

ACES FOR ALL: NEW MOBILITY FOR THE MOBILITY DISADVANTAGED

John Niles Presentation for the
ACES South King County/Renton Planning Session
September 10, 2019



MOBILITY DISADVANTAGED

- ❑ Having physical limits -- ADA
- ❑ Struggling with economic limits
- ❑ Many seniors
- ❑ Many young people
- ❑ Anybody without ready access to a car?
- ❑ Facing barriers in access to jobs, education, medical services, ...
- ❑ Certain entire neighborhoods?
- ❑ Who else?
- ❑ How qualify?

UNIVERSAL BASIC MOBILITY

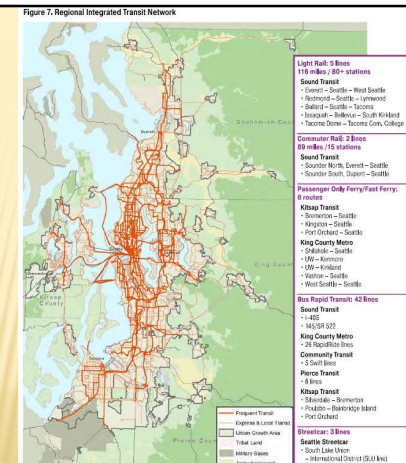
A system of public policy concepts and partnerships to provide a minimum level of mobility to all members of society.

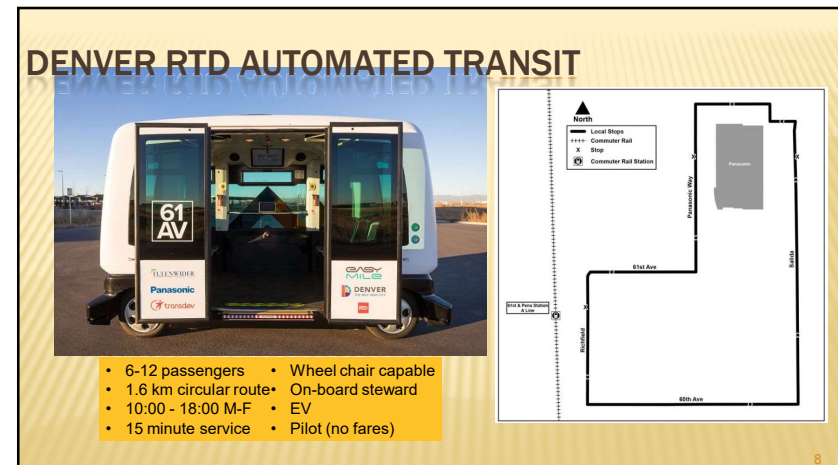
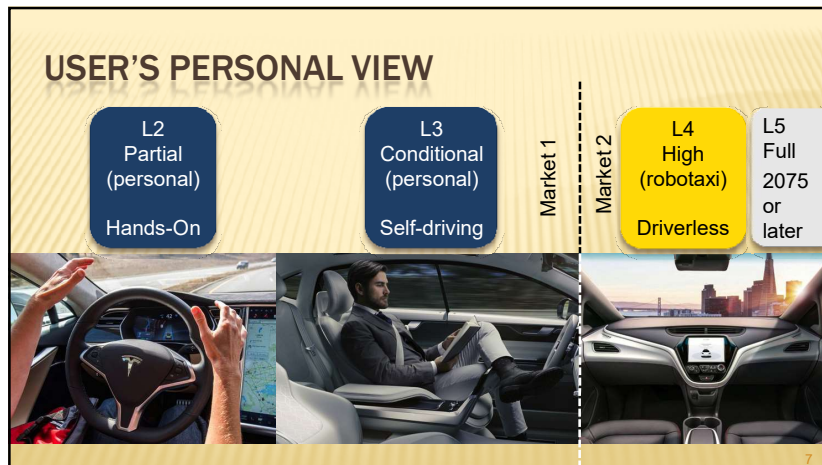
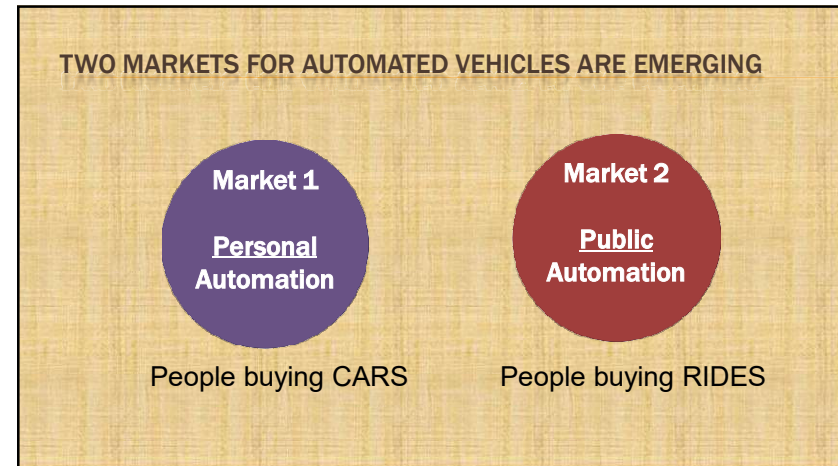
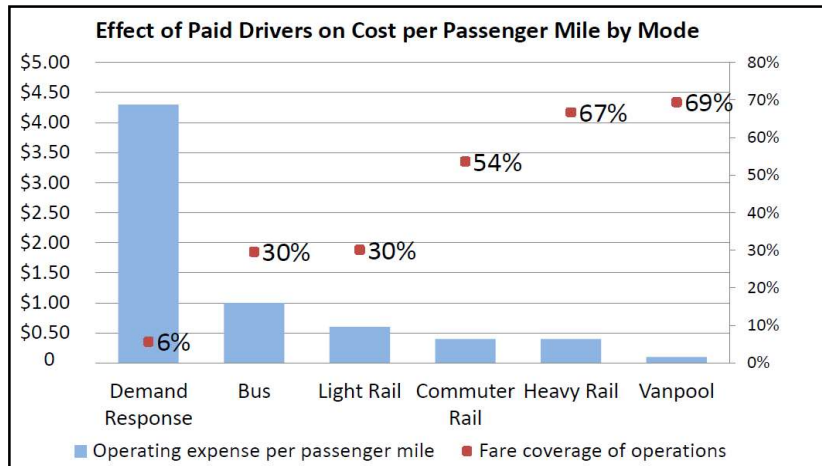
CATES suggests striving to provide the mobility disadvantaged with not only low-fare transit passes and electric scooters, but what car owners have:

Short-notice, anywhere, anytime, reasonably fast and reliable, point-to-point motorized travel, when needed.

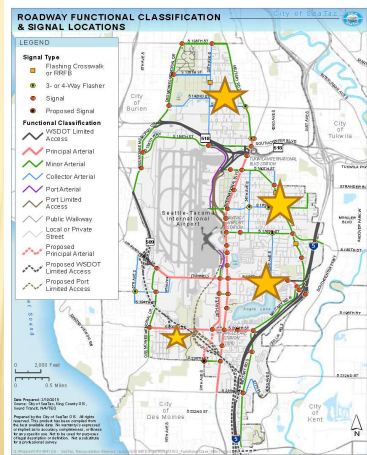
TRANSIT REDEFINED delivers UNIVERSAL BASIC MOBILITY

Does having the “top-ranked public transportation in the USA” mean we now have Universal Basic Mobility?



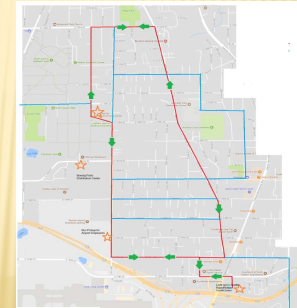


CATES
recommended
City of SeaTac
Seek Electric
Automated
Shuttle Routes
Serving Its
Residential Areas



FIRST SEATAC TRIAL DEPLOYMENT:

SeaTac Riverton Heights:
Five mile loop route
(red line on map) for
automated 10 passenger
electric micro vans at five
minute intervals in both
directions could serve
passenger movement at
20 mph with 6 vehicles.



Automated Transit Shuttle Deployments
Need Goals and a Path to the Future
for Fulfilling Those Goals

Need a Step by Step Transit Leap

AV SHUTTLES SHOULD BE IN A GROWTH CONTEXT

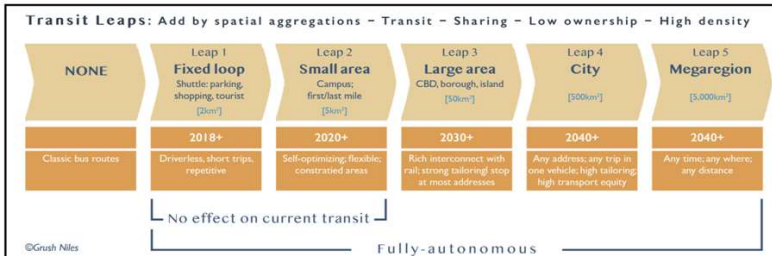
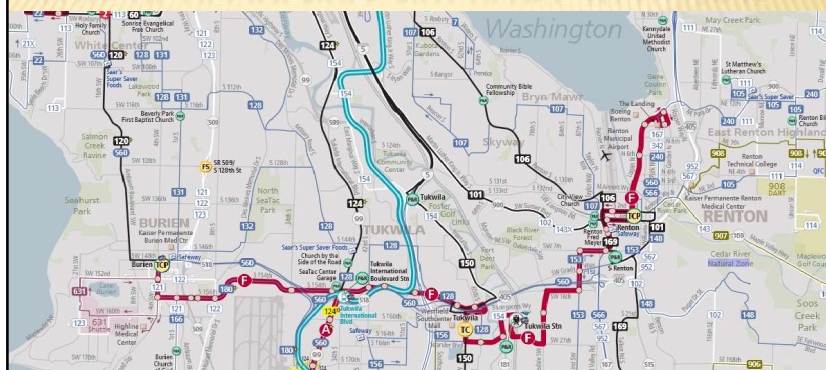


Figure 2. Transit Leap Levels are Described Spatially Rather than as Autonomy Levels

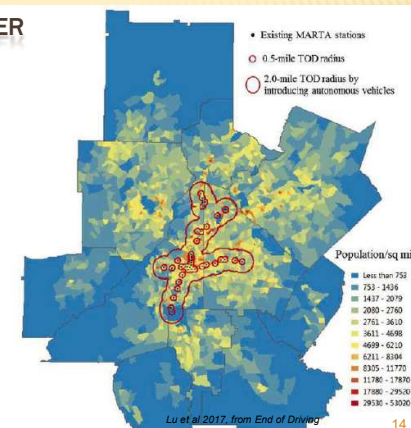
Note: All Leap implementations require Level 4 autonomy, appropriate for their operating domain. The maturity of each Leap is enabled by then-current reliability of Level 4 vehicle operation. Diagram by Grush Niles Strategic.

LOTS OF RESIDENCES NOT CLOSE TO TRANSIT



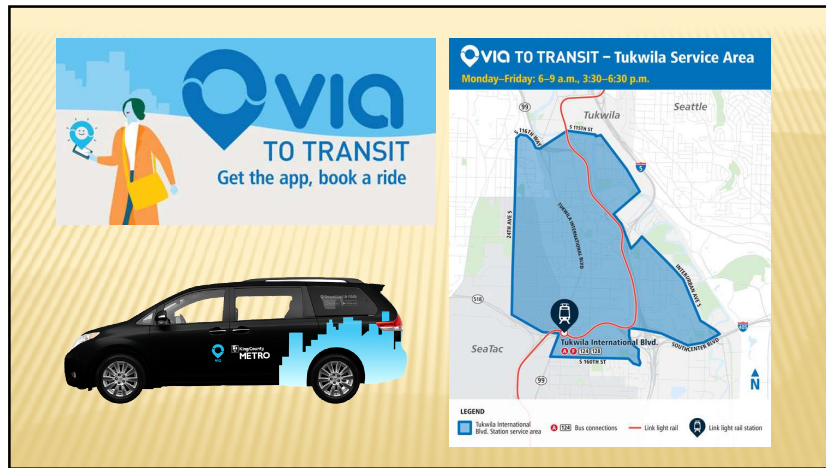
EXPAND TRANSIT LEAP FOR BIGGER FIRST/LAST MILE CATCHMENT

- Increase TOD radius
- from one half mile
- to two miles

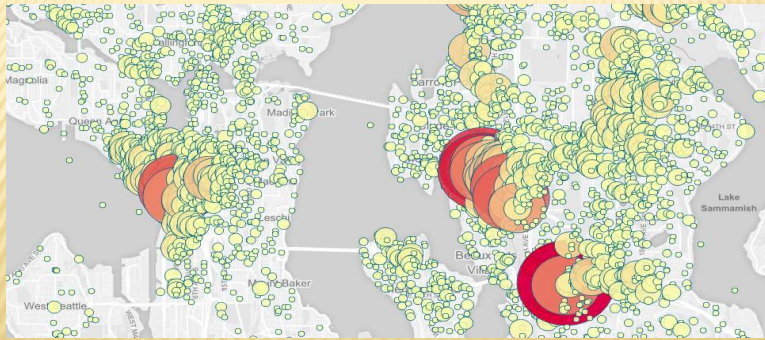


PRIVATE FIRMS DEPLOYING SHUTTLES





ROBO-CAB TRAVEL WILL BE LIKE UBER TRIPS WITHOUT A HUMAN DRIVER | SAMPLE OF RECENT UBER TRIP ORIGINS



SJSU SAN JOSE STATE UNIVERSITY



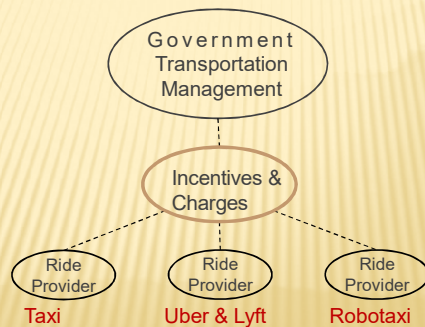
Full Potential of Future Robotaxis Achievable with Trip-Based Subsidies and Fees Applied to the For-Hire Vehicles of Today

Project 1903
August 2019

John Niles, M.S.



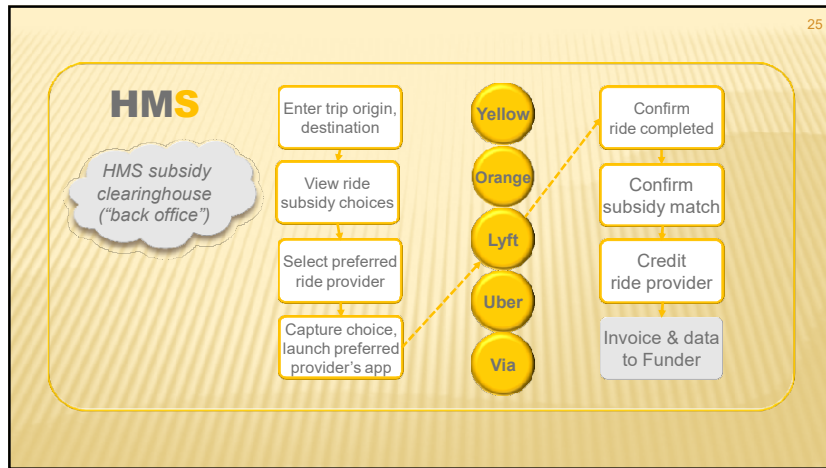
NEW CONCEPT: HARMONIZATION MANAGEMENT TO INFLUENCE PRIVATE RIDE DELIVERY PRIORITIES



HMS NOW IN DEVELOPMENT!

HMS is a cloud-based platform to manage the performance of for-hire urban vehicle fleets

- ☐ Overseen by **government**
- ☐ To **deliver incentives**
- ☐ And **collect fees** (optional source of funding)
- ☐ To/from ride providers
- ☐ On per-trip basis



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HMS governs for-hire vehicle fleets for:

- ❑ Social Justice
- ❑ Environmental Justice
- ❑ Geographic Equity
- ❑ Economic Equity
- ❑ Equity for the Mobility Disadvantaged

THANK YOU

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Free chapter summaries at EndOfDriving.org

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The End of Driving

Transportation Systems and Public Policy Planning for Autonomous Vehicles
 Bern Grush • John Niles

Looks at:

- + SYSTEMS of ECONOMICS, HUMANS, CITIES, and BUILT FORM interact as we face vehicle automation
- + interrelated elements unsuitable for isolated resolution
- + diffusion and transition issues as much as specific planning issues
- + far-reaching human, social, and urban issues rather than at transient technical and vehicle issues