Task Force on Mobility

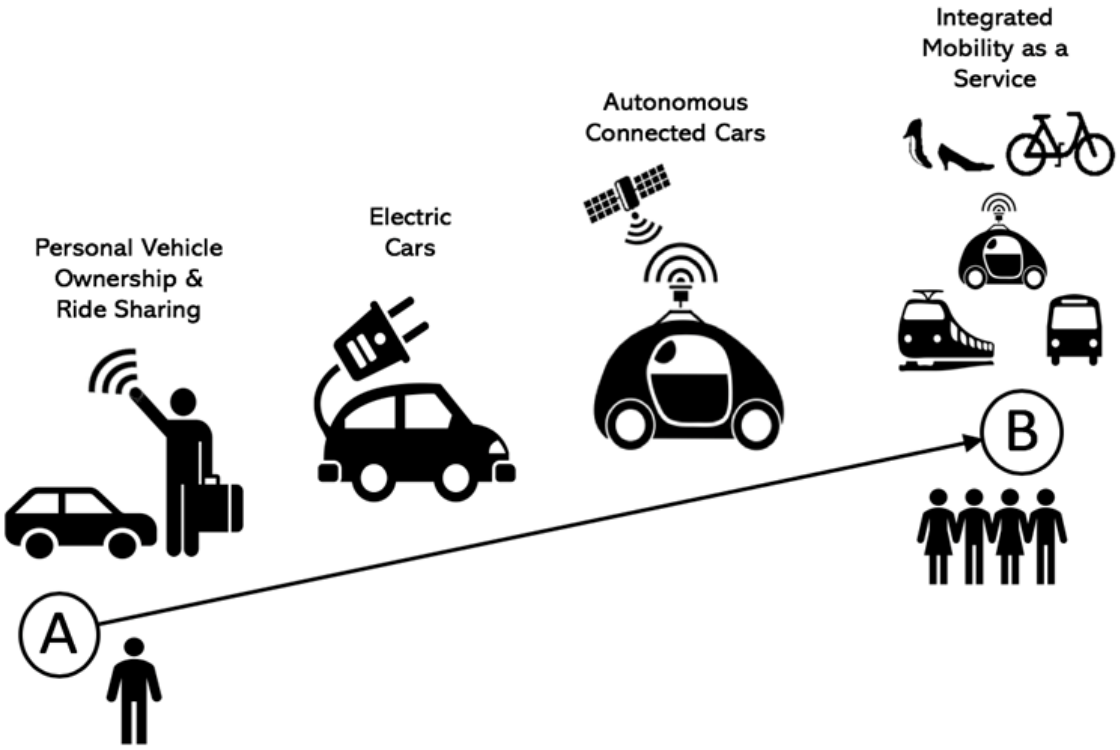
Elizabeth Kocs

University of Illinois at Chicago

Bryan Tillman

360 Energy Group

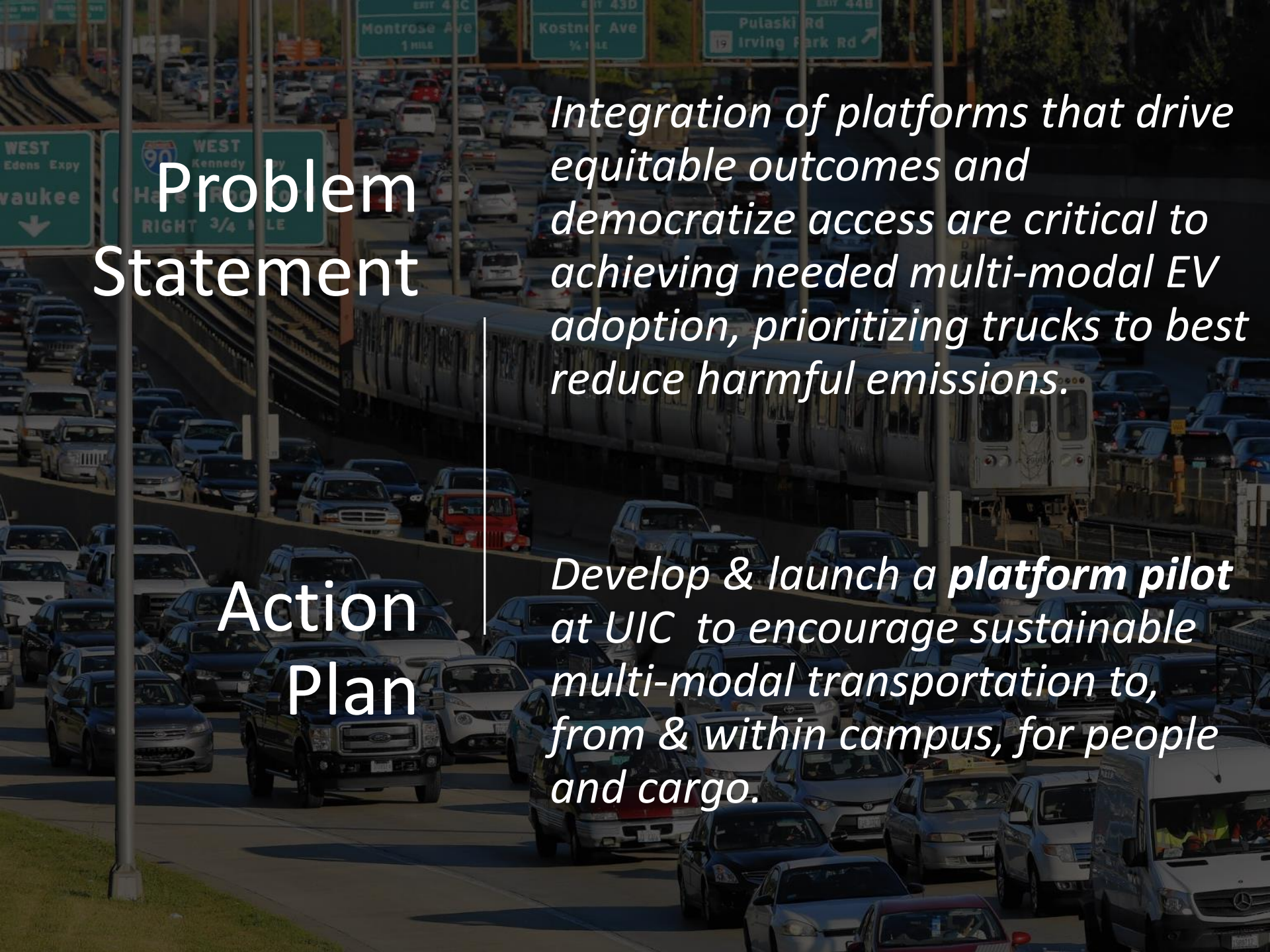
March 14, 2019



Advanced Energy CHICAGO

UIC THE UNIVERSITY OF ILLINOIS AT CHICAGO ENERGY INITIATIVE

360 ENERGY GROUP



Problem Statement

Integration of platforms that drive equitable outcomes and democratize access are critical to achieving needed multi-modal EV adoption, prioritizing trucks to best reduce harmful emissions.

Action Plan

*Develop & launch a **platform pilot** at UIC to encourage sustainable multi-modal transportation to, from & within campus, for people and cargo.*

Mobility Task Force Process & Timeline

Planning

Stakeholder Outreach and Engagement

Research and Resources

Definition

Define pilot project

Develop roll out plan

Deployment

Issue Solicitation and Award Project

Provide Summary Report

Project Scope

- Administrative Fleet Rationalization
- Moving to Daily Parking
- Resources & Pilot Ideas
- Parking Subsidies
- Marketing and Public Education

Task Force on Mobility

Elizabeth Kocs

ekocs@uic.edu

Bryan Tillman

bryan@360eg.com

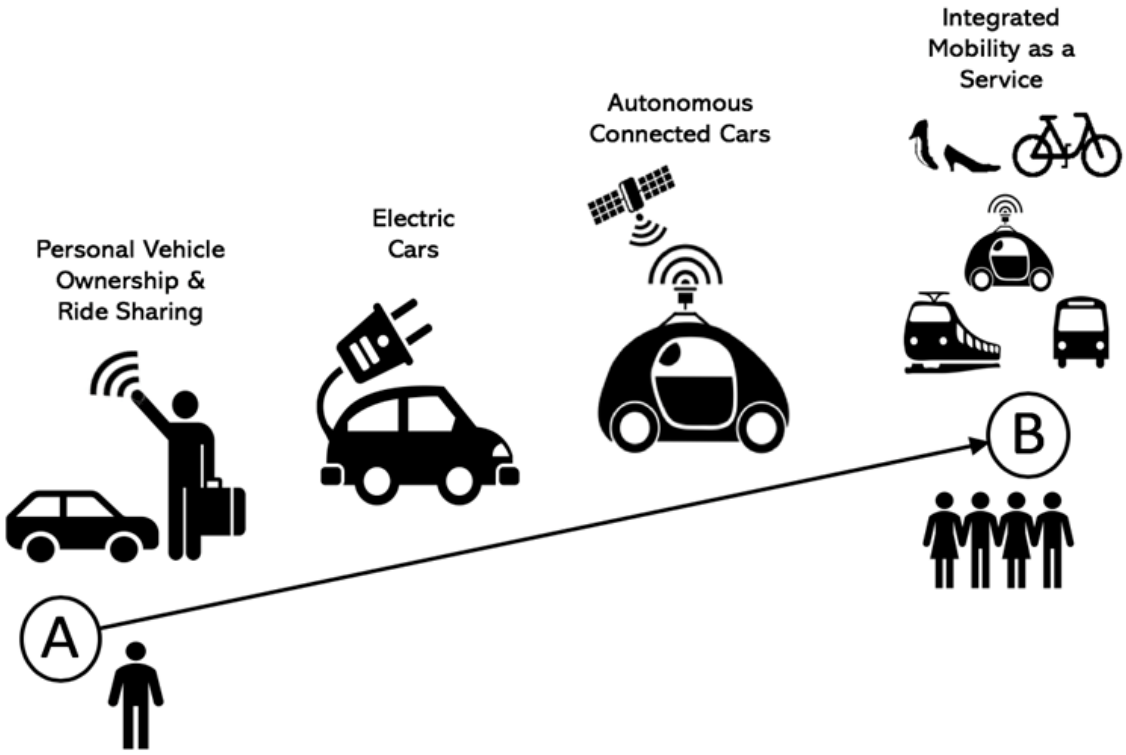
Advanced Energy CHICAGO

UIC THE UNIVERSITY OF ILLINOIS AT CHICAGO ENERGY INITIATIVE

360 ENERGY GROUP

Thank You

Appendix


Personal Vehicle Ownership & Ride Sharing
Electric Cars
Autonomous Connected Cars
Integrated Mobility as a Service
A
B

Mobility Task Force

Project Abstract

The mobility of the future is rapidly emerging through electric vehicles, driverless cars, ride-sharing, multi-modal transportation and smart traffic management. The Mobility Futures Task Force will

- Collaborate with public and private stakeholders including municipalities, research institutions, and private industry that have the intellectual and institutional resources and the convening power to address these challenges.
- Identify a 12-month program and pilot project defined by key stakeholders, which integrates key performance indicators such as GHG reductions, social equity, and safety to ensure optimal outcomes.
- Integrate findings from the Next Grid study with the work being done with the Chicago Transportation and Mobility Task Force to promote and coordinate this pilot through smart, innovative policy, regulation and business plans.

Achieving the full benefit of the mobility future for energy efficiency, public health, mitigating climate change, traveler convenience and for job and economic growth requires a thoughtful, coordinated effort to develop guiding principles and the policies and business plans that implement them.

Long term goals:

Achieving the full benefit of the mobility future for energy efficiency, public health, mitigating climate change, traveler convenience and for job and economic growth requires a thoughtful, coordinated effort to develop guiding principles and the policies and business plans that implement them. These policies and business plans range from:

- Immediate near-term needs such as designing city-wide charging infrastructure
- Long-term needs in regulating autonomous vehicles
- Integrating multi-modal solutions into an efficient and cost-efficient transportation system.

Why a Pilot Program Strategy

- Define and drive ***optimal outcomes*** by working with stakeholders
  - Use measurable KPIs → GHG, equity, safety
- ***Accelerate the benefits*** derived from the mobility transformation
  - Encourage sustainable multimodal options
- Break down industry silos by ***convening stakeholders and working together*** to advance projects
  - Demonstrate utilization of diverse assets
- Determine ***best practices*** and project feasibility before scaling to larger applications
  - Develop scalable toolkit and refine metrics

Key Components for Task Force on Mobility

Program Goals

Establish guiding principles for planning future mobility options with key stakeholders to ensure optimal outcomes.

Develop pilot projects to test concepts, evaluate feasibility, and when appropriate, bring to market.

Reduce single occupant vehicles from driving to campus

Lead Partners

Advanced Energy Group

University of Illinois at Chicago

Argonne National Laboratory

360 Energy Group

Ford Motor Company

Funding

Congestion Mitigation and Air Quality

Discovery Partners Institute

Other - TBD

Program Length

12 Months

Future pilots are possible

Potential Project Focus Areas

Next Grid Alignment

Transportation Electrification

Multi-modal integration

Parking demand strategies

Administrative fleet rationalization

Moving to daily parking

Marketing and public education

Parking subsidies

Q1 Update: Planning Phase

Research:

- Compile resources
- Capture successful examples for mobility projects that can be piloted at UIC

Stakeholder Outreach and Engagement:

- Interview & survey stakeholders to review and establish the most important key performance indicators that should be used to evaluate potential pilot projects

Opportunity, Barrier, and Issues Identification:

- Identify key opportunities, barriers and issues associated with advancing mobility solutions

Stakeholder Identification:

- Identify key stakeholders and define their respective roles in the process

Status Report:

- Generate report of results, and define the key performance indicators that will be used for program evaluation

Timeline – 3 months

- Chicago Transit Authority
- Active Transportation Alliance
- Center or Neighborhood Technology
- Chicago Department of Transportation
- Shared Use Mobility Center
- Midwest Highspeed Rail Association
- Cubic (Ventra Card)
- Ford Smart Mobility

LAS 493 Sustainable Mobility

Phase 1: Define the Pilot Project

Define the Pilot Project:

- Define typical target areas and processes that would be employed to assist stakeholders in developing and deploying a pilot project
- Identify key barriers and mitigation strategies
- Review findings with stakeholders

Rollout Plan:

- Define deployment plan to roll out the pilot project on the UIC campus.
- Define program costs, timeline goals and resource requirements for stakeholders associated with deployment

Timeline – 3 months

Phase 2: Deployment

Pilot Project:

- Gain approval form university
- Define acceptance criteria

Release Plan to Project Manager:

- Provide plan to project manager
- Host project meetings, scoping visits, etc.

Pilot Partner Selection:

- Select any partners needed to advance the projects

Summary Report:

- Provide a summary report at the AEG Q4 2019 Stakeholder Breakfast

Timeline – 6 Months

Funding Sources to Expand Efforts

Grants and Foundations

- Congestion Mitigation and Air Quality

Partners & Stakeholders

- Seed funding for mobility projects
- Private industry

Utilities

- Transportation electrification

Mobility Task Force Core Team

Elizabeth Kocs
- UIC Energy Initiative

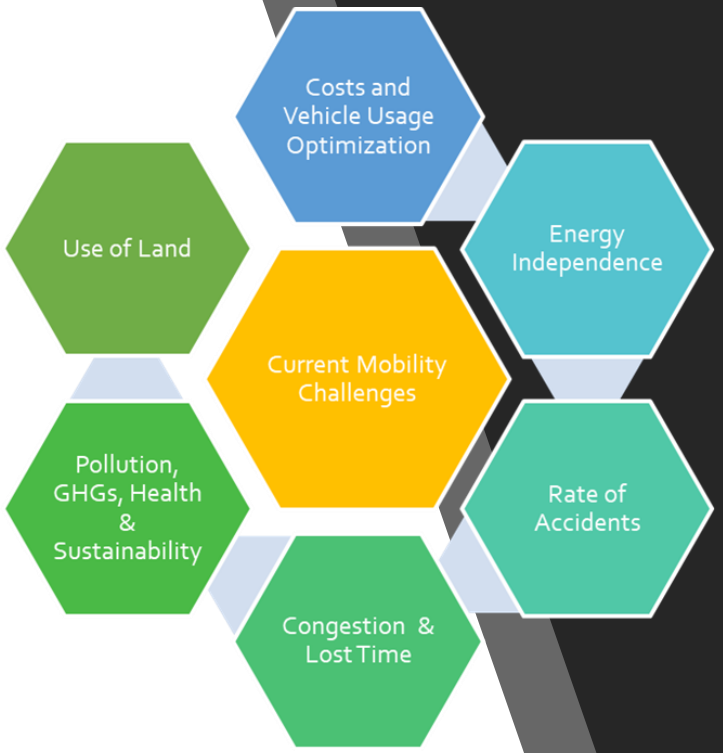
Bryan Tillman
- 360 Energy Group

Franny Ritchie
- UIC Capital Program

Vig Krishnamurthy
- Ford Mobility Solutions

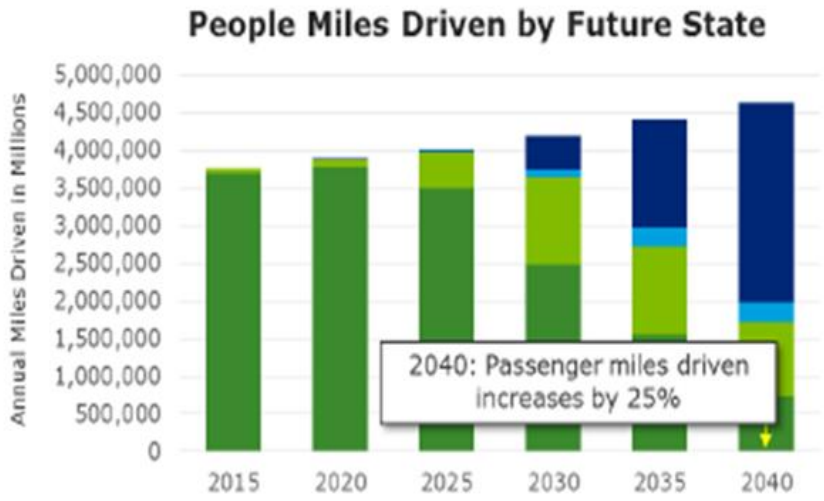
Ahmad Nafahk
- UIC Fellow

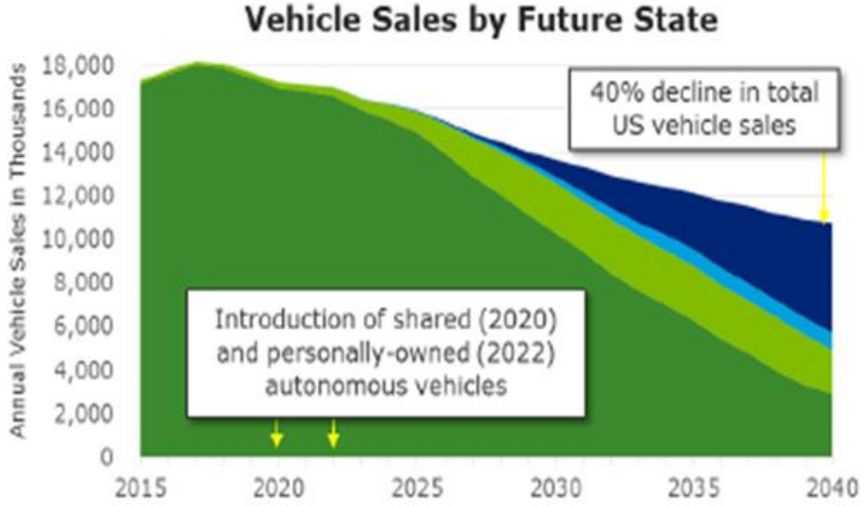
Mobility Challenges

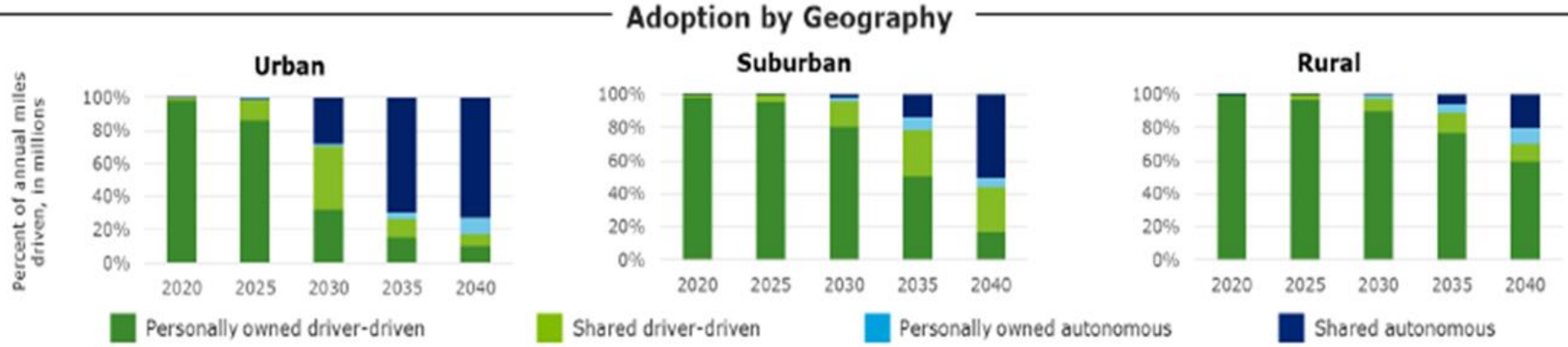


- Current Mobility System
  - 86% of Americans commute by car
- Mobility Challenges
  - Expensive
    - 2nd highest expense for U.S. families
      - Average total cost to own is $9,000 a year
  - Underutilized
    - Vehicles sit idle 95% of the time
  - Energy Independence
    - Imported oil causes security issues
  - Accidents
    - Automobile accidents kill over 1,000,000 people each year, 37,000 in the US alone
  - Congestion
    - According to a study conducted by the Texas A&M Transportation Institute Americans waste 42 hours a year stuck in traffic
      - That cost the average motorist $960 in wasted time and fuel
  - Pollution
    - The American Lung Association estimates that for every gallon of gas consumed there is a $1.15 in health and climate change costs.
  - Poor use of Land
    - We have over 1 Billion parking spaces in the US

Mobility Trends







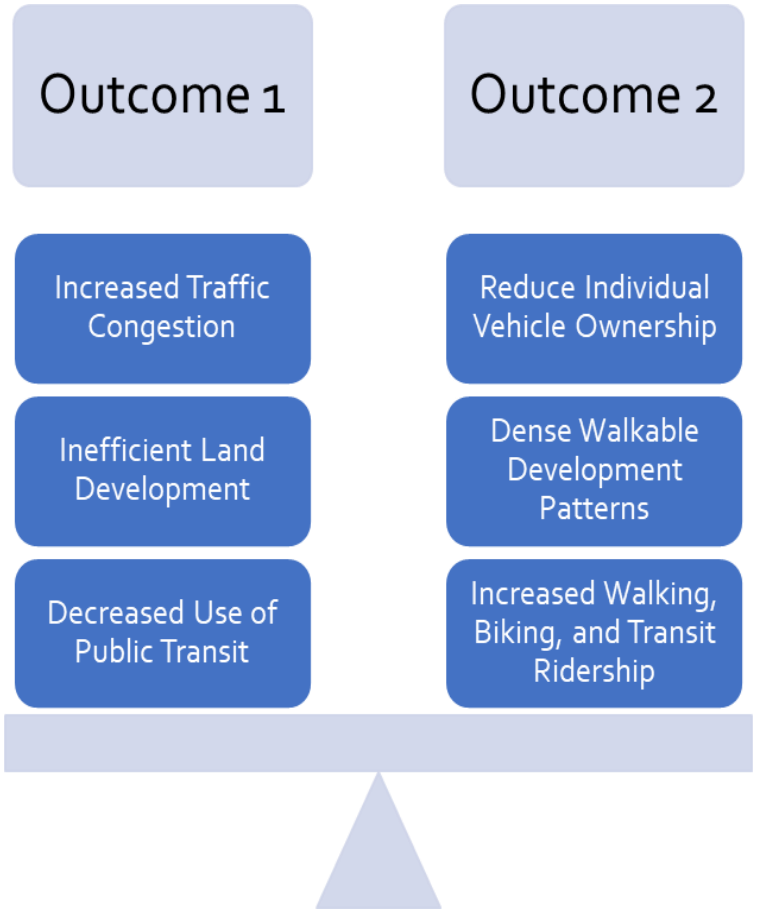
Source: Deloitte analysis

Mobility Planning

“Electric mobility is like an upside-down ketchup bottle. You know tha at some point something will come out. You don’t know when, but onc it comes, it really does. Then it’s ba if you're not prepared.”

~Dr. Dieter Zetsche, CEO, Mercedes-Benz

Mobility Planning
CMAP – On To 2050



Program Partners