

DRAFT FOR PUBLIC RELEASE

SMART MOBILITY ROADMAP 2017

AUSTIN'S APPROACH TO SHARED, ELECTRIC,
AND AUTONOMOUS VEHICLE TECHNOLOGIES

Austin, Texas



City of Austin



and

**Capital
Metropolitan
Transportation
Authority**



**Urban Transportation
Commission**

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Austin Transportation Department

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Smart Mobility Roadmap



- **GHG emissions:**
Net zero by 2050
- **On-demand mobility**
- **Accessibility:**
seniors,
disabled, etc.

- **Affordability**
- **Congestion**
- **Shared Mobility:**
heavy adoption

**Develop a
nation-leading
plan on**

**Shared, Electric and
Autonomous Vehicles and Services**

City Council and
Capital Metro Board
Resolutions:
(May and March 2017)

Smart Mobility Inspiration

IMAGINEAUSTON
Vibrant. Livable. Connected.



Connections
2025



Technology Doesn't Change Geometry

TODAY



40 human-driven cars

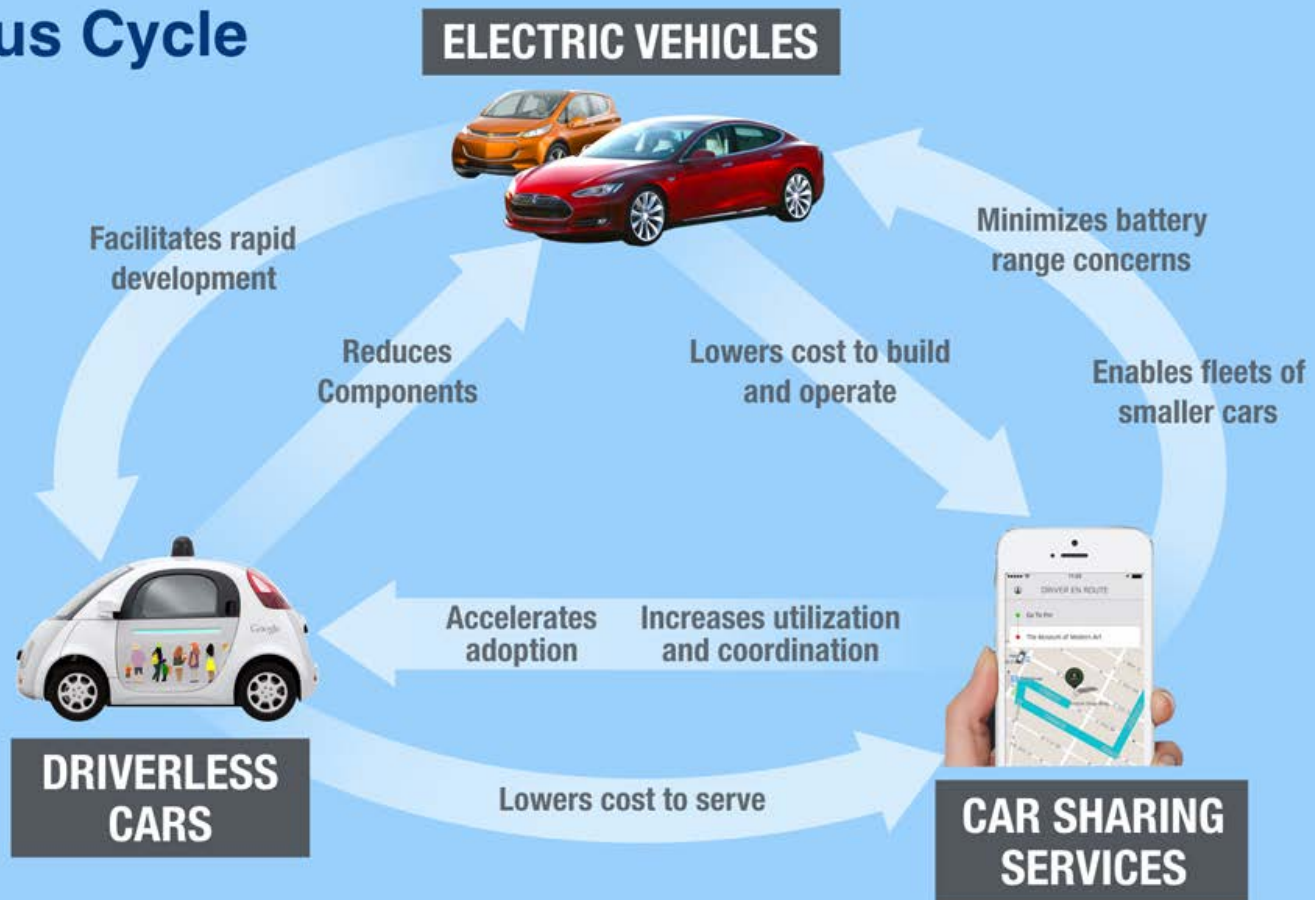
TOMORROW



40 self-driving cars

Convergence of Technologies

A Virtuous Cycle



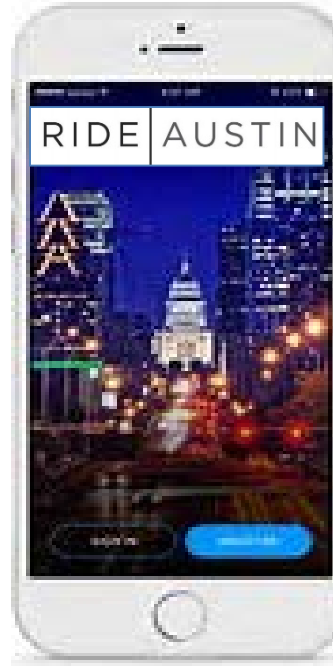
Next Steps:

- Encourage less SOVs with easy/affordable alternatives;
- More data and collaboration

Shared Mobility



Shared Mobility



“When deployed alongside fixed-route mass transit networks, shared-ride AV taxis could all but eliminate the convenience advantage of personal autos.”

Next Steps:

- Create an Austin Shared Use Mobility Plan
- Promote shared vehicle services

— Bloomberg Philanthropies-
Aspen Institute

Electric Vehicles



- 618 EV charging ports
- 180 locations
- 4,000+ area EV vehicles
- \$4.17/mo or \$2.00/hr

Steep Climb:

- .4% of 1M vehicles today
- 25% = 250,000 vehicles

EV's = lower GHG + cost + energy use

Electric Vehicles Next Steps

Fleets: early EV adopters,
Lower Operating costs by 2020

Personal EVs:
total costs meets gas-powered cars by 2025

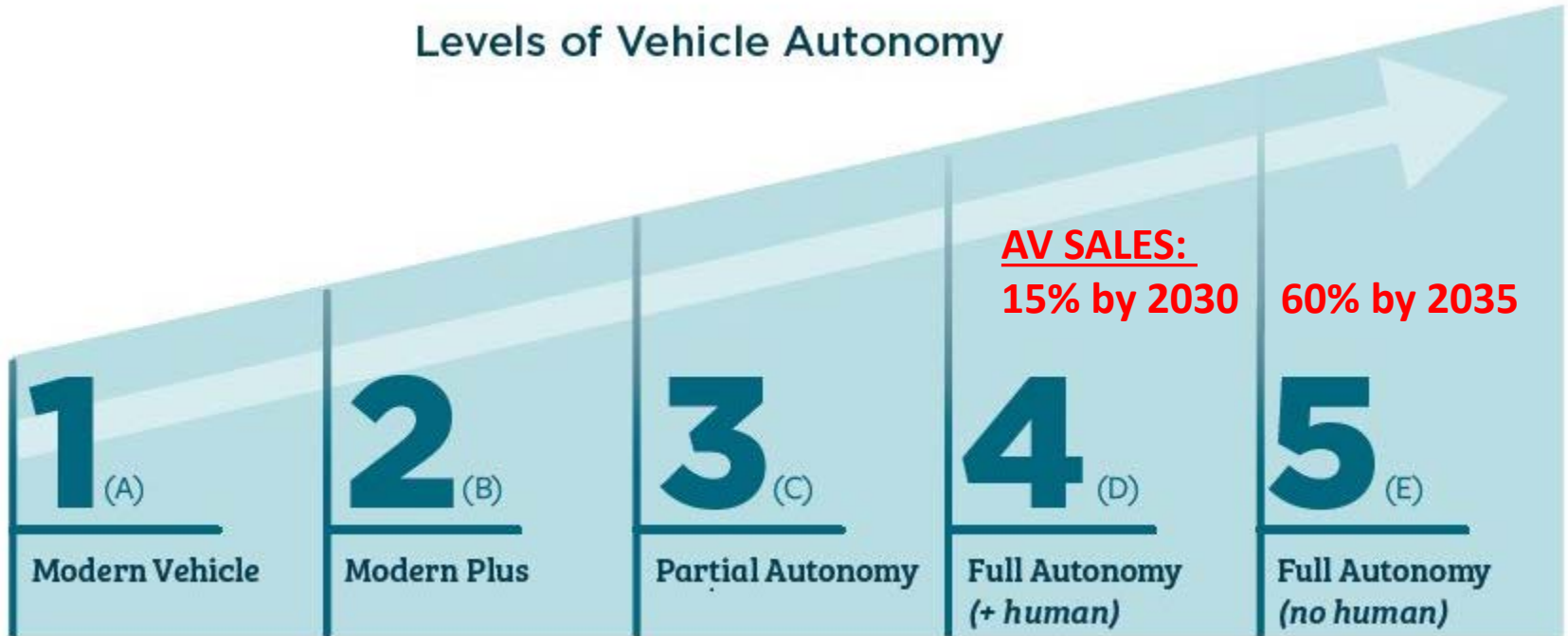


Next Steps:

- Accelerate EV use with incentives and policies;
- Expand Public and Private charging infrastructure to include DCFast to support high-mileage vehicles

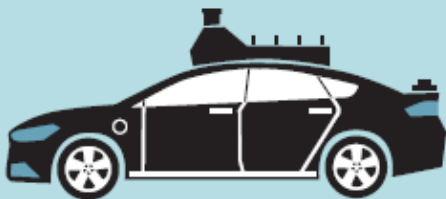
Autonomous Vehicles

Levels of Vehicle Autonomy



Graphic recreated, with permission, from 'Future Autonomous Vehicle Driver Study,' September 2016, Cox Automotive.

Taxibot



Deliverybot



Driverless Shuttle



Software Train



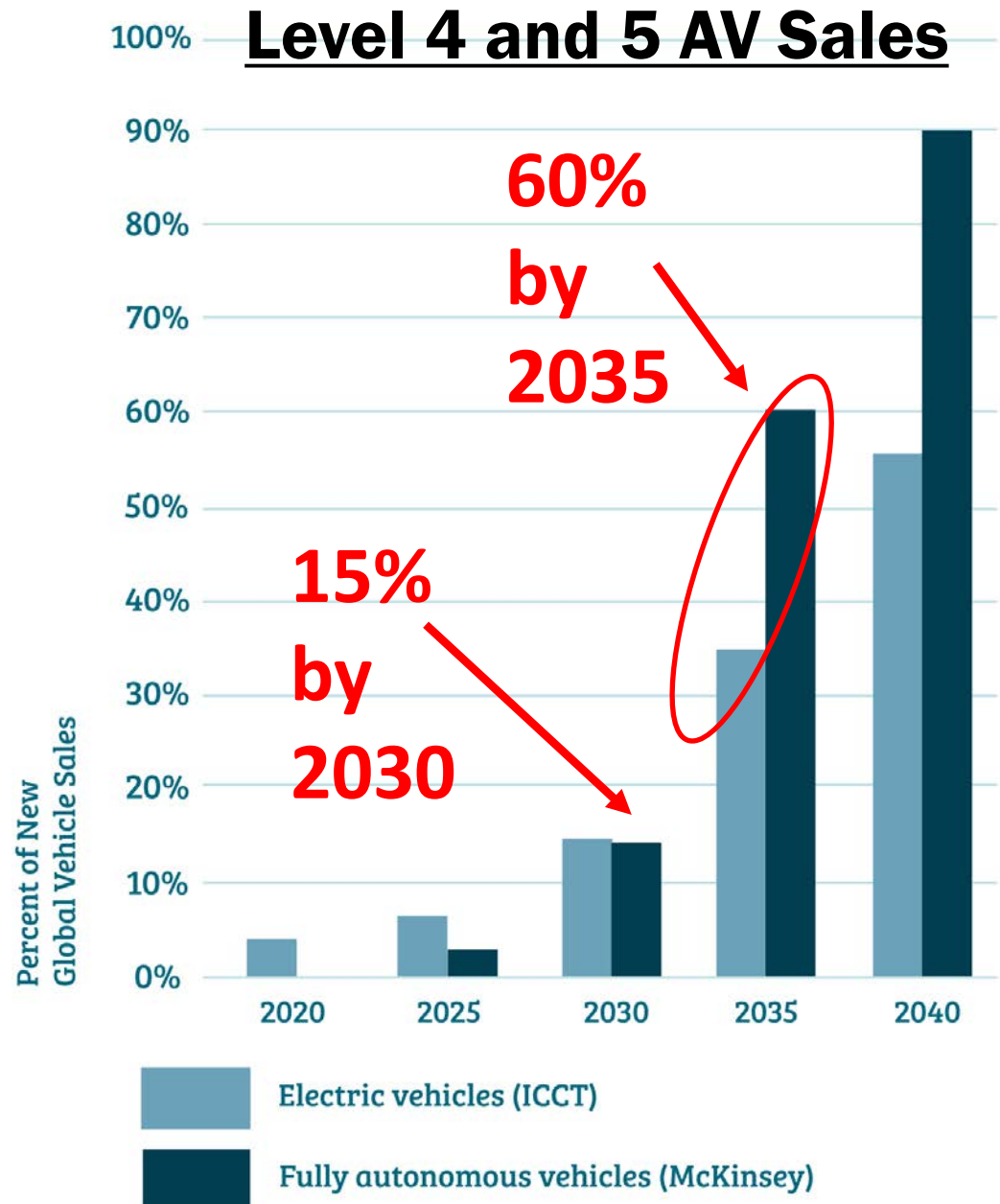
Autonomous Vehicles

 Gap between EV and AV adoption

Next Step:

- Develop a Master Plan for emerging E-AV technologies and services to pursue, keep it human centered

Projections of Electric and Fully Autonomous Vehicle Sales



Data and Technologies



V2V + V2I + V2P + V2X = More complex data and analyses that yields better safety and mobility

Data and Technologies

The Data Gap

**Private
Sector**

Difference in
amount and
sophistication
of data.

Government

Next Step:

- Test and invest in data driven technologies that promotes open data, real-time public information
- Collaborate with public /private sectors.

Current and Future Land Use

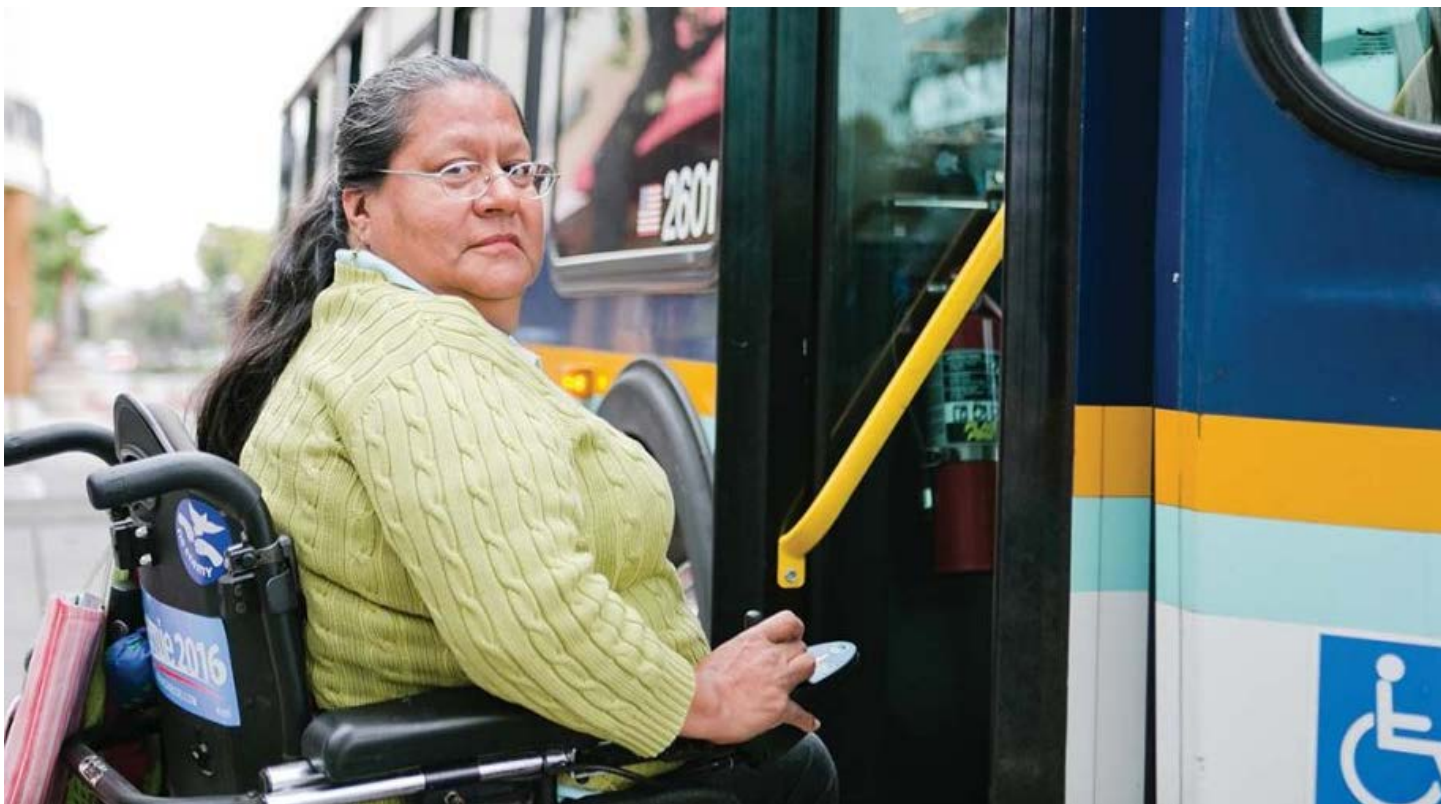
A compact and connected Austin supports travel options other than just driving alone, like walking, biking, transit, taxis, TNCs, etc.



Impacts on Austin - Equity

On-demand
AVs can help
non-drivers,
the elderly
and disabled,
along with
better
sidewalks

More pilots
with pricing
incentives are
needed

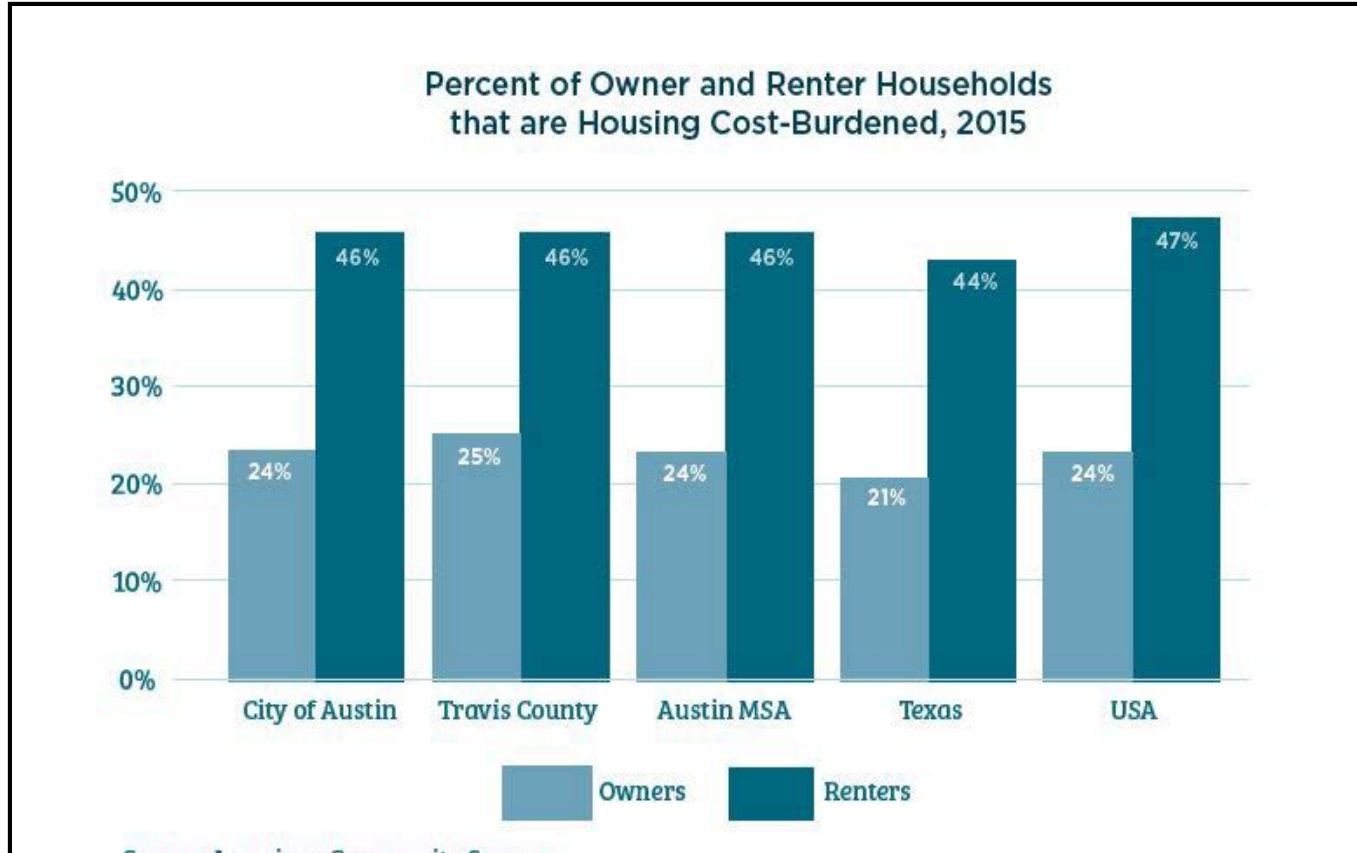


Current Pilots

Capital Metro piloting
“PickUp” on-demand
service in East Austin

Community Care + Ride
Austin piloting free
transport to health care

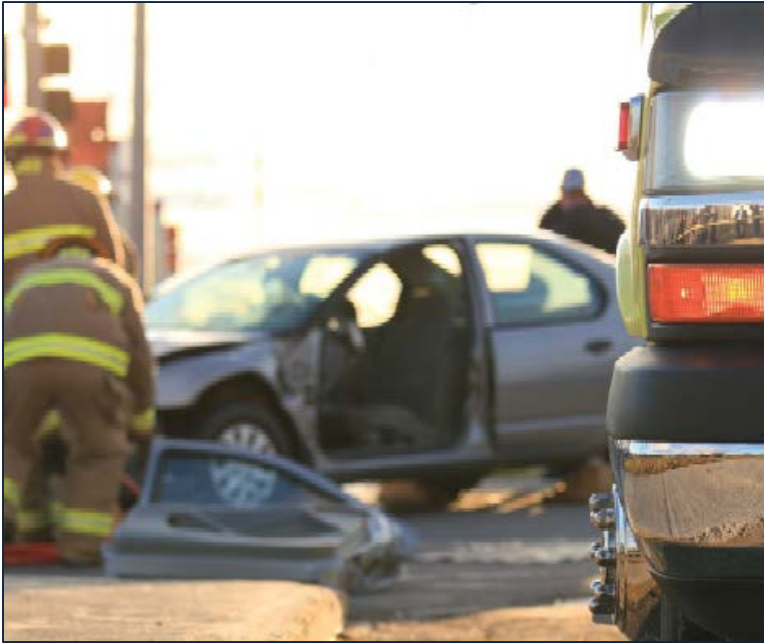
Impacts on Austin - Affordability



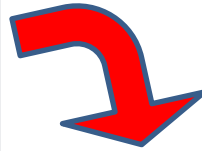
Study: Costs saved on housing 12+ miles from jobs/city center is wiped out by transportation costs Housing and Affordability Index.

Shared Mobility – car-pool/vanpool, coupled with driverless vehicles can extend transportation/transit access, reduce cost

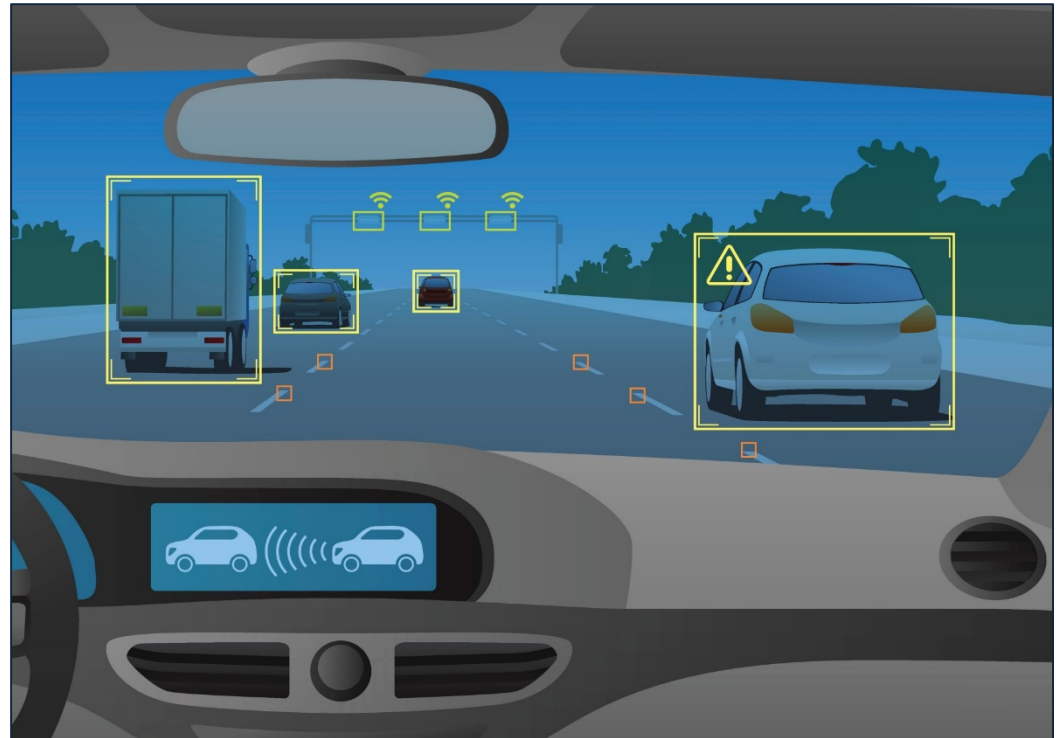
Impacts on Austin - Safety



Today: 94% of crashes caused by human error



Future: 80% of crashes can be reduced through automation



Impacts on Austin - Workforce



Potential jobs lost:
~3% of Austin jobs are
drivers

- 77% delivery/
heavy truck drivers
- 14% bus drivers
- 8% taxi/chauffeur
drivers

Next Step:

- Create New Mobility Workforce training taskforce - partner with educational institutions and businesses

Community Engagement

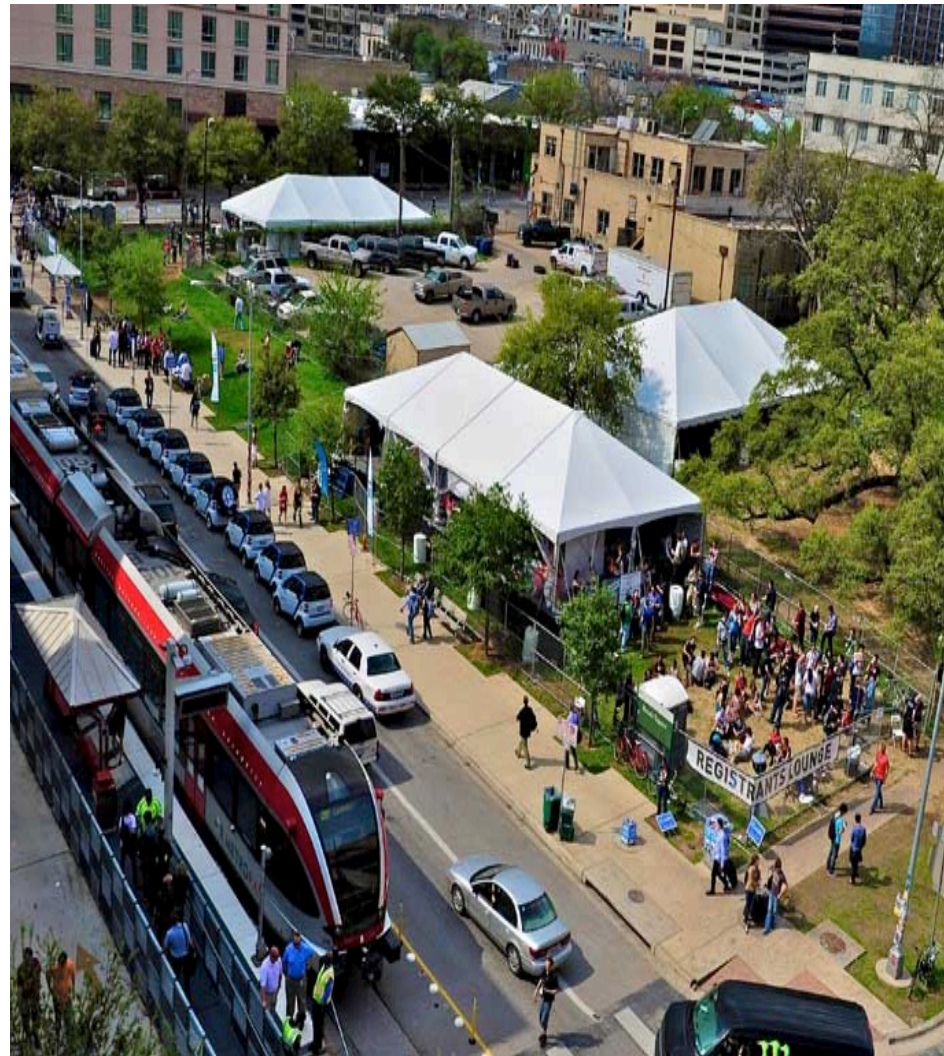


60% of Austin residents would shift away from driving alone if given better options
(2016 Mobility Talks)

New mobility options, tailored to a community and individual's needs, begins with community engagement

Next Steps

- Public review of roadmap
www.austintexas.gov/smartmobilityroadmap
- Begin dialogue with stakeholders, community
- Demonstration and partnership agreements
- Start technology pilots
- Seek funding sources, partners
- Initiate policy discussions in concert with Austin Strategic Mobility Plan



Thank You!

Questions?