

CREATING THE MOBILITY INNOVATION ECOSYSTEM

The State and Private Sector Role

March 28 2025 Presentation by
Stephanie Pollack and Jamey Tesler

AGENDA

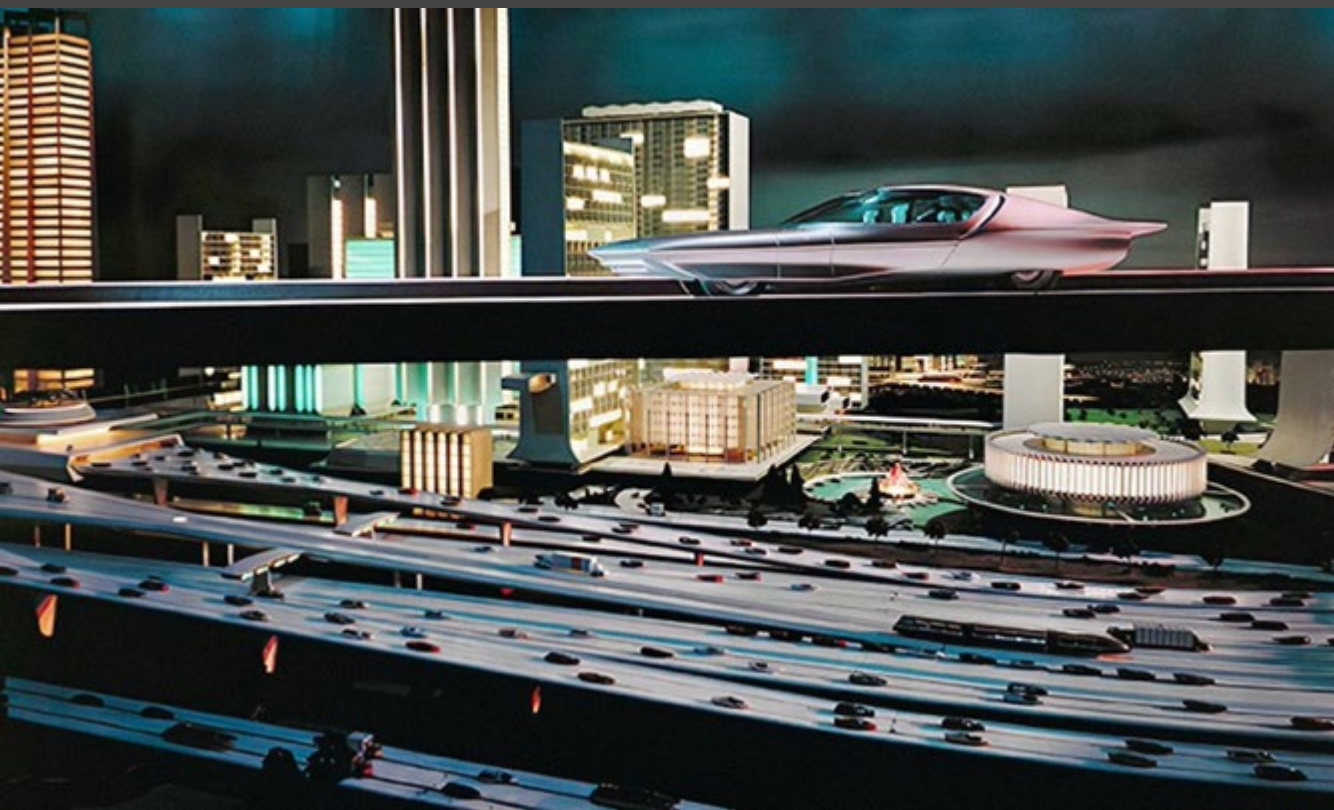
Overview: What is the mobility innovation ecosystem?

State Role: State and local government are critical actors

Innovation Ecosystem: Learning lessons from success in other sectors

Conclusions: Partnering for mobility innovation





GM's Futurama Exhibit at the
1964 World's Fair Imagines ... 2024

OVERVIEW

What is the mobility
innovation ecosystem?

We may not need flying cars in 2025, but we do need a “mobility ecosystem” with integrated options for moving people and goods safely and sustainably



Translation: Bicycle Street – Auto is Guest



Brommobielen (moped or micro cars)



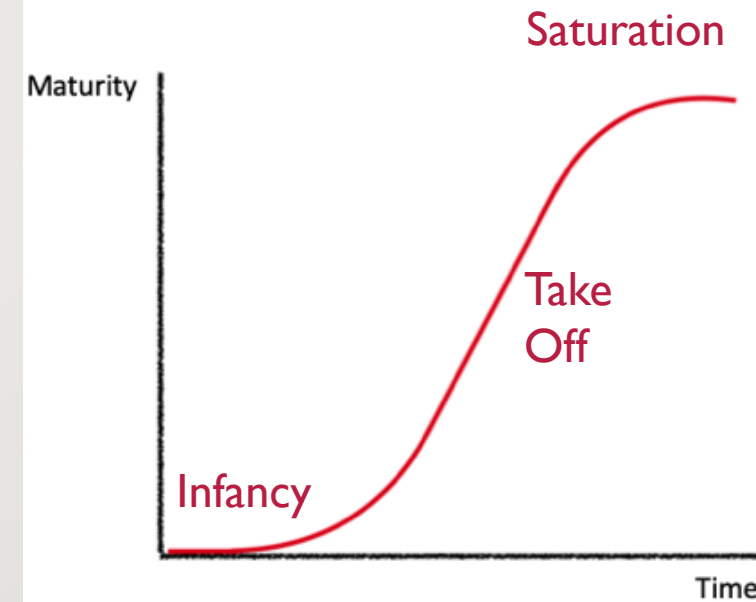
Vertrek	Naar/Via	Spoor
07:56	Arnhem Centraal via Vaartsche Rijn, Ede-Wageningen	15
07:58	Den Haag Centraal via Gouda	9
07:59	Alkmaar via Amstel, Amsterdam C., Sloterdijk, Zaandam	7
08:03	Maastricht via 's-Hertogenbosch, Eindhoven C., Roermond	15
08:03	Rotterdam Centraal via Gouda, Alexander	12
08:04	Leiden Centraal via Leidsche Rijn, Woerden, Alphen a/d Rijn	20
08:06	Baarn via Overvecht, Bilthoven, Den Dolder, Soest	3

All photos taken by Stephanie Pollack in the Netherlands in March 2025

IN THE US, INNOVATION IS CHANGING TRANSPORTATION ... BUT NOT COMPREHENSIVELY OR FAST ENOUGH



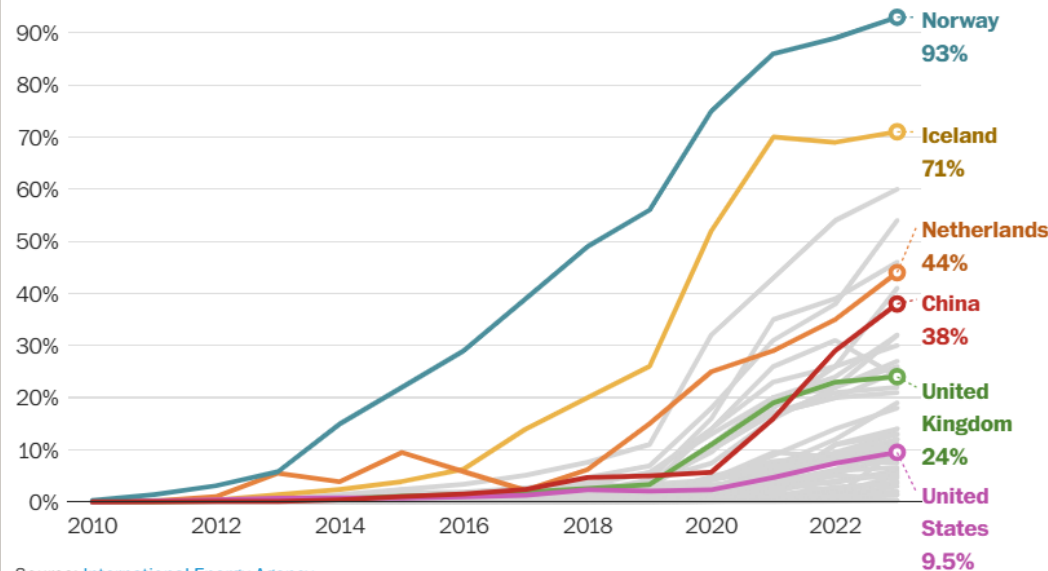
IS MOBILITY TECHNOLOGY IN THE US TAKING OFF ON THE INNOVATION S-CURVE – OR FALLING OFF?



For many mobility technologies, we are still in the “flat” part of the curve

Most countries follow an 'S-curve' of EV adoption

EV and plug-in hybrid share of new car sales, by country

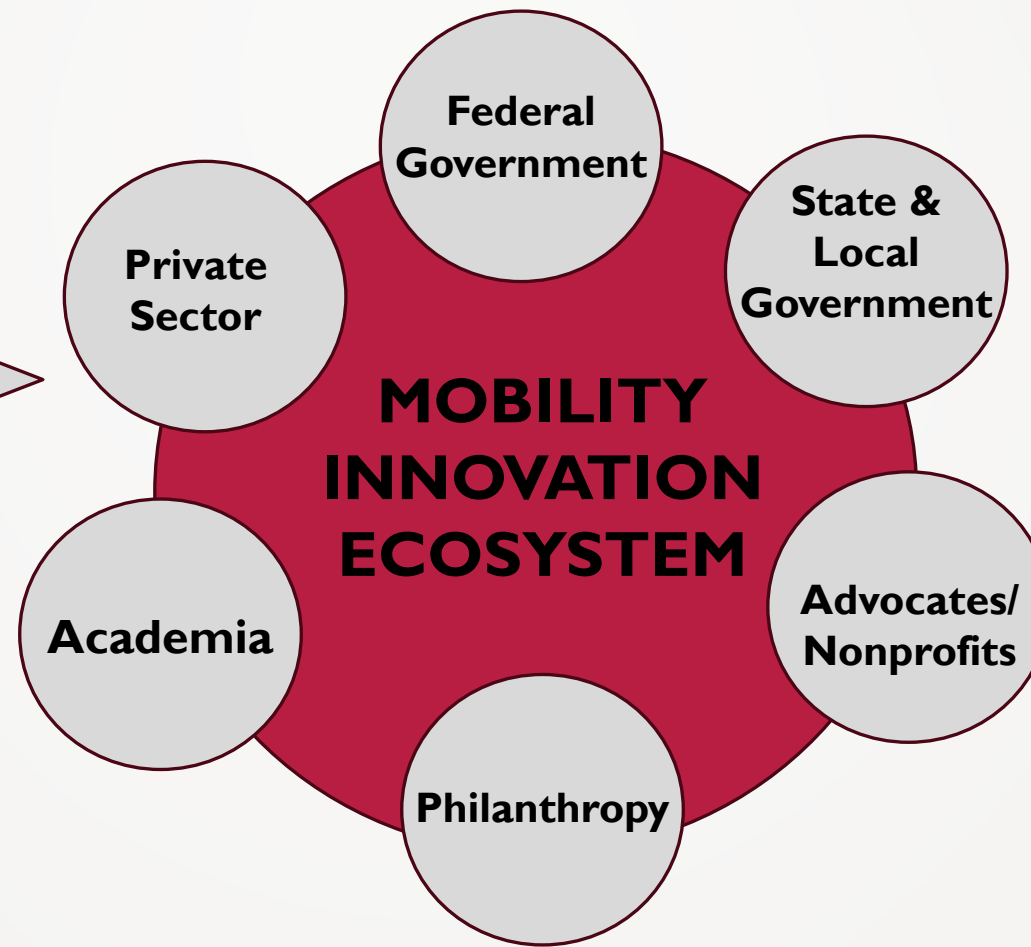


We need to move past policies and pilots and get onto the steep part of the curve for technologies like

- Electrification
- Autonomy
- Cross-infrastructure communication (V2X)
- Operating and ownership models
- Advanced air mobility
- Infrastructure for newer modes
- Advanced materials and metals
- E-Bikes and other micromobility

Source:
Washington
Post, 20
March
2025

- Scaling Startups
- Established Companies
- Venture capital
- Incubators/ Accelerators
- Engineering and consulting firms



- State DOTs (Departments of Transportation)
- Other state agencies
- Transit agencies
- Local public works dep'ts
- Counties
- MPOs (Metro Planning Organizations)
- Tribal nations

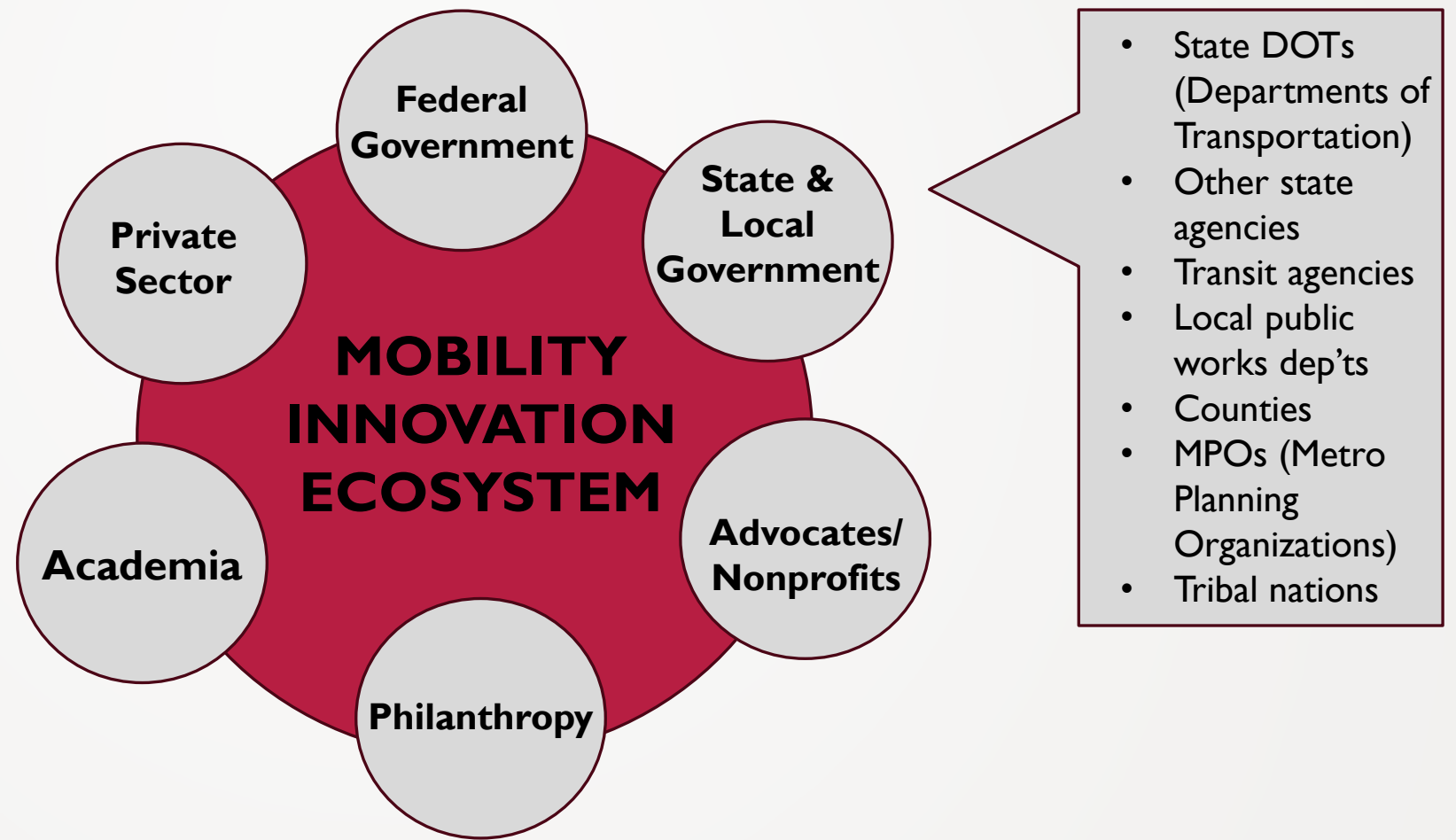
TODAY WE ARE FOCUSING ON THE STATE/LOCAL AND PRIVATE SECTOR COMPONENTS OF THE ECOSYSTEM



STATE ROLE

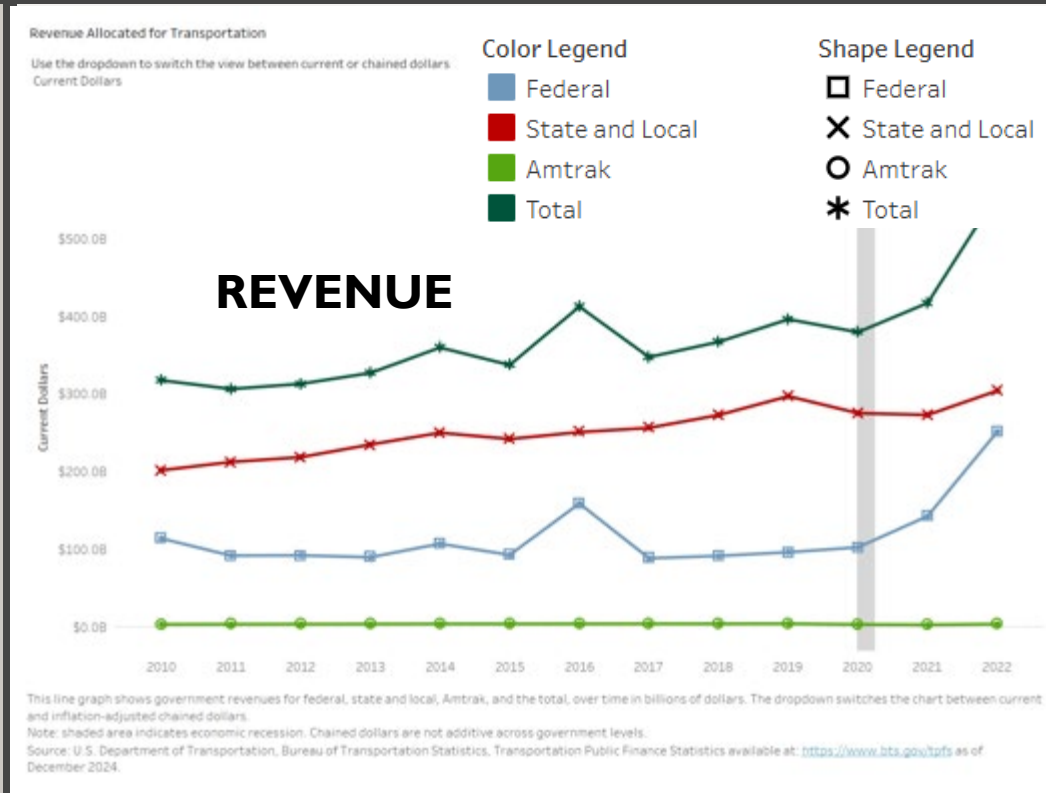
State and local government
are critical actors

Graphic from Smart Growth America

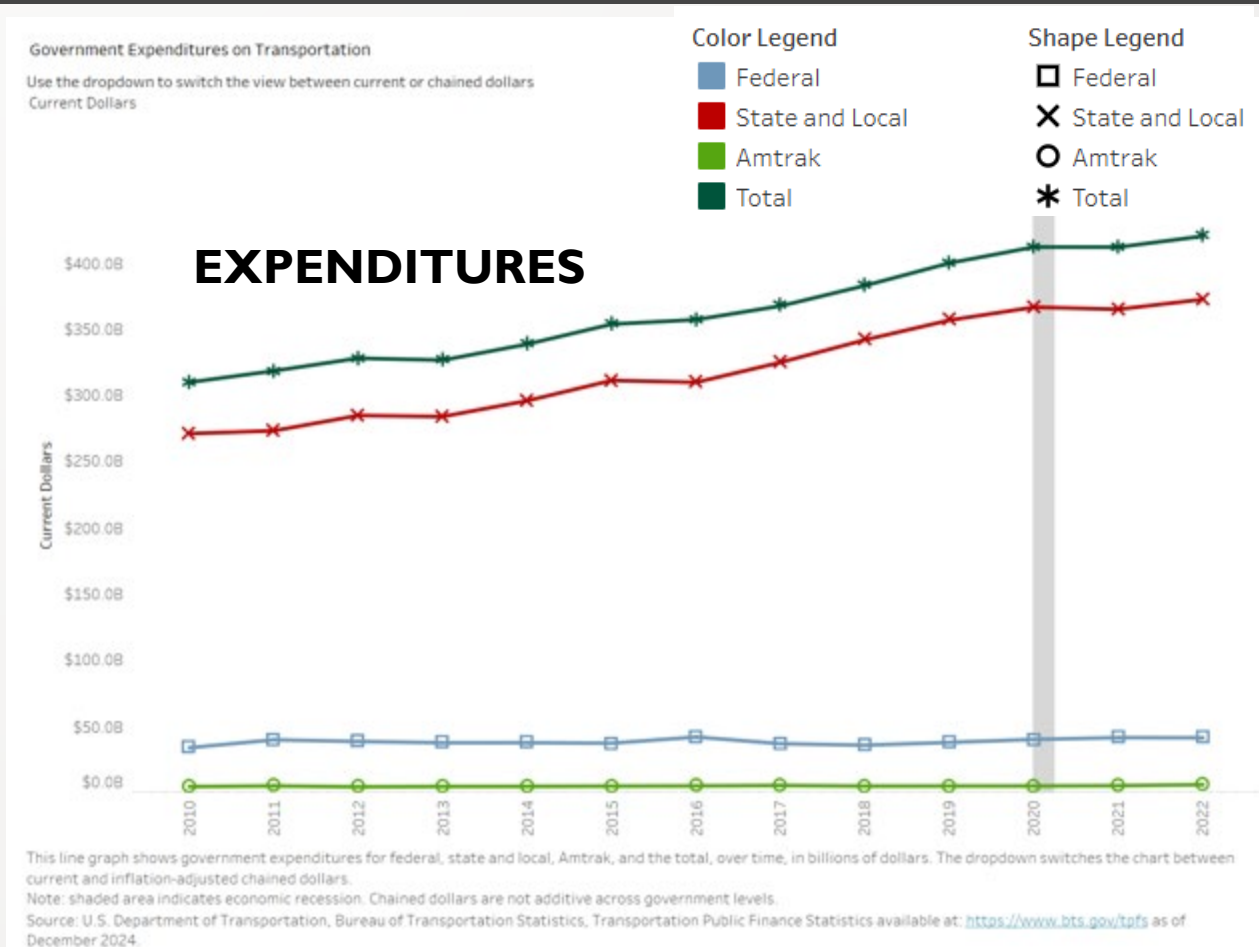


FIRST, WE EXPLORE THE CRITICAL ROLE OF STATE AND LOCAL TRANSPORTATION AGENCIES

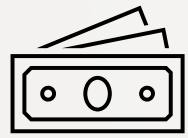
MOST GOVERNMENT SPENDING ON TRANSPORTATION COMES FROM STATE AND LOCAL GOVERNMENT



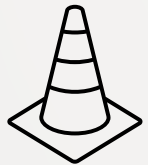
Source: Bureau of Transportation Statistics, Transportation Public Finance Statistics (downloaded March 2025)



IN FACT, STATE AND LOCAL GOVERNMENTS ALREADY PLAY A LEADING ROLE WITH RESPECT TO



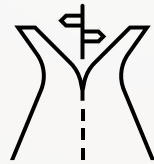
Raising revenue



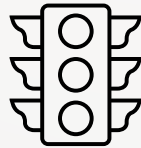
Safety



Project
Construction



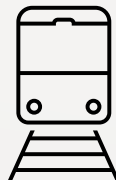
Ownership,
planning for and



maintenance of



many types of
transportation



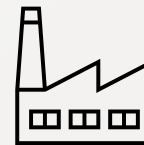
infrastructure



Zoning



Land Use



Economic
Development

STATE AND LOCAL GOVERNMENT ARE TAKING ON NEW ROLES IN THE EVOLVING MOBILITY ECOSYSTEM

Planning, building and owning/maintaining safe **multimodal infrastructure**



Planning, building and owning or partnering with owners of **charging and sustainable fueling infrastructure**



Understanding, researching, piloting and scaling **new technologies** to better manage transportation operations



To support an increasingly **multimodal** mobility ecosystem, state and local governments will have to innovate to build out the necessary infrastructure to ensure the safety of multiple users travelling in different modes and at different speeds, including

... creating safe travel corridors for all users



... and managing limited curb space effectively



To support an increasingly **electrified and sustainable** mobility ecosystem, state and local governments will have to innovate to build out the necessary charging and fueling infrastructure, including ...

... charging infrastructure for cars



... and for transit buses



... and fueling for airports and airplanes



To support an increasingly **technology-enabled** mobility ecosystem, state and local governments will have to innovate to improve safe operation of an increasingly complex and congested system, using technologies potentially including ...

... transit signal priority and Artificial Intelligence for bus routing



... Vehicle-to-Everything (V2X) technology



... intelligent traffic signals



... and autonomous vehicles



EDC-7 (2023-2024) Innovations include Strategic Workforce Development, Next Generation Traffic Incident Management, Enhancing Performance with Internally Cured Concrete and Nighttime Visibility for Safety

HOW CAN WE ACCELERATE INNOVATION AT THE STATE AND LOCAL LEVEL? ONE MODEL IS FHWA'S EVERY DAY COUNTS

BUILDING INNOVATION CAPACITY

LESSONS FROM FHWA'S "EVERY DAY COUNTS"

01

The program works best when there is a best practice that at least a handful of states are using

02

States actively choose an innovation and commit to participate for two years

03

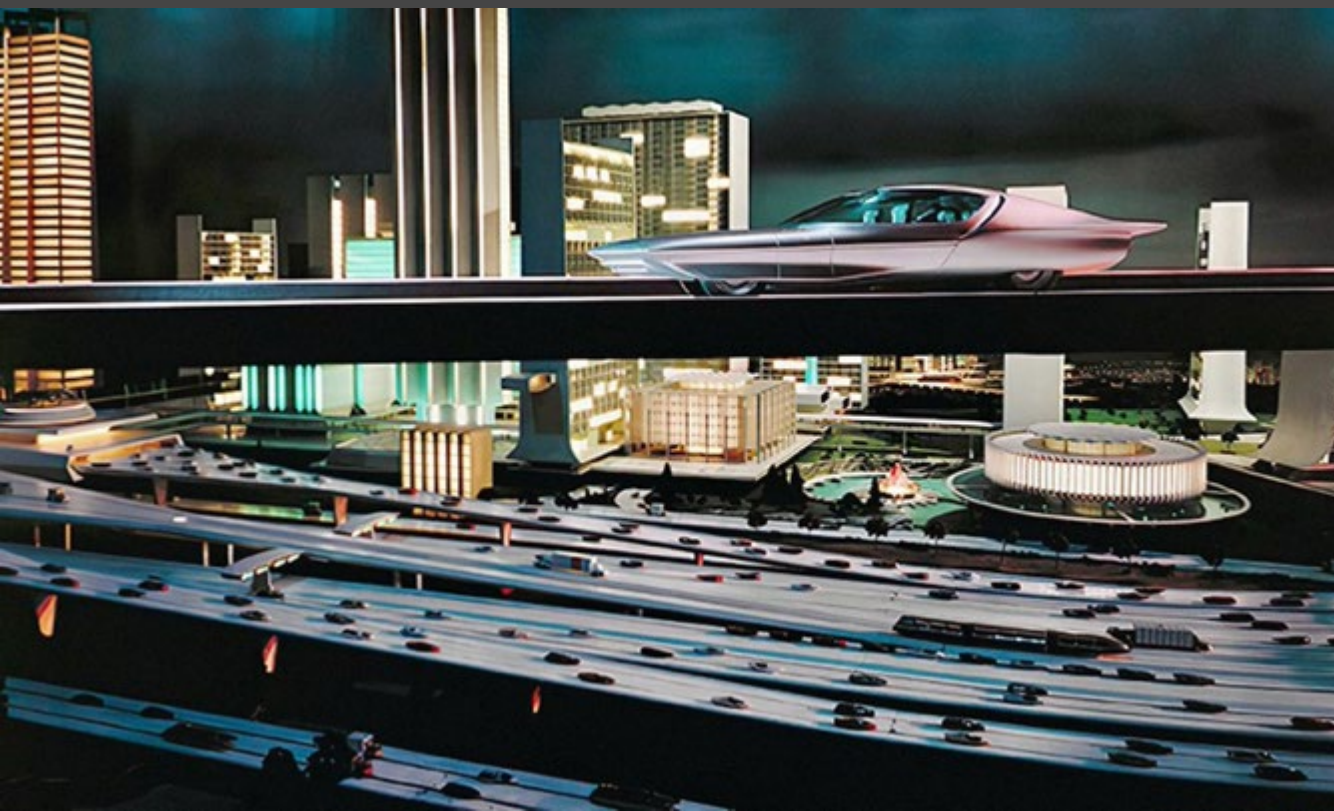
States prefer to learn from peers, rather than other types of experts

04

The program increases the number of states using the featured innovation

05

Materials remain available to allow more states to adopt the innovation later on

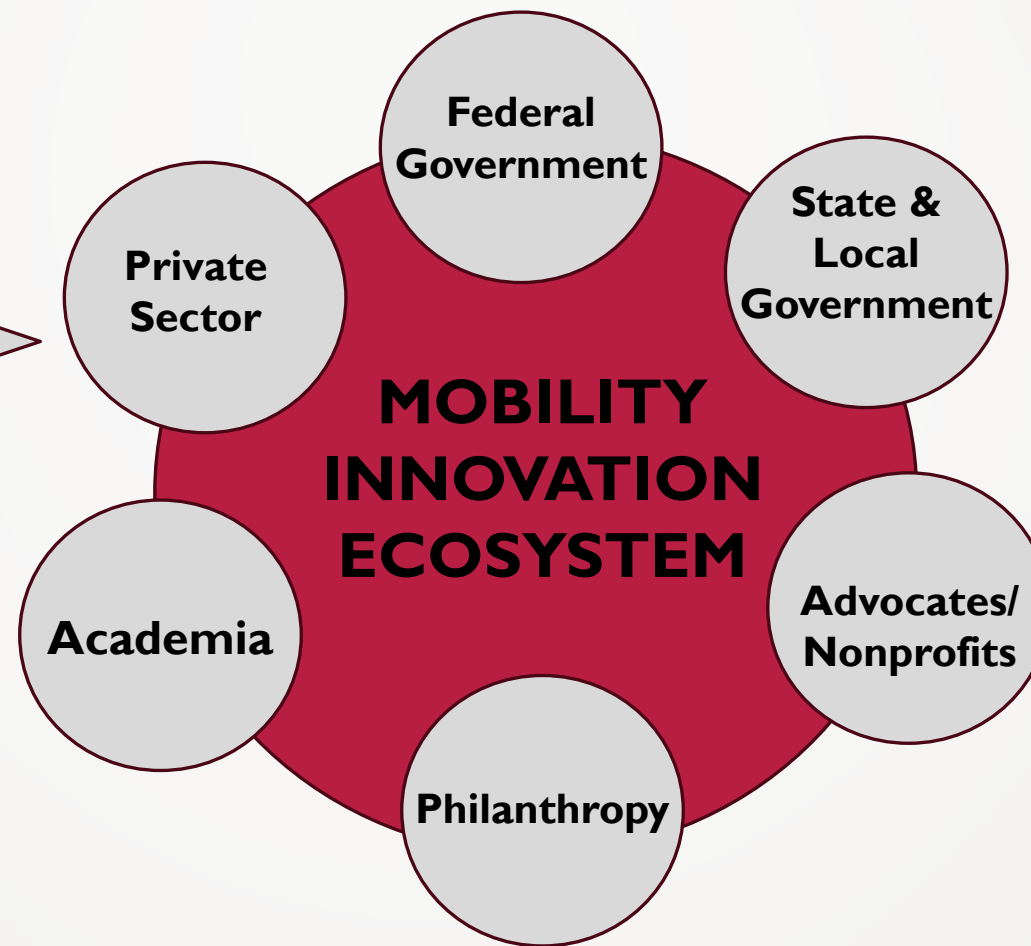


GM's Futurama Exhibit at the
1964 World's Fair Imagines ... 2024

INNOVATION ECOSYSTEM

Learning lessons from success
in other sectors

- Scaling Startups
- Established Companies
- Venture capital
- Incubators/ Accelerators
- Engineering and consulting firms



NEXT, WE EXPLORE HOW A FUNCTIONING MOBILITY ECOSYSTEM ENGAGES THE PRIVATE SECTOR

BUILDING INNOVATION CAPACITY

LESSONS FROM THE LIFE SCIENCES SECTOR

01

**Things
don't go
as
planned**

02

**People
and
talent
AND
PROXI-
MITY
matter**

03

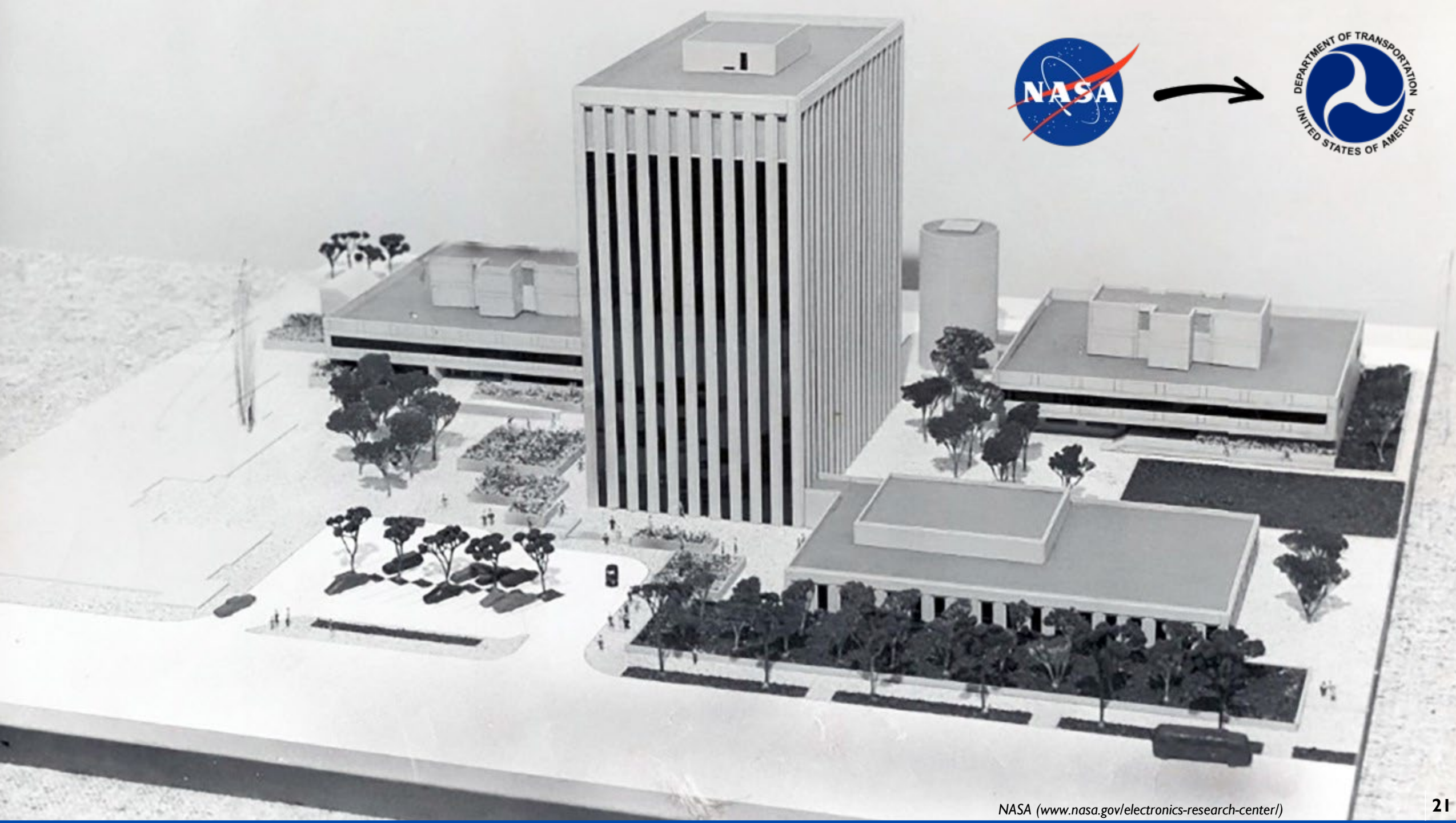
**A clear
and
predict-
able
permit-
ting
regime
for R&D
is vital**

04

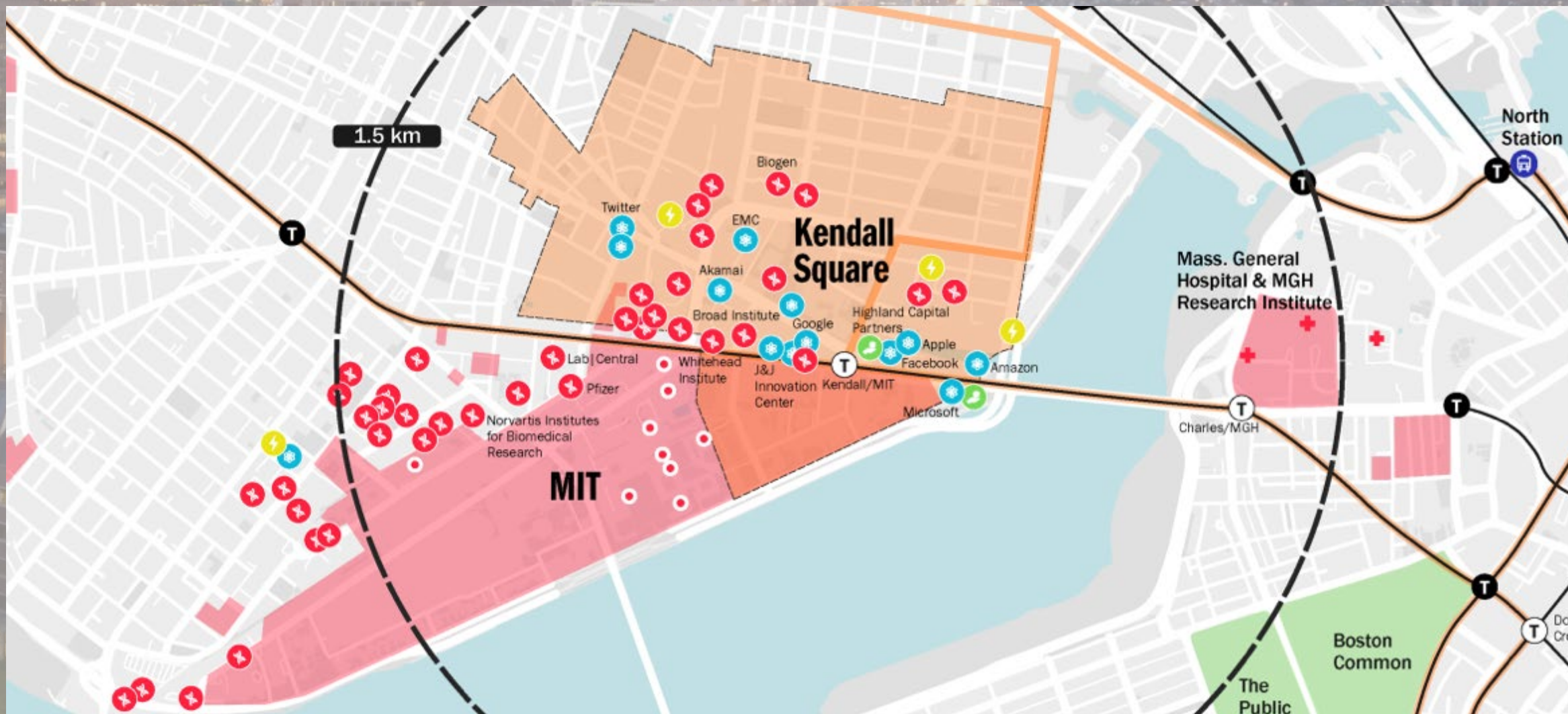
**Public
sector
leader-
ship and
invest-
ment is
needed**

05

**Industry
can't do
it alone**







Source: Hassell Studio

Kendall Square – Density of Life Sciences Cluster

3

PREDICTABLE PERMITTING IS VITAL



*"New City Council," photo by Ed Pacheco
Cambridge Historical Commission Photo Morgue Collection
Digital Commonwealth Massachusetts Collections Online*



THE CAMBRIDGE MODEL BY SAM LIPSON

How public oversight of biotech is good for everyone — even business

While it is generally understood that infectious organisms pose a health risk to researchers, and perhaps to those with whom they are in contact, public concern about the immediate public health consequences of scientific research has a short history in the United States. There is a long tradition of non-intervention — if not always trust — in scientific endeavors. Until the regulation of gene-splicing experiments in the mid-1970s, scientific research in the U.S. had never been subjected to local, state or federal law.

At that time, two major dynamics — shifts in public trust and startling advances in molecular biology — combined to change the public's perception of biology. Rising concerns over biotechnology's capacity to cause profound and welcome changes in human affairs and the environment spurred demands for science to be held accountable to the public. This new skepticism was further fueled by real and perceived academic arrogance towards public accountability, and by public recognition that no one could honestly answer many of the questions being asked about the potential consequences of new genetic technologies.

While the greatest breaches of public trust were associated with the research and testing of biological and nuclear weapons by the national defense establishment, the medical community had also been implicated in secretive and unethical practices. As research involving human experimentation on prison inmates, people with disabilities, racial minorities, and the public-at-large came to light in the immediate post-Watergate era, many citizens found little reason to accept official reassurances about technologies capable of altering DNA itself. There was a deepening suspicion that real risks posed by advances in science and technology were not being accurately represented to the public.

In the 1960s and 1970s, revolutionary advances increased scientists' ability to isolate, characterize and alter the genomes of bacteria and other organisms, and it became increasingly clear that this knowledge could be widely applied before its consequences were well understood. In 1975, an historic conference took place at the Asilomar Conference Center in Monterey, California, at which molecular biologists discussed the scientific, public health and ethical consequences of new genetic technologies. Among the leading institutions at which this work was being pursued were Harvard and MIT — both located within Cambridge, Massachusetts, one of the most densely populated communities in the country.

While the Asilomar Conference did not result in a consensus even among those most equipped to grasp the

science, agreements were made to limit some work thought to be unusually risky, and it was understood that some broad policies and protocols were needed to address the risks and uncertainties posed by this work. Soon after Asilomar, the National Institutes of Health (NIH) assembled a panel of researchers to develop a set of guidelines for research involving recombinant DNA, though even this protocol document was soon subject to further debate and change. In 1976, in Cambridge, even before the release of the NIH Guidelines on Research Involving Recombinant DNA Molecules (henceforth the NIH Guidelines), events began to unfold that led to a series of high-profile, nationally reported public debates and eventually to the country's first regulations involving genetic research. One concern raised in the course of this historic public debate was whether it was appropriate for guidelines to be developed by a research agency composed primarily of those most likely to identify with — or even be associated with — investigators undertaking the research. Further concerns raised

EXCERPTS FROM THE CAMBRIDGE RDNA ORDINANCE

Section 8.20.010 Purpose.

All use of recombinant DNA (rDNA) in the City shall be undertaken only in strict conformity with the guidelines set out in Section 8.20.020, the other requirements of this chapter and health regulations promulgated by the Cambridge Commissioner of Health and Hospitals (the Commissioner). (Ord. 1148 (part), 1993)

Section 8.20.040 Cambridge Biosafety Committee — Duties and Responsibilities.

The responsibilities of the CBC shall include:

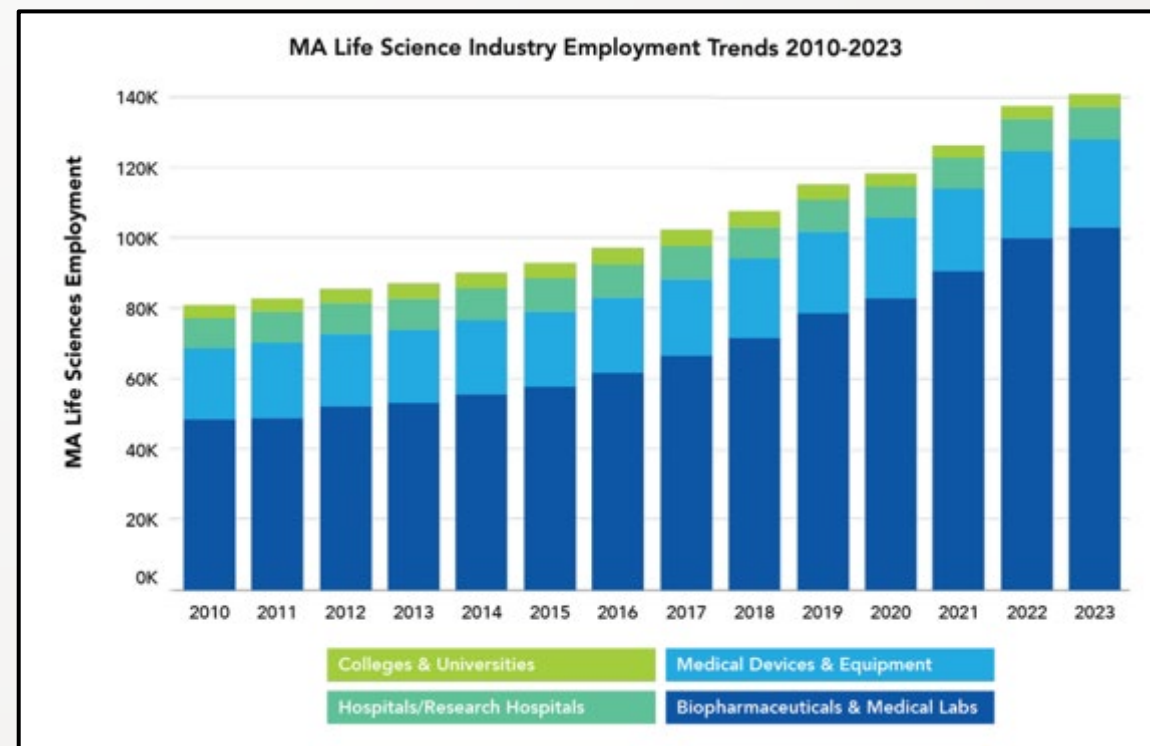
- Establishing policies, procedures and criteria to aid in the implementation of this chapter;
- Determining the manner in which permit holders make reports or applications to the CBC, and the type of information required in such reports or applications. Reviewing reports, applications and recommendations by the Institutional Biosafety Committees (IBC) and approving them where appropriate. Carrying out site visits to permitted facilities;
- Reviewing manuals and worker training programs, approving health-safety programs and monitoring the procedures required by this chapter;
- Developing a procedure for persons to report to the CBC violations of this chapter, the guidelines or any health regulation.

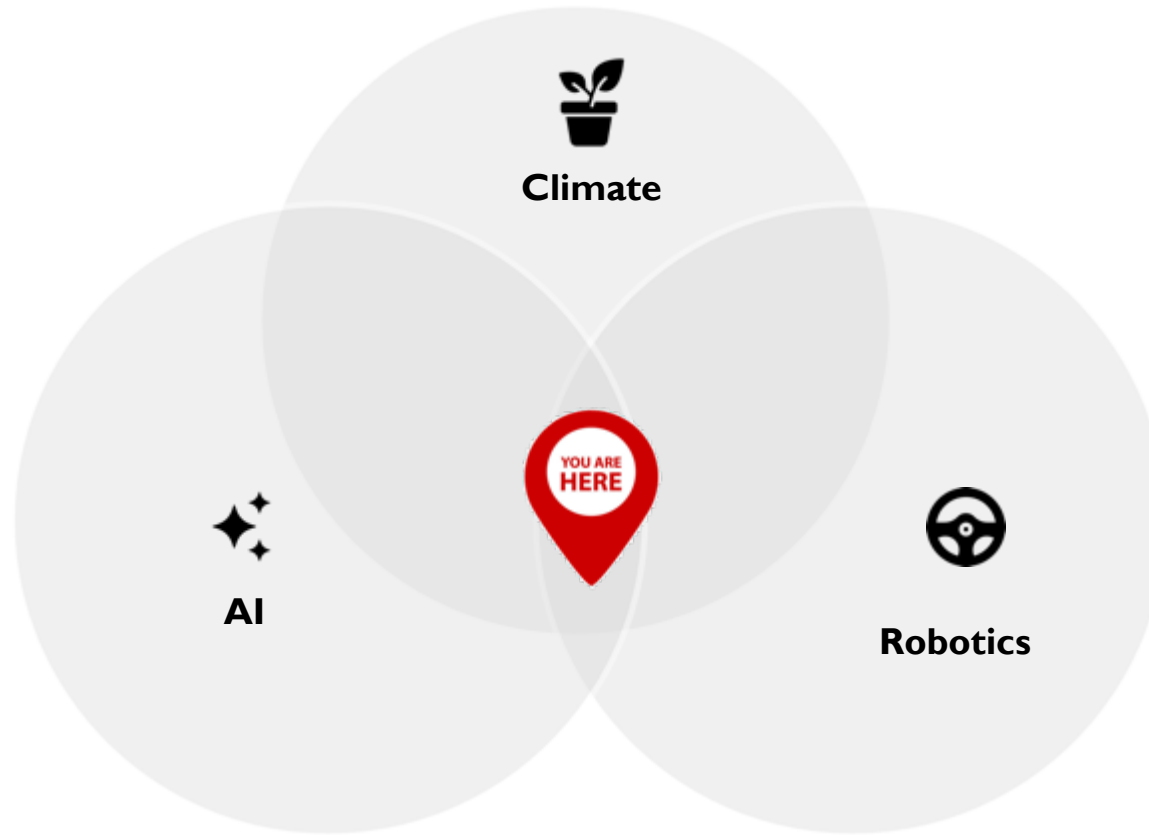
VOLUME 16 NUMBER 5

GENEWATCH 7

5

INDUSTRY CAN'T DO IT ALONE





**MOBILITY INNOVATION IS AT THE CENTER OF THREE
IMPORTANT GROWTH SECTORS**



Battery



EVS



Software



Fleet/Sharing



Autonomy



Maritime



**Sustainable
Aviation**

**ANOTHER WAY TO IMAGINE THE MANY VERTICALS
OF THE MOBILITY SECTOR**

APPLYING LESSONS LEARNED

EXAMPLE OF THE BATTERY SECTOR



Focus on People

ACTION: Convene a Battery Roundtable and ongoing social/networking opportunities



Create Permitting Process

ACTION: Clean Energy Permitting Reform Law



Identify R&D Sites

ACTION: Launch partnership to create a test/demonstration and central innovation hub

Opportunity: Shared R&D pilot manufacturing and testing.



Public Leadership

ACTION: state investment in shared sector needs and infrastructure

UNDER DEVELOPMENT NY STATE - ANOTHER EXAMPLE OF SHARED BATTERY FACILITY

[Coalition](#)[Projects](#)[Workforce](#)[Battery Academy](#)[For Startups](#)[Partner With Us](#)[Press](#)[News](#)

A look inside Battery-NY, a first-of-its-kind development and prototyping facility

By Katie Liu

The flagship project of Binghamton-led initiatives New Energy New York and the Upstate New York Energy Engine aims to begin operations in 2026.

At first glance, the building just off the highway might seem like an empty warehouse. Voices don't echo here due to the constant humming inside, and some of the only furniture is a stray desk and a sign declaring "safety starts with you" in the back. A signature green banner hails its future name: [Battery-NY](#).

By 2026, this blank space is set to be transformed into a bustling, first-of-its-kind facility for prototyping and developing batteries. From grid storage to automotive power to aerospace and outer space, the facility is designed to support a variety of different battery cell formats and chemistries.



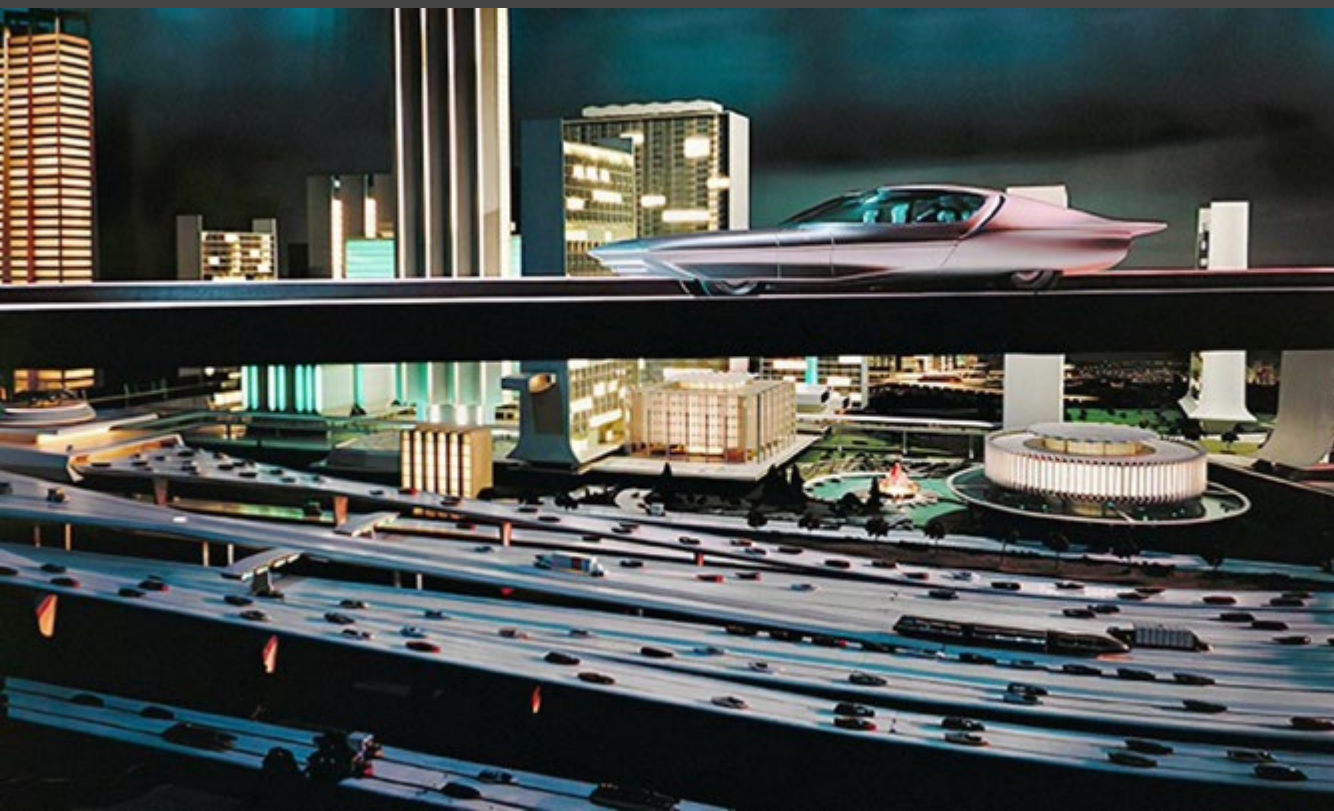
"What's really key to what we're doing is that we cover that wide base, and we also give our customers the potential to not only trial existing methods but also develop new methods that might be used in battery manufacturing in the future," Battery-NY Executive Director Paul Malliband said.



BATTERY INNOVATION CENTER IN INDIANA

LESSONS APPLIED TO MOBILITY INNOVATION

- NEED TO IDENTIFY AND INVEST COLLECTIVELY IN EARLY STAGE R&D SPACES AND PLACES (DIFFERS FROM BATTERY VS. AUTONOMY VS. ELECTRIFICATION VS. MICROMOBILITY)
- ENABLE INNOVATORS AND IDEAS, DON'T SET POLICY PARAMETERS TOO EARLY
- NEW GRANT MAKING MODELS (ACADEMIA/ PHILANTHROPY) HAVE THE POTENTIAL FOR ADVANCED MARKET COMMITMENT, CHALLENGES AND OTHER INVENTIVE WAYS TO UNLEASH INNOVATION AND MATCH PRIVATE FUNDING MECHANISMS

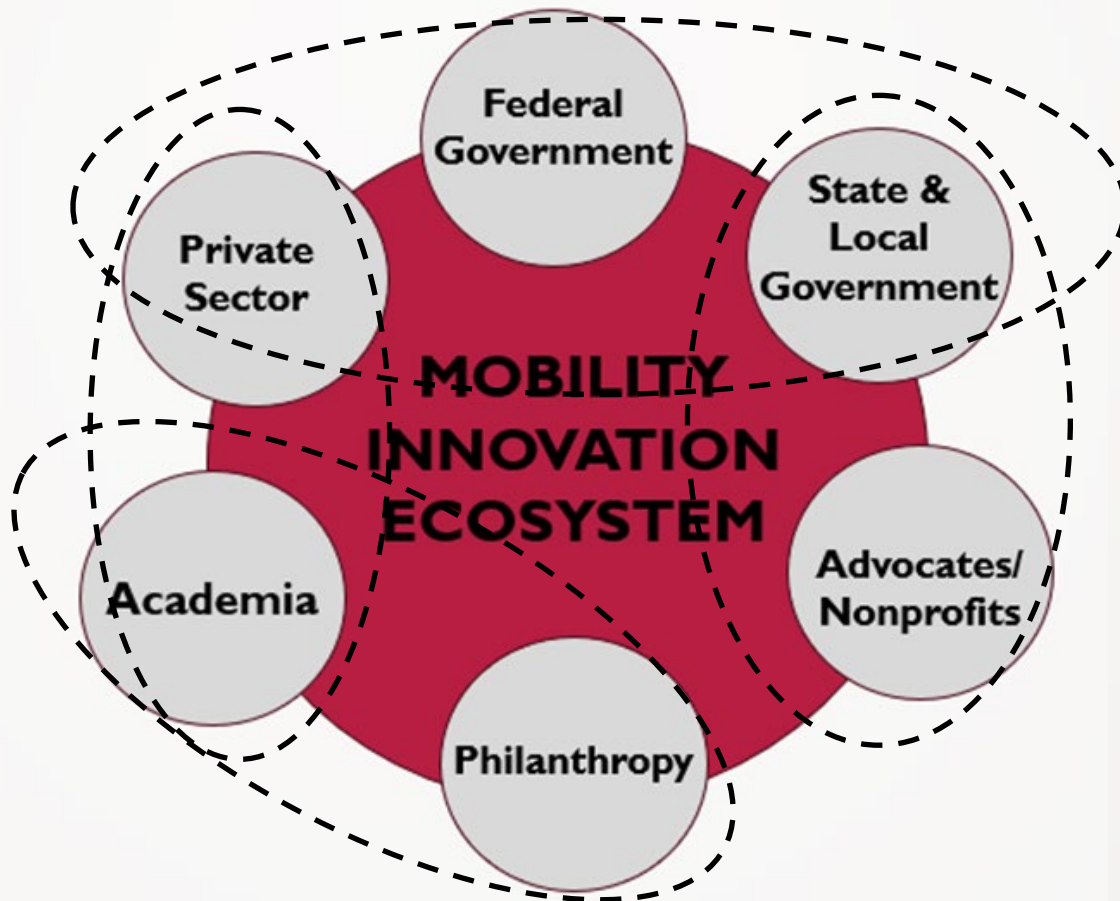


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CONCLUSIONS

Partnering for mobility
innovation

PARTNERSHIPS DRIVE A HIGH FUNCTIONING MOBILITY INNOVATION ECOSYSTEM



- Partnerships are **ESSENTIAL** to innovation
- Partnerships foster and support innovation by **ENCOURAGING**, **ENABLING** and **EMPOWERING** both **INNOVATORS** and **IDEAS**
- Don't forget to include **STATE** and **LOCAL GOVERNMENT** when building mobility innovation partnerships

Shared use facilities
are important assets
for mobility innovation,
but require
participation from
academia, state and
local government, the
non-profit community
and the private sector
to succeed

MODEL PARTNERSHIPS SUPPORTING INNOVATION

Michigan Central named one of Fast Company's Most Innovative Companies for 2025

We made it to the [Fast Company](#) Most Innovative Companies list for 2025! As a leading company in the brand-new Economic Development category, we're proud to be recognized for our initiatives aimed at creating jobs and opportunities, driving investment and improving the overall economic landscape of Detroit.



MASS MOBILITY HUB



THANK YOU!

QUESTIONS?

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