Smart Mobility Roadmap

GHG Emissions: Net Zero by 2050

On-Demand Mobility

Shared Mobility: Heavy Adoption

Accessibility: Seniors, Disabled, etc.

Affordability

Congestion

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

Develop a nation-leading plan on Shared, Electric and Autonomous Vehicles and Services
Smart Mobility Inspiration

Imagine Austin
Vibrant, Livable, Connected.

Austin Energy

Connections 2025

Project Connect

Getting There Together

Rocky Mountain Institute
Technology Doesn’t Change Geometry

TODAY

40 human-driven cars

TOMORROW

40 self-driving cars
Convergence of Technologies

A Virtuous Cycle

ELECTRIC VEHICLES
- Facilitates rapid development
- Reduces Components
- Lowers cost to build and operate
- Minimizes battery range concerns
- Enables fleets of smaller cars

DRIVERLESS CARS
- Accelerates adoption
- Increases utilization and coordination
- Lowers cost to serve

CAR SHARING SERVICES

Next Steps:
- Encourage less SOVs with easy/affordable alternatives;
- More data and collaboration
Shared Mobility
“When deployed alongside fixed-route mass transit networks, shared-ride AV taxis could all but eliminate the convenience advantage of personal autos.”

Bloomberg Philanthropies-Aspen Institute

Next Steps:
• Create an Austin Shared Use Mobility Plan
• Promote shared vehicle services
Electric Vehicles

- 618 EV charging ports
- 180 locations
- 4,000+ area EV vehicles

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

EV’s = lower GHG + cost + energy use
Convenient, Clean & Affordable

600+ Ports

$4.17/mo or $2.00/hr

3 different charging models

100% Texas Wind
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

1 (A) Modern Vehicle
2 (B) Modern Plus
3 (C) Partial Autonomy
4 (D) Full Autonomy (+ human)
5 (E) Full Autonomy (no human)

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

Level 4 and 5 AV Sales

- 60% by 2035
- 15% by 2030

Percent of New Global Vehicle Sales

Electric vehicles (ICCT)

Fully autonomous vehicles (McKinsey)
**Data and Technologies**

**The Data Gap**

- Difference in amount and sophistication of data.

**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

Imagine Austin – “compact and connected” supports travel options other than just driving alone, like walking, biking, transit, taxis, TNCs, etc.
Impacts on 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 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 to reach transit can extend transportation access, reduce cost.
Impacts on Safety

Today: 94% of crashes caused by human error

Future: 80% of crashes can be reduced through automation
Future of Austin - Workforce

Austin is a software and technology leader

Next Steps:
- Create Public-Private Workgroup
- Initiate Educational Task Force
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](http://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