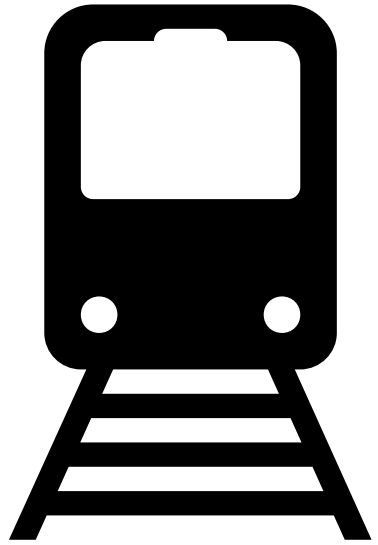


Metropolitan Mobility Network

SEPTEMBER 26, 2018

Potential changes that could significantly transform ***when, how and why*** people are traveling and goods are being moved

Transformational
Change and
TSMO



REGIONAL TRANSPORTATION PLAN
PLAN 2045
MAINTAINING THE VISION
FOR A SUSTAINABLE REGION

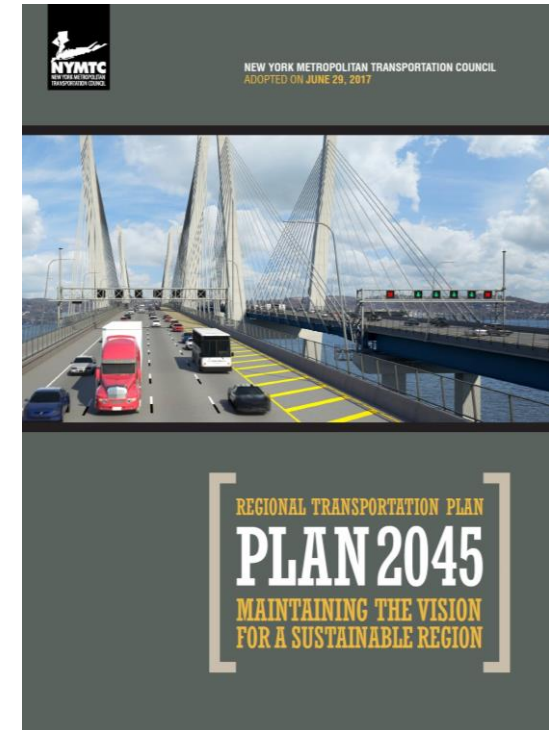
Future Changes Likely to Impact Transportation

- **Personal mobility** is likely to evolve from vehicle ownership toward increased use of shared, on demand, possibly autonomous vehicles.
- **Goods movement** is likely to be impacted by technological changes, including:
 - Distributed additive manufacturing (also known as 3D printing),
 - Vehicle automation and automated delivery, and
 - The further automation of goods production and distribution

Future Changes Likely to Impact Transportation

- The availability of **new types of data** will likely results in new approaches to:
 - Providing and using transportation services,
 - Managing the transportation system,
 - New organizational arrangements for service provision and facility management, and
 - New approaches to financing services and infrastructure.

Personal and organizational access to data is already driving change.





REGIONAL TRANSPORTATION PLAN
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Future Changes Likely to Impact Transportation

- Metropolitan regions worldwide are and will continue to face unprecedented challenges from the impacts of **major global trends** including:
 - Climate change,
 - The future availability and cost of fuels,
 - The development of new technologies and energy sources, and
 - Changing demographics and lifestyle expectations, changes in land use patterns, and limitations in current transportation finance methods.

Implications for Transportation



- There is little doubt that some combination of these drivers will have an impact on either or both:
 - Demand for transportation
 - Transportation service provision
- *CHANGES ARE ALREADY OCCURRING DUE TO THESE DRIVERS*

An Evolving Timeline . . .

A speculative look
“down the road”

WILD CARDS:

- Commercial vehicle automation
- Waterborne automation
- Railroad & transit automation
- Distributed manufacturing
- E-commerce

Present to 2025

- CAVs becoming legal & testing/ piloting continues
- Continued evolution of Shared Mobility

2020s

- CAVs introduced in services where drivers are a cost factor
- Increasing levels of automation in the privately-owned vehicles
- Shared Mobility increasingly impacts private vehicle ownership

2030s

- Fully automated CAVs become a significant portion of private vehicle fleet
- Private vehicle fleet remains mixed with varied levels of automation
- Continued evolution of Shared Mobility and away from private vehicle ownership
- Level of automation likely insufficient for advanced traffic management

2040s

- Major share of vehicles are fully autonomous
- Level of automation may be sufficient for advanced traffic management and higher levels of Shared Mobility

Elements of Shared Mobility

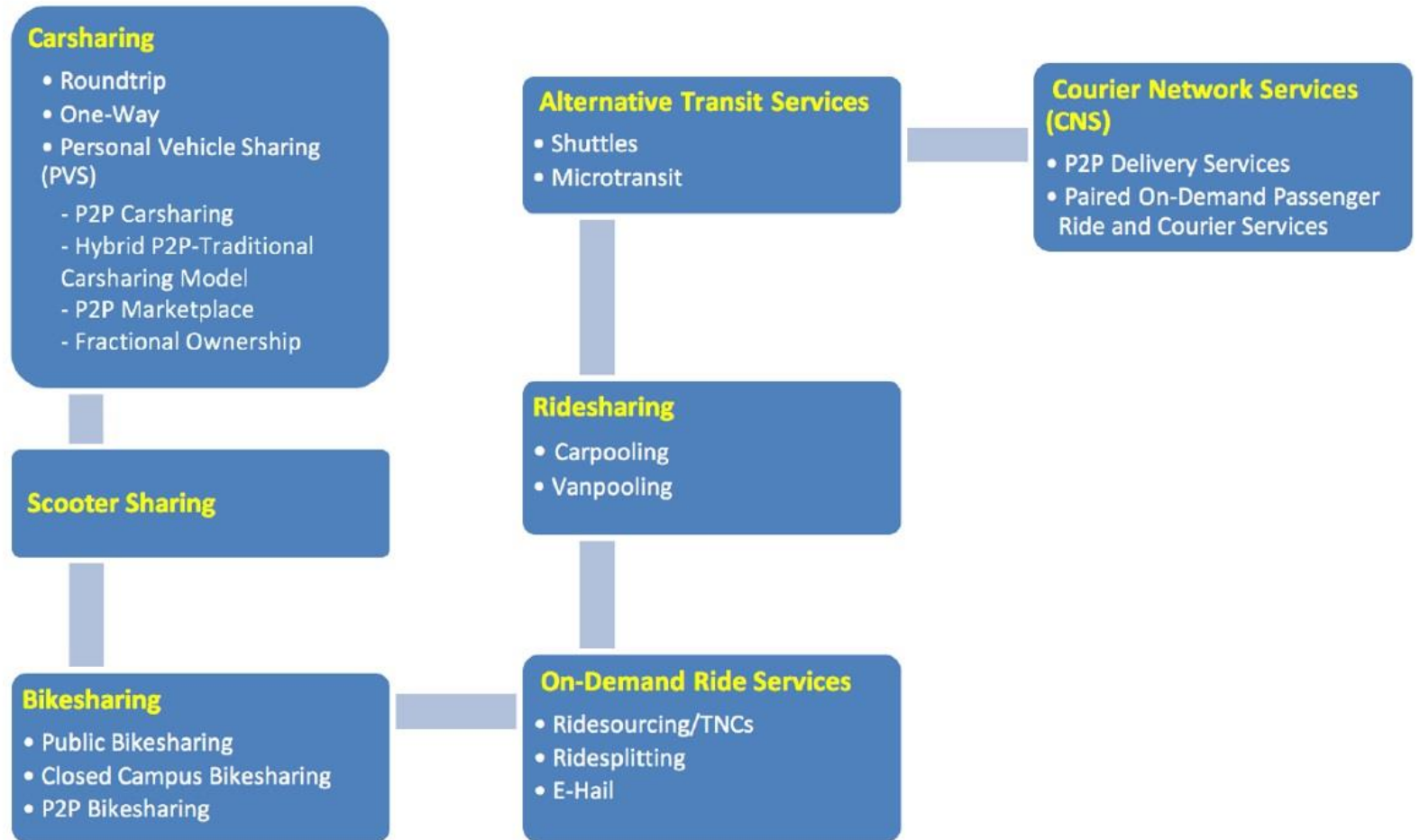
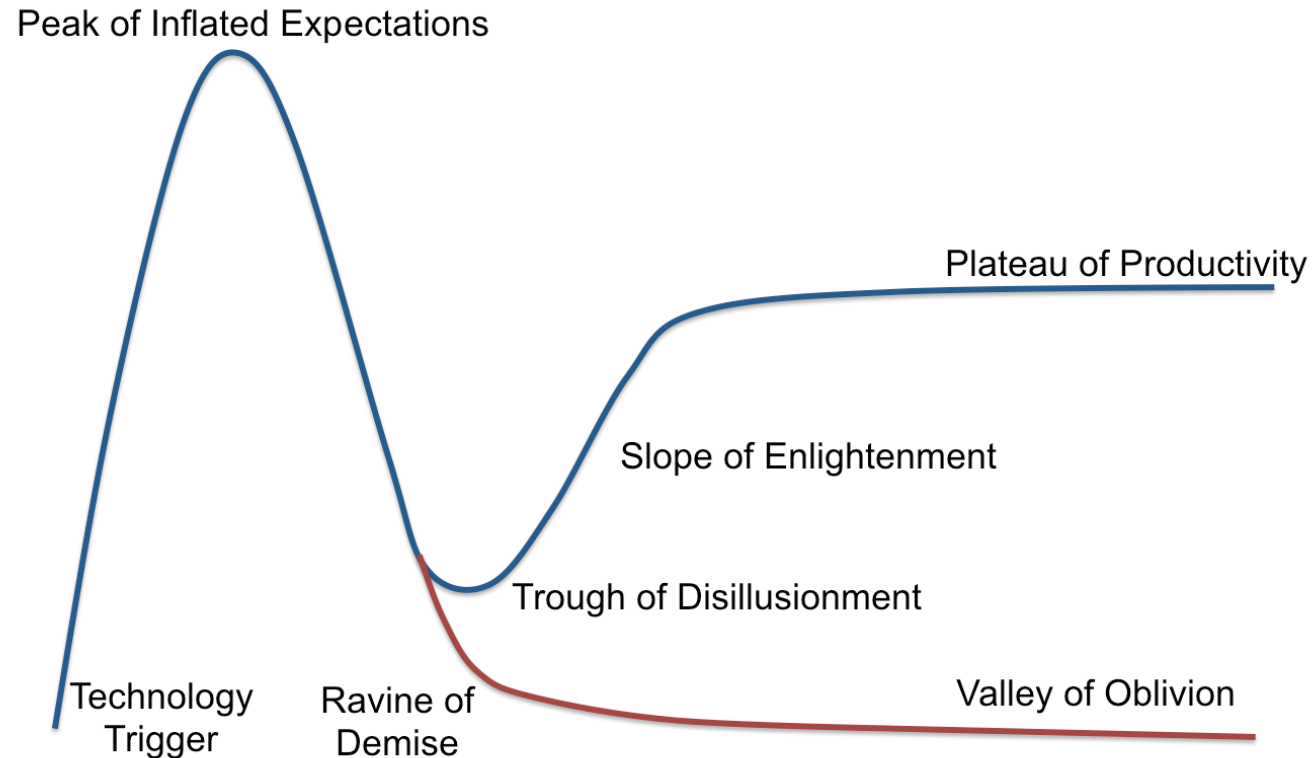


Figure 1: Key Areas of Shared Mobility

Modified Hype Cycle



Amara's law:

"We tend to over-estimate the effect of a technology in the short run and underestimate the effect in the long run"

-- coined by Roy Amara, past president of The Institute for the Future.