From models to plans: Getting to local forecasts in the metro region

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This presentation will cover:

1. Forecasts: why and how
2. Highlights from regional forecast update
3. Met Council's forecasts in the new planning cycle

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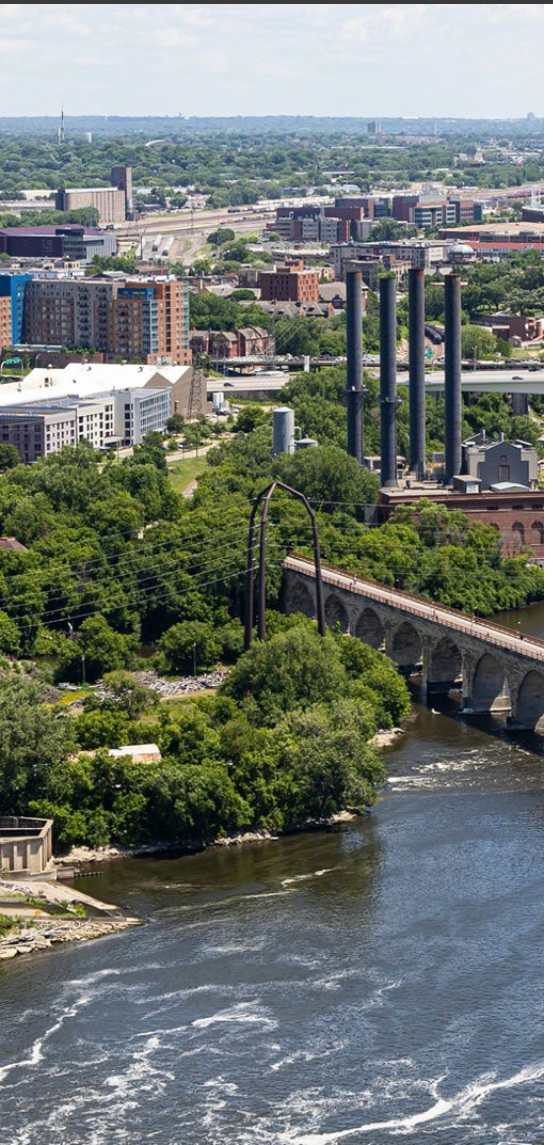
Forecasts: why and how

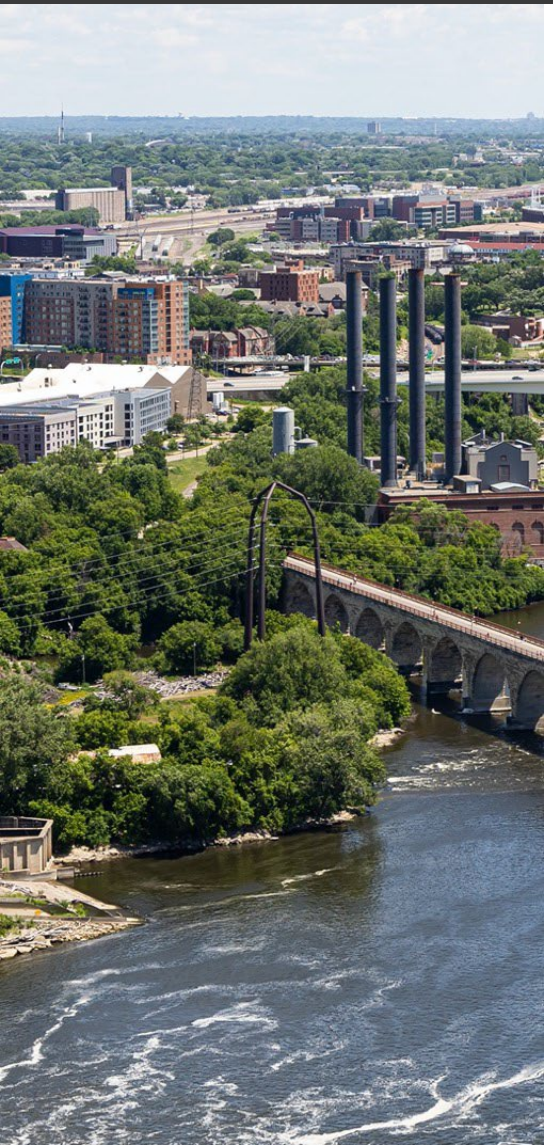
Why we forecast: regional context



Long-range forecasts of population, households, jobs

- Provide a shared foundation for coordinated planning, systems and services
  - Regional systems and services are scaled to meet forecasted demand
  - Local plans, infrastructure, services respond to the same forecasts
- Maintained, updated to inform planning
- Authorized by MN Statutes 473.146 and 473.859

Why we forecast: local context



Any good plan includes expectations about the future

- Where and when are new developments expected?
- Those expectations inform service plans
  - And capital improvement plans
  - And city budget projections
  - And coordination with transportation agencies (counties, state, Met Council)
  - And coordination with water management agencies
- All of the above considerations relevant *for all cities – metro or elsewhere*

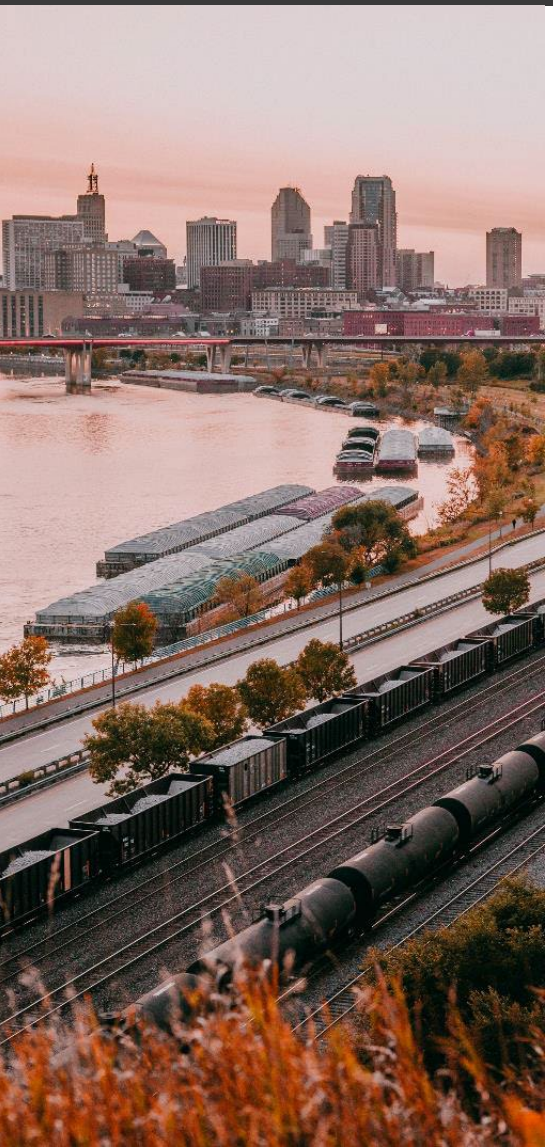
How we forecast: models

Models are an attempt to represent real-world systems in a simplified way

- Economic and employment growth
- Real estate market dynamics
- Interactions of land and transportation

We're representing through a system of mathematical representations: formulas, parameter settings, time- and place-specific variables, etc.

Forecast models toolkit



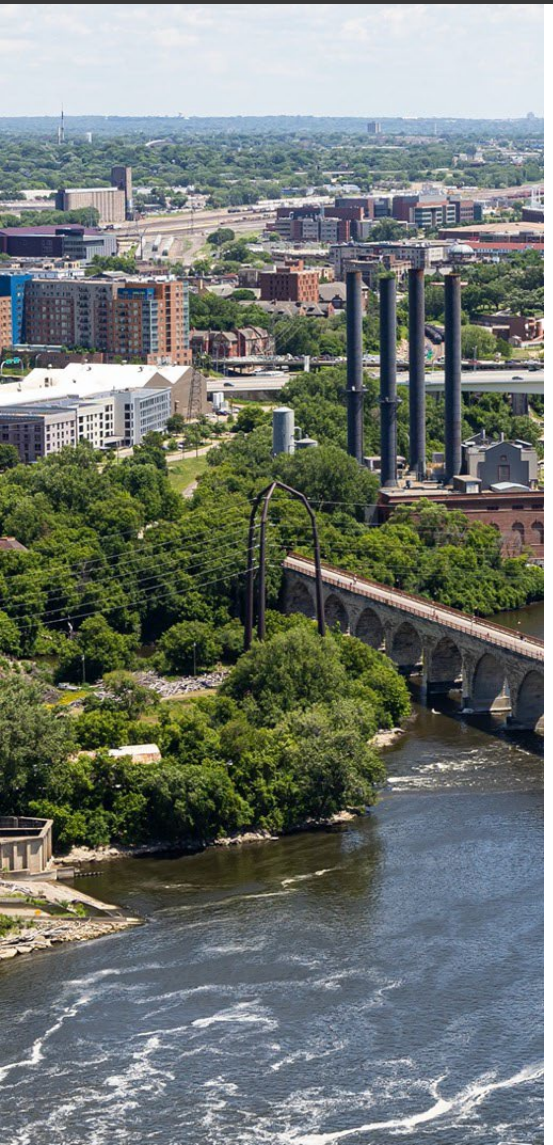
Regional economic model for macro-level employment and population

Land use model for location of future land use, local households and employment

Travel demand model accounting for connection of places; projects travel patterns and loads

Highlights of the regional forecast

Highlights of the regional forecast

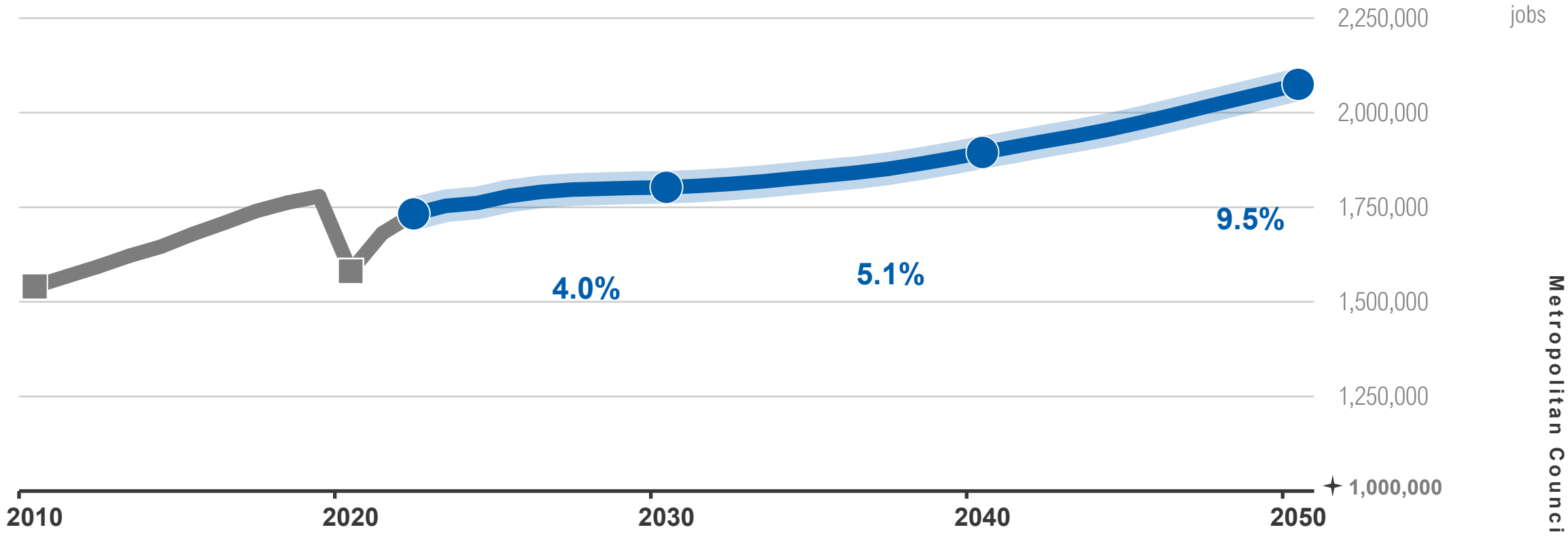


Re-set of the region's situation

- After the current recovery: a changed geo-economic situation, a 20-years workforce shortage, and an economic slowdown
- Population growth slowed by births decline and migration shifts
- Aging of the population

Employment: Slower growth ahead

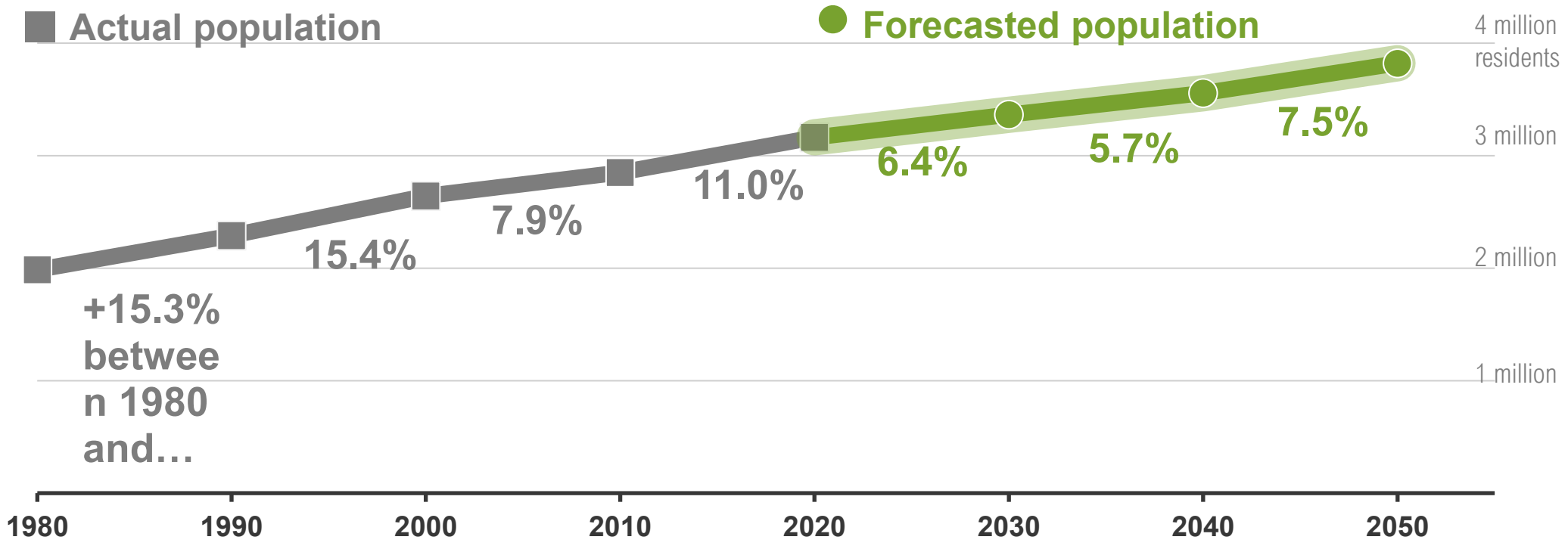
+342,000 jobs by 2050, with largest gains forecasted in 2040s



Source: 2010-2022 employment from Minnesota DEED; 2023-2050 from Metropolitan Council regional forecast (2023).

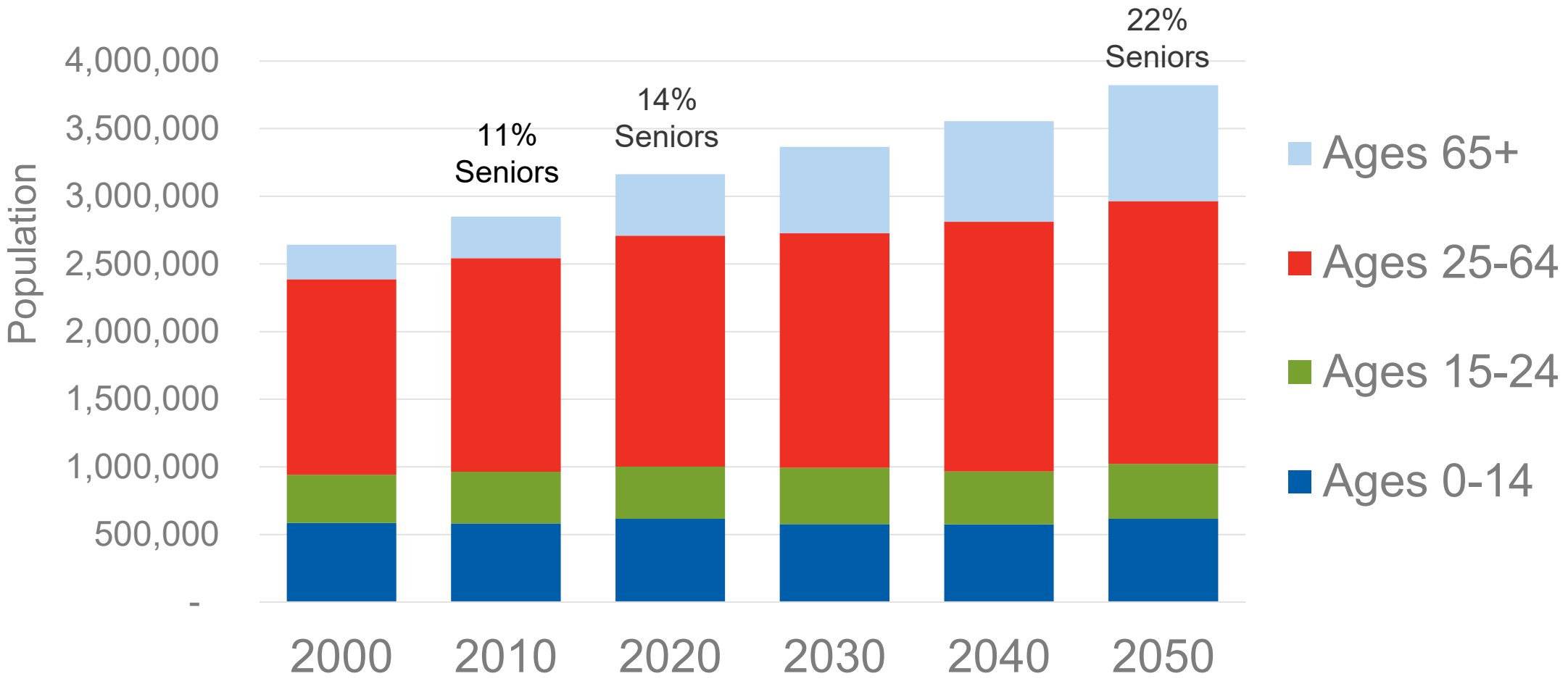
Steady population growth

Population growth: 3,820,000 in 2050



Source: 1980-2020 population from Census Bureau; 2021-2050 from Metropolitan Council regional forecast (2023).

Population growth: +657,000 residents added, 2020–2050



Source: 2000-2010 population from Census Bureau; 2020-2050 from Metropolitan Council regional forecast (2023)

Metropolitan Council's forecasts in the new planning cycle

From macro-level to local

Regional totals from the macro model are allocated to local zones

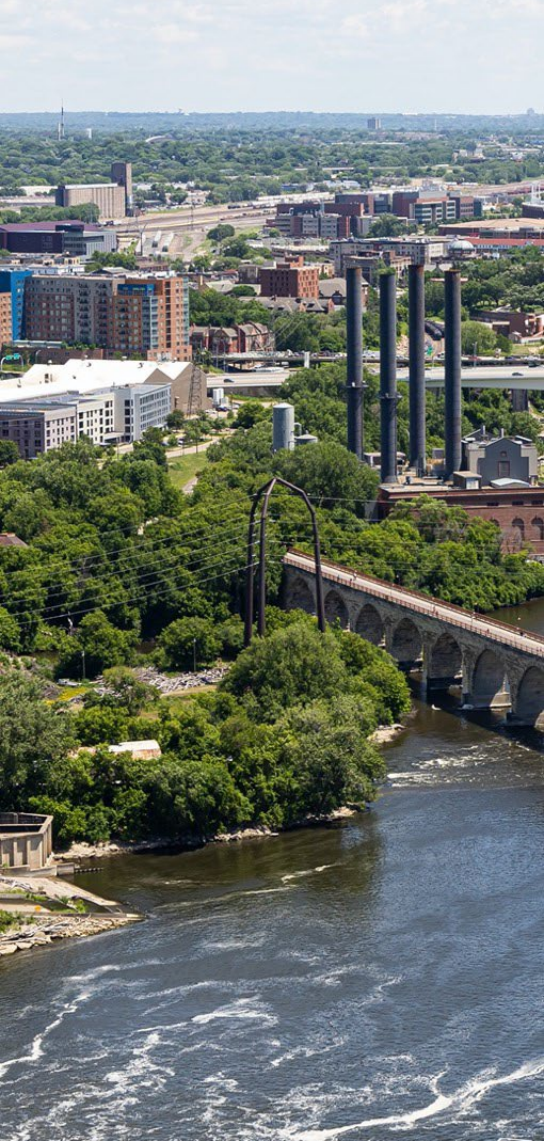
UrbanSim's allocation logic is simulated real estate dynamic, with submodels that handle the projection of:

- Location choice behavior
- Real estate prices (or rents)
- Real estate supply (new development)

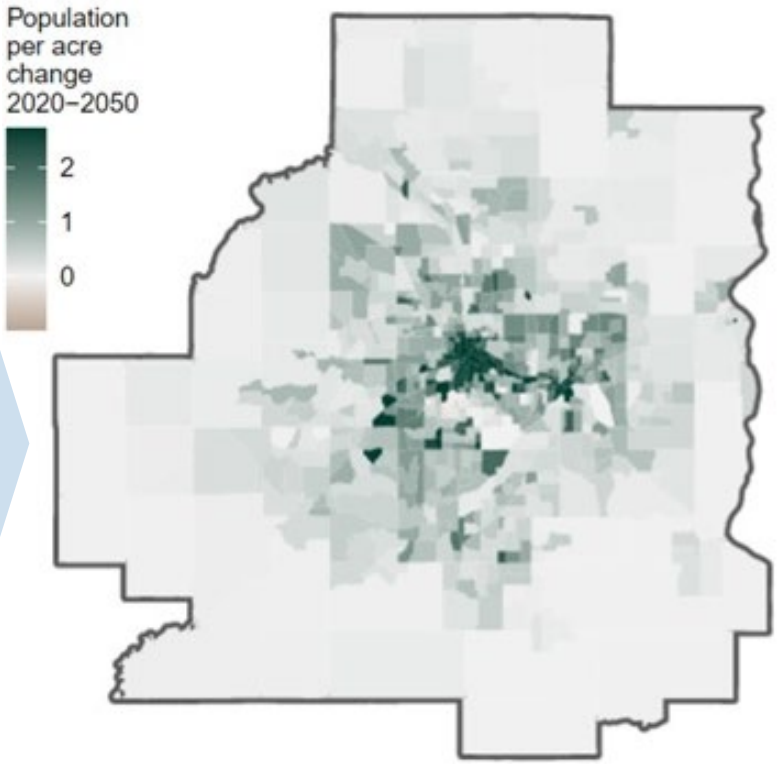
Travel demand model – a separate model – projects future network conditions, accessibility measures

- UrbanSim results are input to TDM for travel generation
- Modeled travel outputs are passed back to the UrbanSim model

Local data informs the model



- Base year land supply
- Employment levels
- Neighborhood demographics
- Housing stock: numbers and type
- Land prices
- Average prices and rents
- Land consumption rates
- Planned land use and capacities
- Regional systems and services
- Accessibility, by car and by transit



Where will the metro's next 657,000 residents choose to live?

Local forecast results determined by both predictive modeling *and* policies, plans

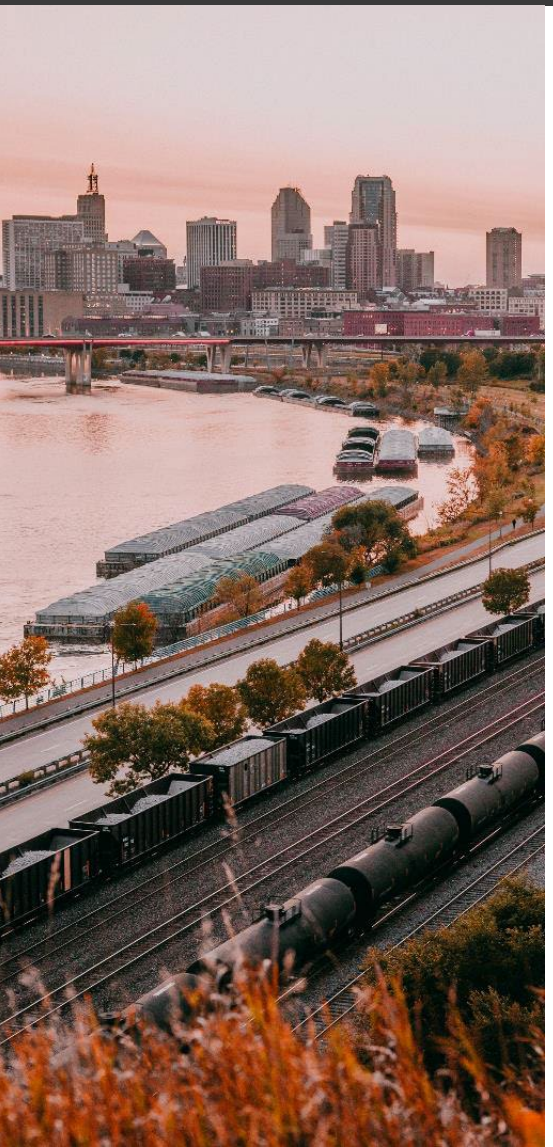
UrbanSim is allocating with an observed-behavior-based and utility-maximizing logic

But it does so bounded or limited by policies within the model

Policies establish an envelope of what's possible.

- From local governments: Allowed land uses, allowed densities
- From Met Council: 2050 high-frequency transit, wastewater service area (MUSA)

Forecasts follow planning cycle



2022-23
Implement, test model, then refresh data inputs

Improvements:
- Better performing software
- Greater spatial detail in results

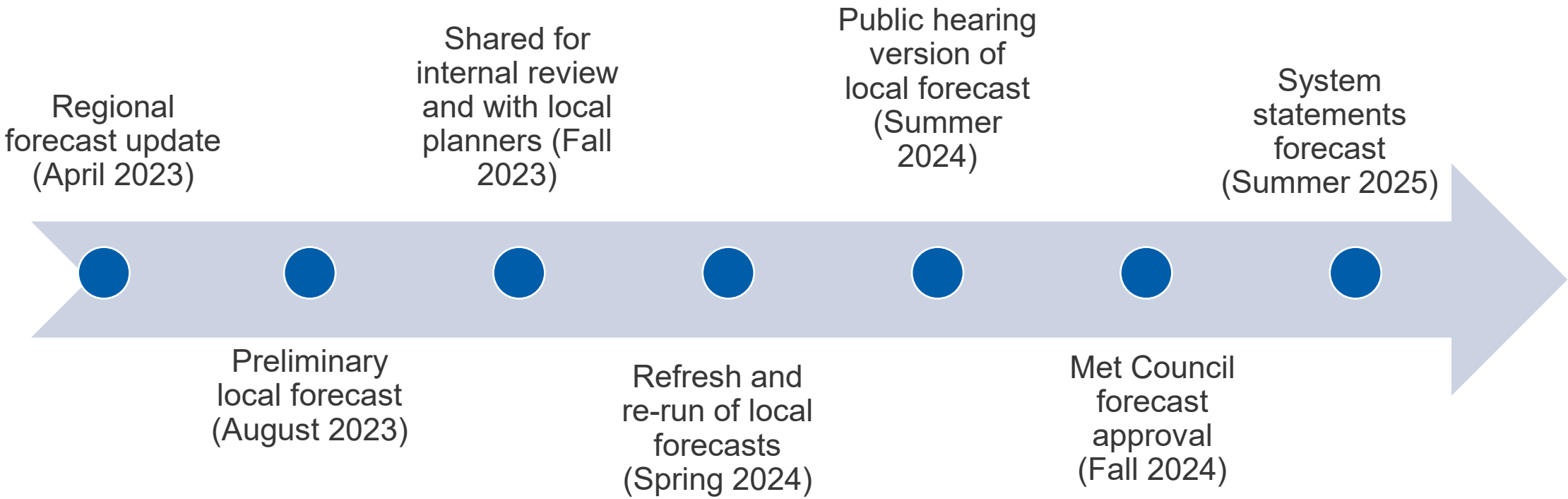
2023-24
Propose forecast set, discussion, more data review

2025
Final updates for System Statements

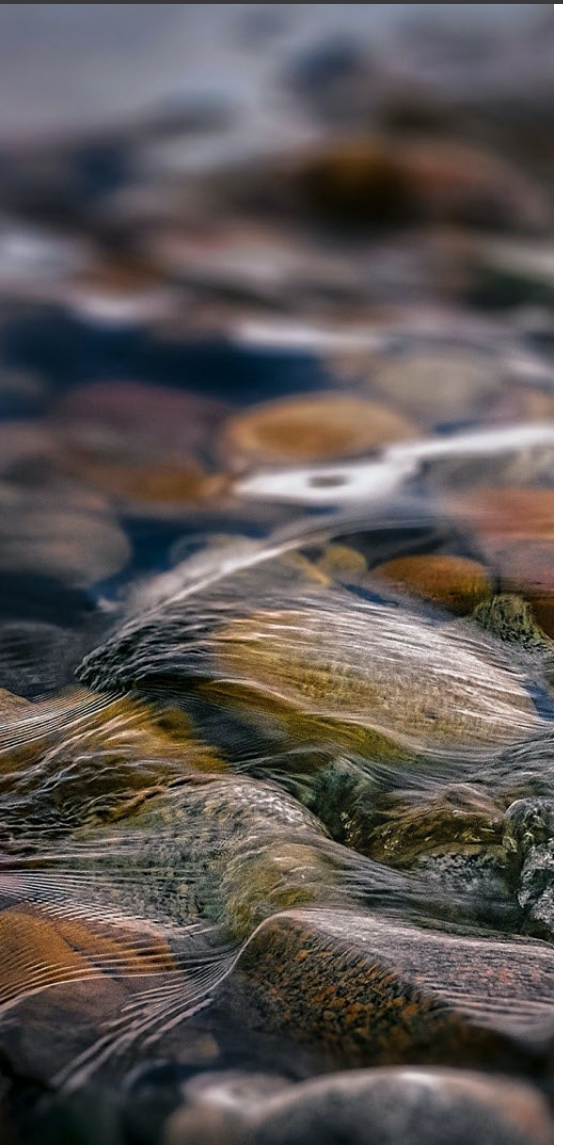
Ongoing
One-city-at-a-time adjustments with Plan Updates, Amendments

2025-30
We prepare zone-level forecast allocations, cities validate

Forecast timeline



Forecast Model Team's expected work with partners and advisors



We enlist internal and external advice

We can adjust to fit planning needs and special circumstances

Met Council will publish **preliminary forecast (v1)** set in Fall 2023

- Discuss with local governments
- Invite review of data inputs and results
- Improve spatial distribution and other details, improve fit with local controls and plans

Objective: State, local, and regional planners all working from the same numbers

Reference material

- 2050 region-level forecast
- Short methodology paper
- 2040 forecasts for cities, townships

metrocouncil.org/forecasts/

Discussion

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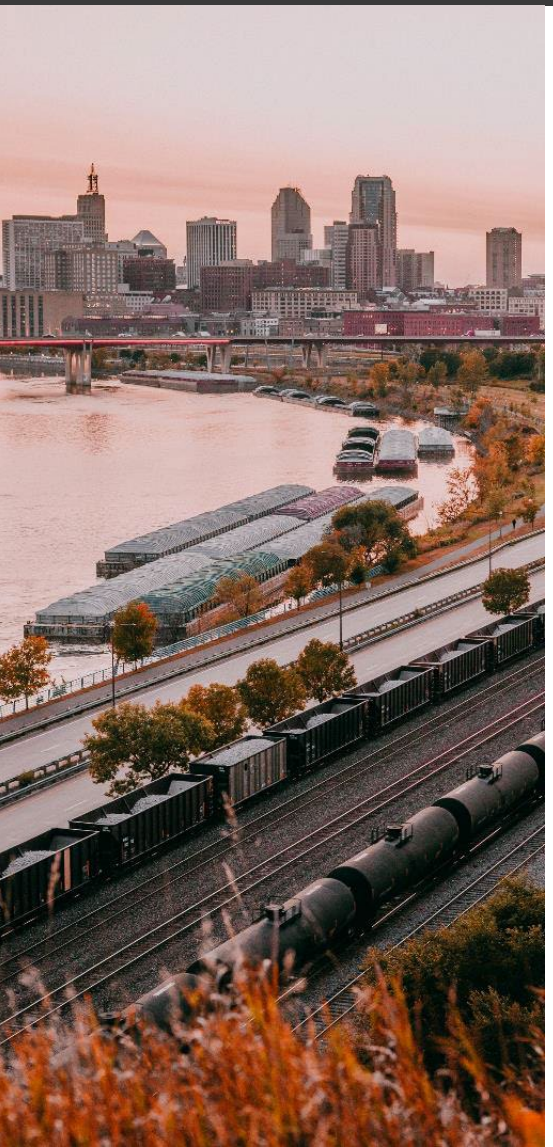
Discussion questions



- What limits or policies should be explored with respect to future development?
  - New policies could be adopted and owned by any level of government
- Can these limits or policies be quantitative? Can they be geographically customized?
- Other thoughts on our approach to forecasts?

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