Scenario Planning

TPP Technical Working Group

METROPOLITAN COUNCIL

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Overview

- What is scenario planning?
- What is its purpose?
- How does it work?
- Transportation implications

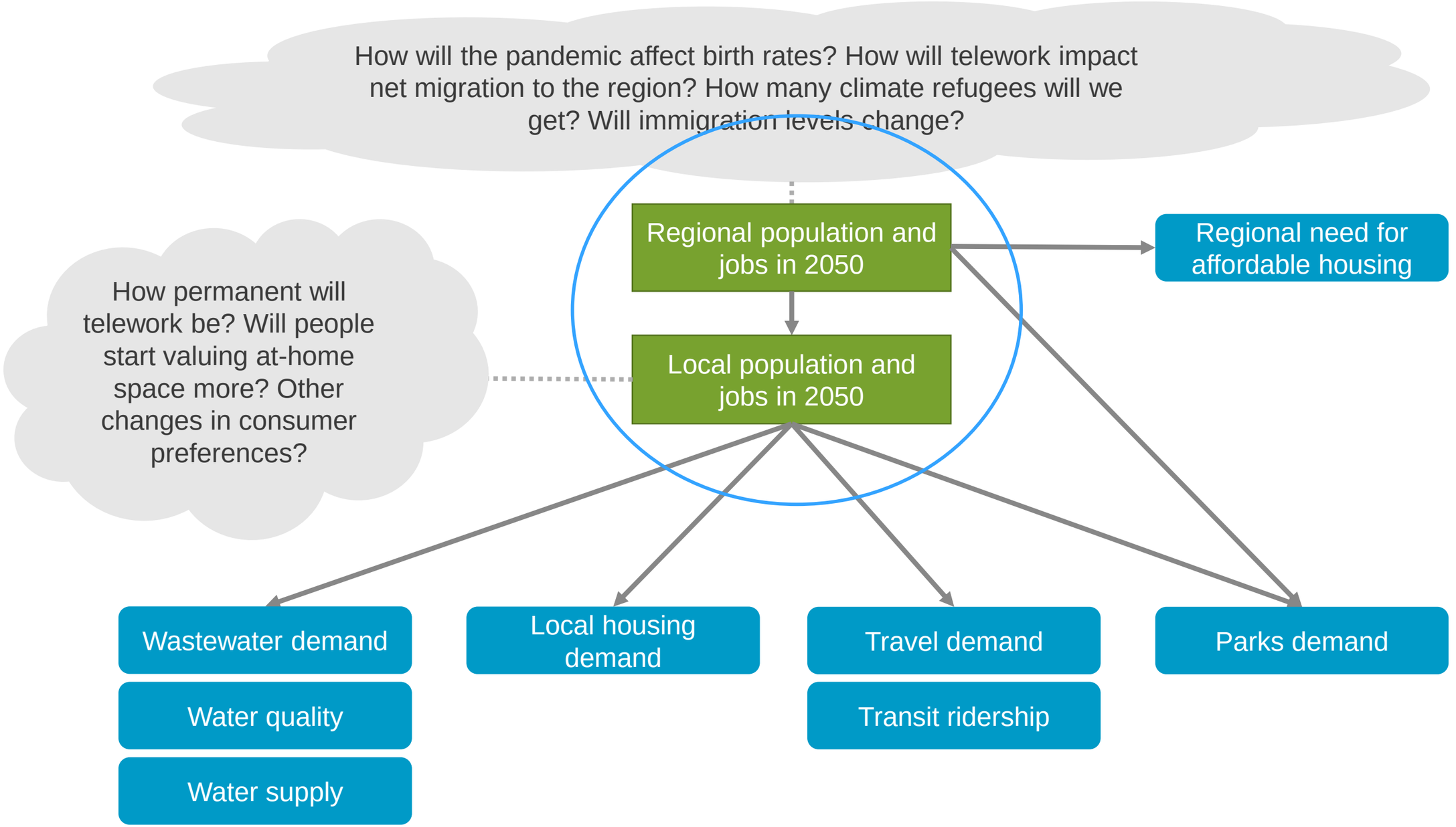
Traditional vs. Scenario Planning

- What kind of uncertainties shape the region?
- How do they impact the region as a whole?
- How do they affect the Council's infrastructure and services?
- What policies can we adopt to address those impacts and opportunities?

What is the purpose of scenario planning?

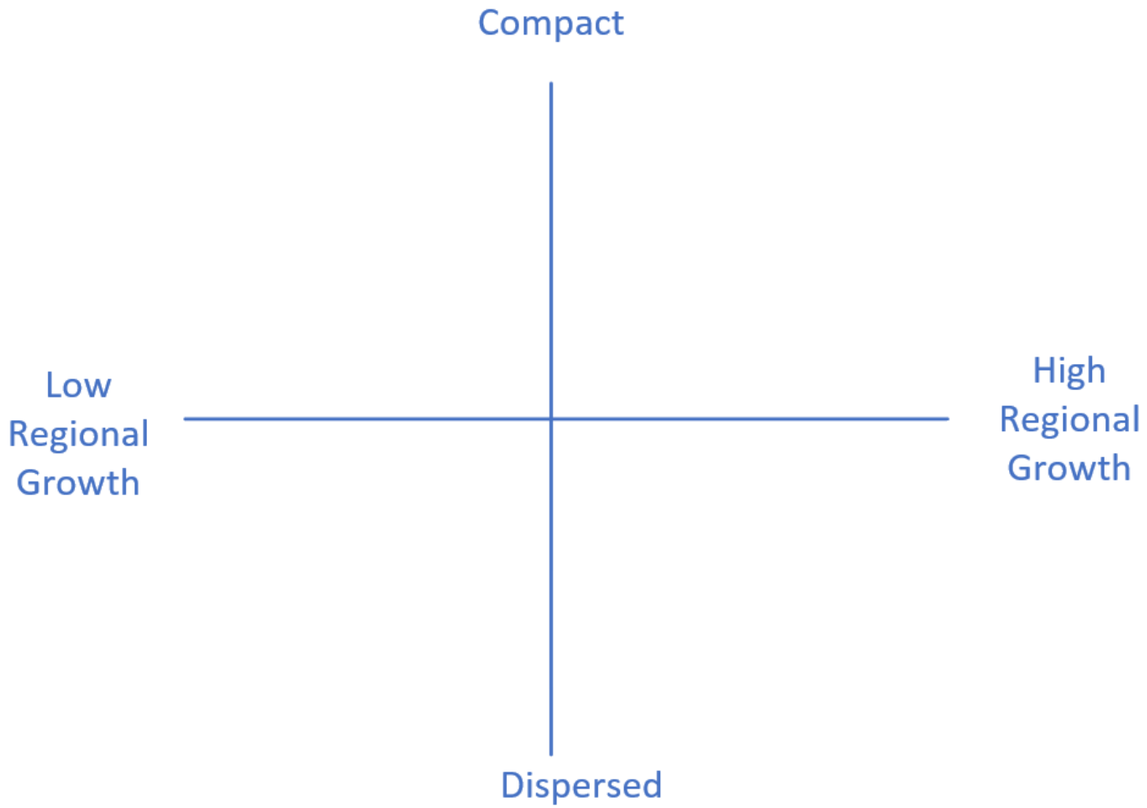
Use scenarios to assist policy makers in various phases of policy planning.

- Scenarios can help
    1. reveal transportation goals and objectives
    2. identify risks and opportunities and policy gaps
    3. explore policy tradeoffs and synergies
    4. inform future transportation infrastructure and service choices


How will the pandemic affect birth rates? How will telework impact net migration to the region? How many climate refugees will we get? Will immigration levels change?
How permanent will telework be? Will people start valuing at-home space more? Other changes in consumer preferences?
Regional population and jobs in 2050
Local population and jobs in 2050
Regional need for affordable housing
Wastewater demand
Water quality
Water supply
Local housing demand
Travel demand
Transit ridership
Parks demand

Different Scenarios

Regional Growth: How much? Where?



- High regional growth/compact development
- High regional growth/dispersed development
- Low regional growth/compact development
- Low regional growth/dispersed development

- Business as usual scenario: what is likely to happen if existing patterns continue?

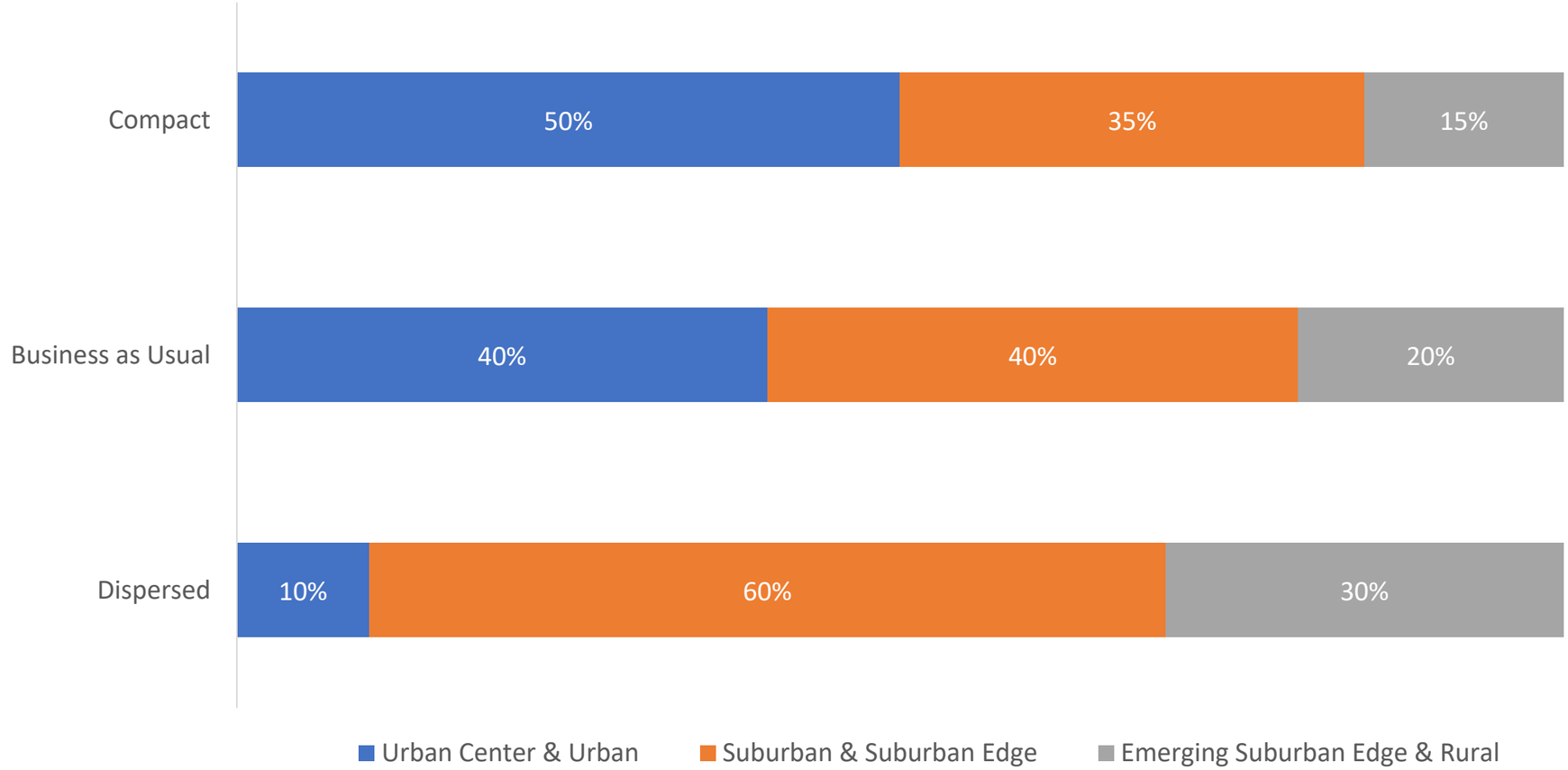
Extent of growth

Higher/lower than currently forecasted regional growth

- High growth: 50% more than currently forecasted regional growth
- Low growth: 25% less than currently forecasted regional growth

Location of growth

More compact/dispersed than Business as Usual



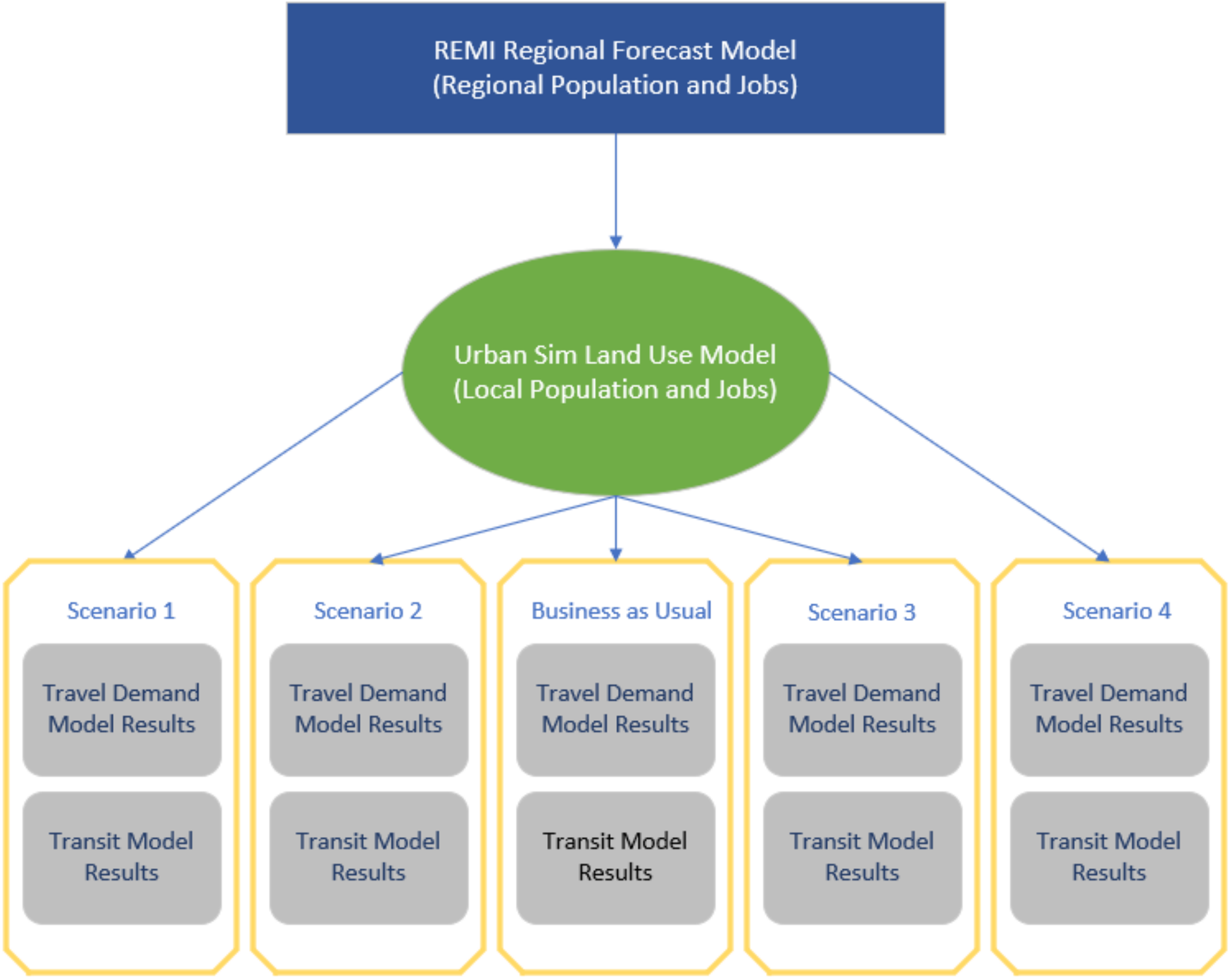
Disclaimer: What this project is not

This is not a normative exercise. We are not picking a future.

- Instead, we are exploring our preparedness for a variety of futures.

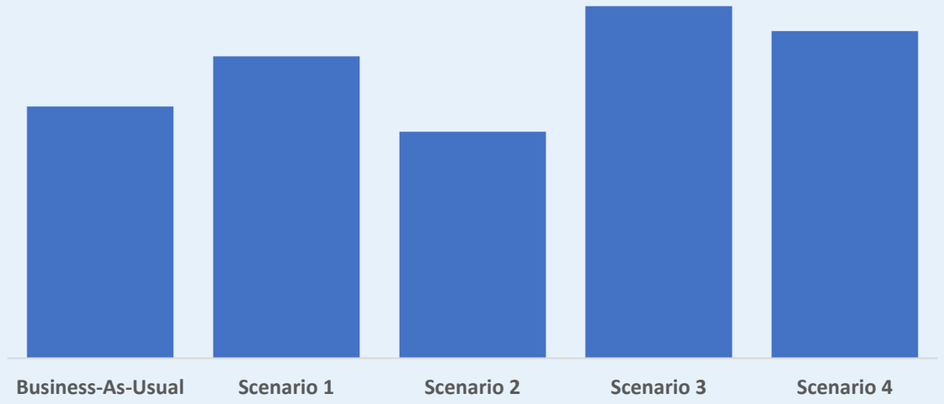
This is not our official 2050 regional forecast.

- We are using the same forecast tools, but in a hypothetical planning exercise.
- The business-as-usual scenario is different from our final 2050 forecasts.

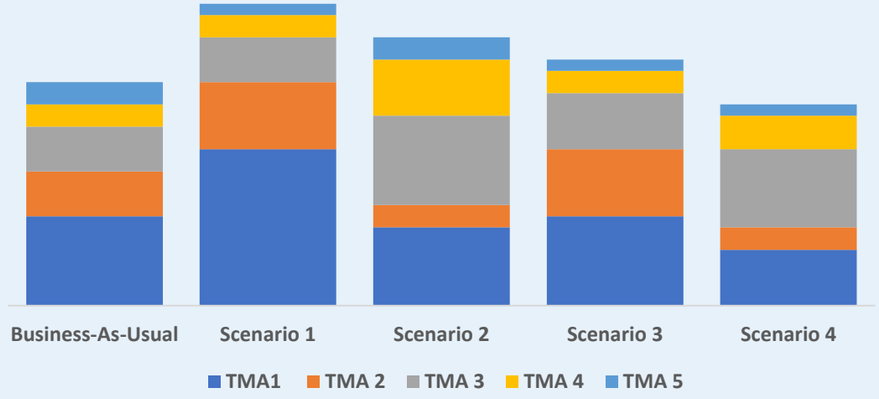

REMI Regional Forecast Model
(Regional Population and Jobs)
Urban Sim Land Use Model
(Local Population and Jobs)
Scenario 1
Travel Demand Model Results
Transit Model Results
Scenario 2
Travel Demand Model Results
Transit Model Results
Business as Usual
Travel Demand Model Results
Transit Model Results
Scenario 3
Travel Demand Model Results
Transit Model Results
Scenario 4
Travel Demand Model Results
Transit Model Results

Transportation modeling results

Vehicle Miles Traveled

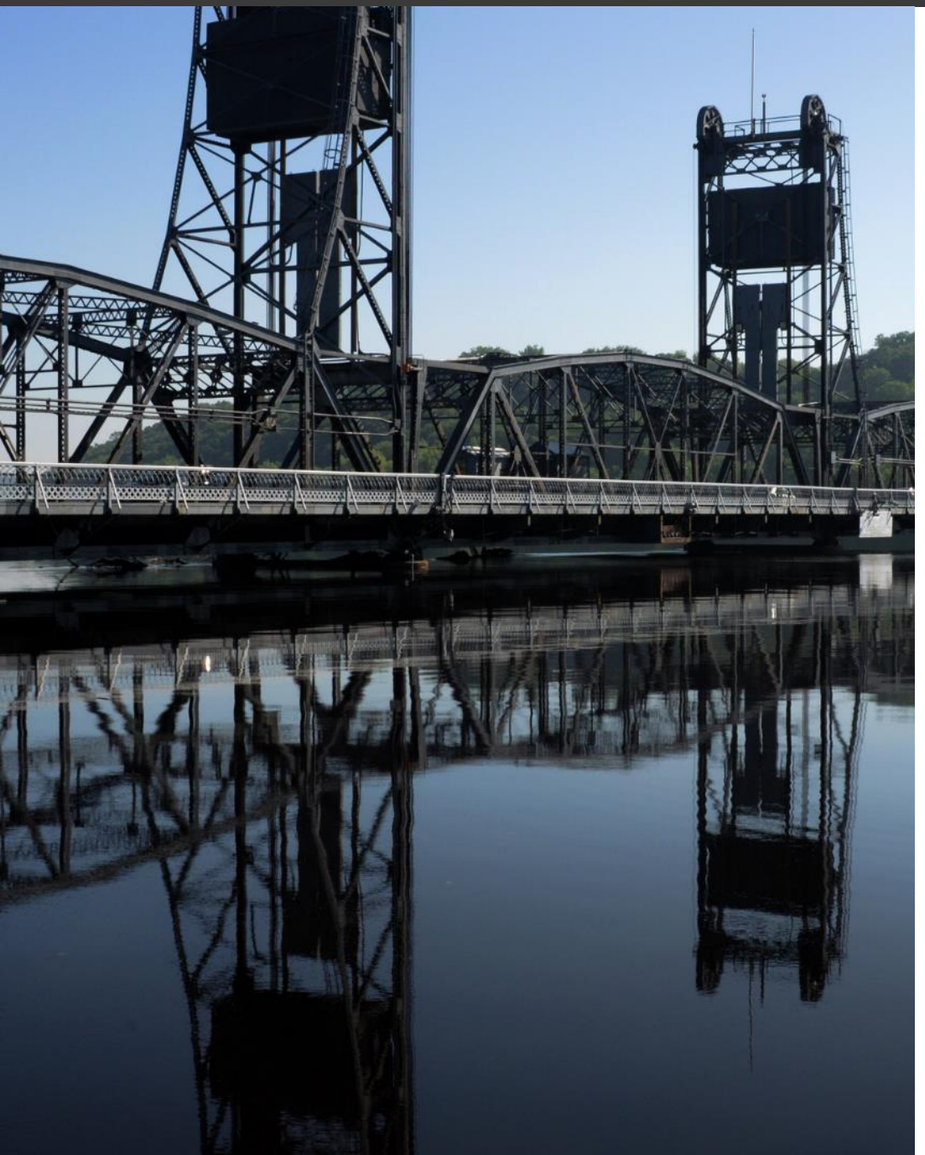


Transit Ridership in Transit Market Areas (TMAs)



Metropolitan Council

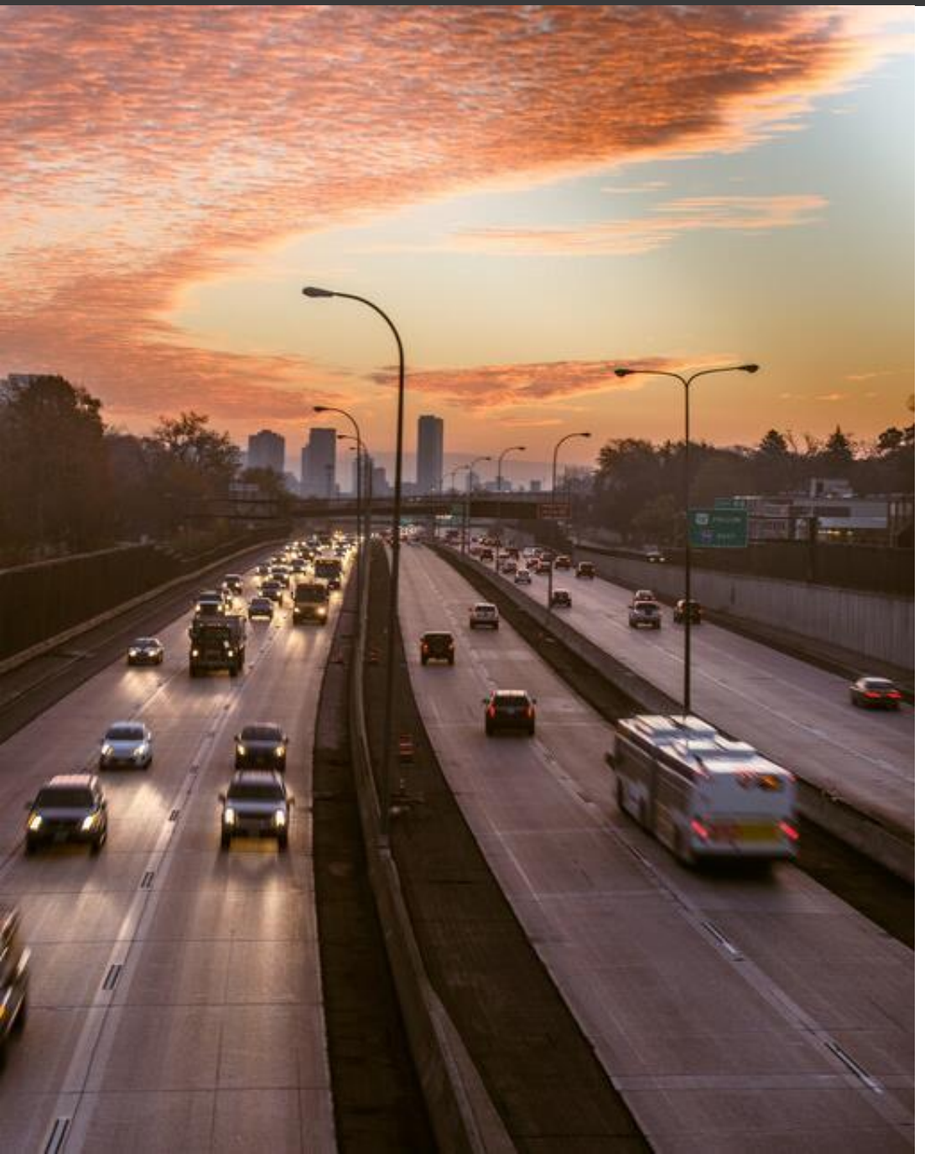
Transportation & Land Use Connections



Scenarios may inform our understanding of trade-offs.

- Previously, transportation investments not evaluated against multiple land use scenarios
- Some things are out of the region's control
- Scenarios can help anticipate unknowns and shape approach to goals and objectives
- Scenarios ≠ Investment Scenarios

Policy Resilience to Uncertainty



TPP policy performance may vary under different scenarios.

- How do different populations and areas of the region experience improvement or loss in accessibility under different scenarios?
- How effective are travel demand management policies in high-growth scenarios versus low-growth scenarios?
- How can the region continue to advance priorities in transportation (e.g., safety, equity, accessibility) under different/conflicting scenarios?
- **Scenarios and their metrics may provide a lens to consider policy performance with an uncertain future.**

Learning Opportunity

Scenario metrics may show connections between different land use futures and the transportation system.

- What metrics would you like to see developed for the different scenarios?
- Metrics could be transportation specific or land use metrics with a connection to transportation.

- Examples:
  - Population and job density near high-frequency transit
  - Hours of excessive delay
  - Vehicle miles travelled
  - Greenhouse gas emissions
  - Access to destinations
  - Number of jobs accessible
  - Change in transit ridership
  - Modal participation rates

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