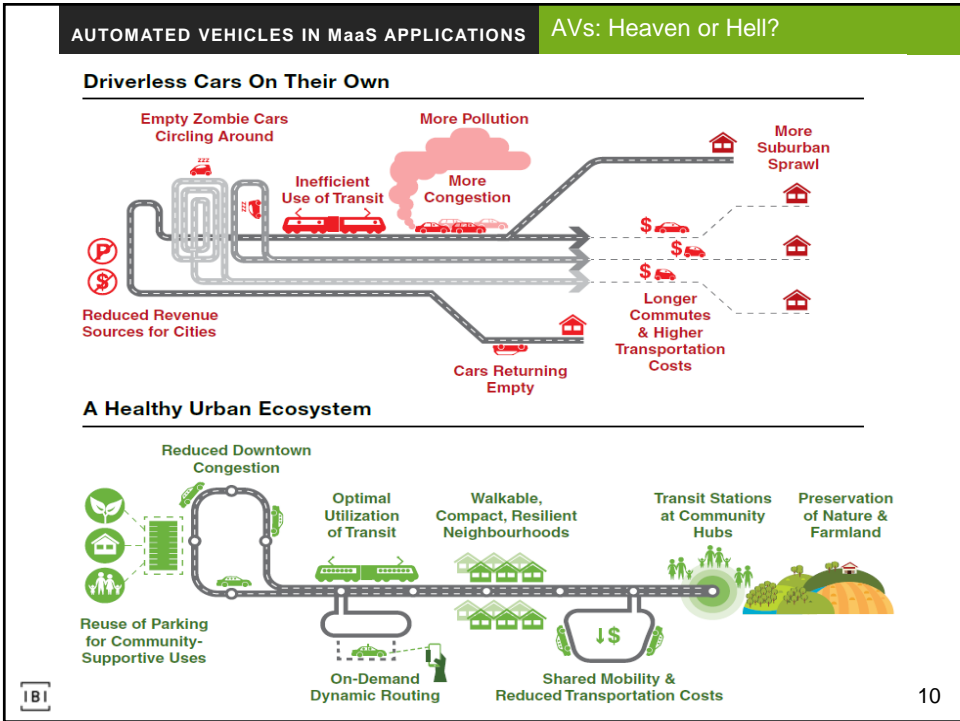
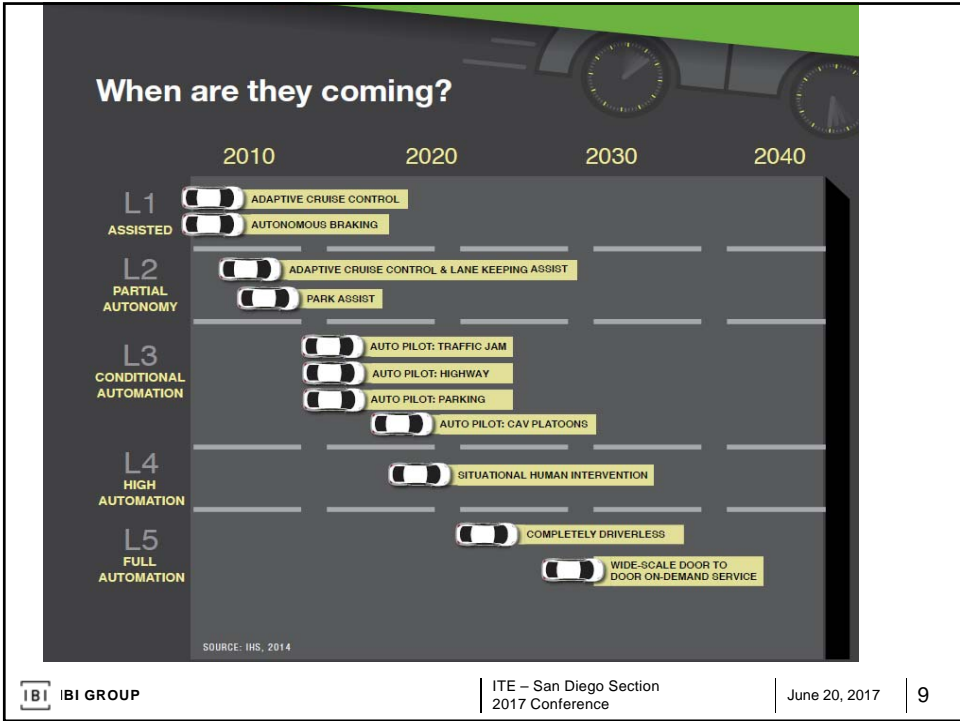
- Horizon 2020 provides nearly €80 billion of funding over 7 years (2014 to 2020) for research and innovation
- Like OPT SUM, it is developed on open-source platforms
- 26 partners in 10 test sites (Brussels, Brescia, Canton Ticino, Edinburgh, Lazio, Ljubljana, Luxembourg, Skopje, Turin, Zagreb)
- 2/3 of the way through development, starting test runs
- [socialcar-project.eu](http://socialcar-project.eu)

Public transport + carpooling + social media = SocialCar



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**AUTOMATED VEHICLES IN MaaS APPLICATIONS**

Questions:

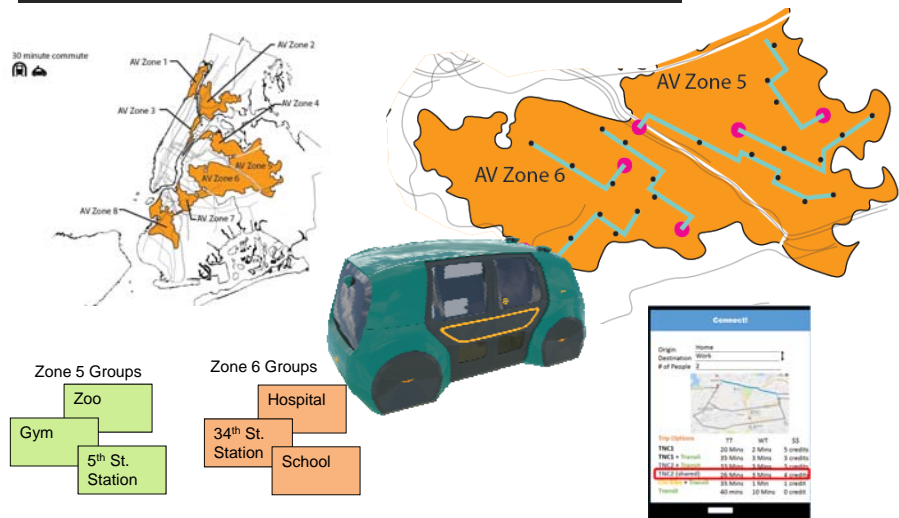
How do you make sure that AVs are available in the neighborhoods where they are needed?

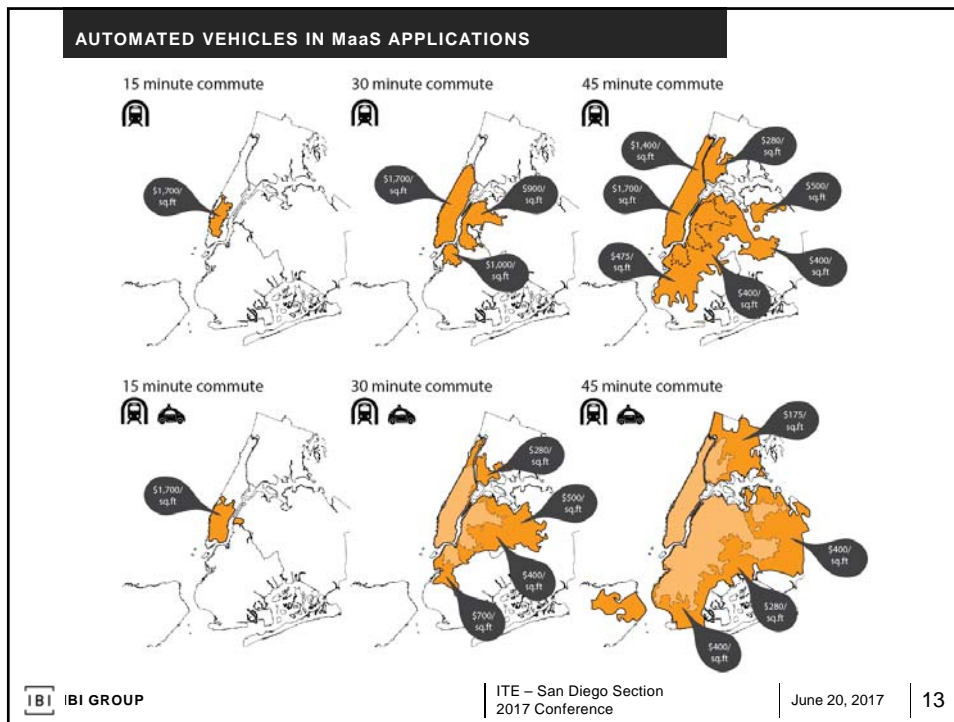
How do you encourage ride-sharing?

How do you promote accessibility?

How do you continue to incentivize transit?

**AUTOMATED VEHICLES IN MaaS APPLICATIONS**





**AUTOMATED VEHICLES IN MaaS APPLICATIONS**

### Conclusions

- Integrating TNCs and ridesharing into OTP is possible but challenging
  - Long term financial feasibility not clear
  - Needs to be simple and routine for user acceptance
- Social media and rewards/gamification are important elements in encouraging participation, promoting safety and community, and making the apps “fun”
- Integration with AVs will be the next logical step
- Planning ahead to create an equitable policy framework can ensure that AVs provide a net benefit to cities

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# Thank you!

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*Building the cities of tomorrow*

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