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| Transportation 2040 Scenario Drivers and Concepts |
| **Metropolis:** High tech adoption; growth in people/jobs favors dense inner cores of cities; weak growth elsewhere  Inner core’s dense land use supports fast **growth of MaaS** & more/new forms of transit, which **slows VMT growth** statewide Success of ‘fleet’ C/AV model for auto use lowers **private vehicle ownership**  Federal funding from gas tax declines, but strong Federal support for transportation tech & EVs  Tech savvy seniors maintain mobility with TaaS; but **cost hinders mobility for low income** groups, particularly in rural areas  Oil price spikes, cheap generation costs, concern about GHGs, and advances in energy technology spur **widespread EV use** outside rural areas |

# Transportation 2040 Scenario Drivers and Concepts



## Metropolis

Electrification

**1 5**

Demand for Traditional Transit

**1 5**

Land Use Density

**1 5**

Life-Work Locations

**1 5**

AV/CV

**1 5**

MaaS & New Transit



**1**

**5**

Federal Policy



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts



## Metropolis

VMT Growth

**1 5**

GHGs

**1 5**

Housing/Transportation Equity

**1 5**

Travel Reliability

**1 5**

Public Transportation Funding

**1 5**

Economic Growth



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts

**Gridlock:** High tech adoption; people/jobs jump in maturing suburbs; inner core & developing suburbs slow down

**MaaS niche only**: upper income/airport/bar rides mostly; auto or transit are main modes creating **heavy congestion**

Safety problems, cyber-security, and technology hurdles **slow down C/AV adoption** further constraining transportation system efficiency gains

Weak federal support for transportation tech & EVs Cheap oil, grid problems, limited public acceptance, and

technology barriers mean few EVs and **transportation GHGs hold steady**

Center cannot hold - Inner core faces crisis with congestion, high housing prices

# Transportation 2040 Scenario Drivers and Concepts



## Gridlock

Electrification

**1 5**

Demand for Traditional Transit

**1 5**

Land Use Density

**1 5**

Life-Work Locations

**1 5**

AV/CV

**1 5**

MaaS & New Transit



**1**

**5**

Federal Policy



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts



## Gridlock

VMT Growth

**1 5**

GHGs

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Travel Reliability

**1 5**

Public Transportation Funding

**1 5**

Economic Growth



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts

**Millennial-burbs:** High tech adoption; people/jobs jump in maturing suburbs; inner core & developing suburbs slow down

Millennials h**ave switched from inner core to ‘city-lite’ mature suburbs** (affordable, better schools etc.) that have medium density

Maturing suburbs dense enough to support **growth in MaaS**, which spurs some decrease in vehicle ownership; transit demand moderate in dense suburbs

Fleets of C/AVs make transportation system operate more efficiently – **congestion curbed**

Oil price spikes, cheap generation costs, concern about GHGs, and advances in energy technology spur **widespread EV use** outside rural areas

# Transportation 2040 Scenario Drivers and Concepts



## Millennial-burbs

Electrification

**1 5**

Demand for Traditional Transit

**1 5**

Land Use Density

**1 5**

Life-Work Locations

**1 5**

AV/CV

**1 5**

MaaS & New Transit



**1**

**5**

Federal Policy



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts



## Millennial-burbs

VMT Growth

**1 5**

GHGs

**1 5**

Housing/Transportation Equity

**1 5**

Travel Reliability

**1 5**

Public Transportation Funding

**1 5**

Economic Growth



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts

**Tracking Steady:** Low tech adoption; people/jobs jump in maturing suburbs; inner core & developing suburbs slow down

Millennials **have switched from inner core to ‘city-lite’ mature suburbs** (affordable, better schools etc.) that have medium density

**MaaS stays a niche market**: upper income residents/airport/bars, etc; others depend on auto or transit which means **heavy congestion** & high transit demand in dense suburbs

Few C/AVs means transportation system operates less efficiently and **private vehicles dominate**

Cheap oil, grid capacity shortfalls, limited public acceptance, and technology barriers mean few EVs and with limited land use change, **transportation GHGs hold steady**

# Transportation 2040 Scenario Drivers and Concepts



## Tracking Steady

Electrification

**1 5**

Demand for Traditional Transit

**1 5**

Land Use Density

**1 5**

Life-Work Locations

**1 5**

AV/CV

**1 5**

MaaS & New Transit



**1**

**5**

Federal Policy



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts



## Tracking Steady

VMT Growth

**1 5**

GHGs

**1 5**

Housing/Transportation Equity

**1 5**

Travel Reliability

**1 5**

Public Transportation Funding

**1 5**

Economic Growth



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts

**Untethered:** High tech adoption; people/jobs shift growth emphasis to developing suburbs

Many **jobs rely on virtual/augmented/A.I.** instead of trip to/from office. Likewise, advances in telemedicine, online education, etc., reduce travel; and groceries are delivered via drone. With less need for travel and high housing costs in the inner core, people move to **less expensive** developing suburbs

Oil price spikes, cheap generation costs, concern about GHGs, and advances in energy technology spur **widespread EV use** Tech savvy seniors less dependent on travel, but low-income jobs often still require auto

Low density land use means **less transit use**

# Transportation 2040 Scenario Drivers and Concepts



## Untethered

Electrification

**1 5**

Demand for Traditional Transit

**1 5**

Land Use Density

**1 5**

Life-Work Locations

**1 5**

AV/CV

**1 5**

MaaS & New Transit



**1**

**5**

Federal Policy



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts



## Untethered

VMT Growth

**1 5**

GHGs

**1 5**

Housing/Transportation Equity

**1 5**

Travel Reliability

**1 5**

Public Transportation Funding

**1 5**

Economic Growth



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts

**Commuterville:** Low tech adoption; people/jobs shift growth emphasis to developing suburbs

High housing costs force growth to periphery

Safety problems, cyber-security, and technology hurdles **slow down C/AV adoption** resulting in fewer benefits to transportation system efficiency

M**aaS stays a niche market**: demand grows slowly with dispersed land use pattern (same for transit); private auto ownership predominates

Seniors & low income groups **struggle to maintain mobility** in auto dependent communities

Cheap oil, limited public acceptance, and technology barriers mean few EVs

# Transportation 2040 Scenario Drivers and Concepts



## Commuterville

Electrification

**1 5**

Demand for Traditional Transit

**1 5**

Land Use Density

**1 5**

Life-Work Locations

**1 5**

AV/CV

**1 5**

MaaS & New Transit



**1**

**5**

Federal Policy



**1**

**5**

# Transportation 2040 Scenario Drivers and Concepts



## Commuterville

VMT Growth

**1 5**

GHGs

**1 5**

Housing/Transportation Equity

**1 5**

Travel Reliability

**1 5**

Public Transportation Funding

**1 5**

Economic Growth



**1**

**5**