2050 local forecasts in the metro region

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February 1, 2024   metrocouncil.org/forecasts/

Agenda

1. Why and how we forecast
2. Regional forecast highlights
3. Preliminary local forecasts
4. This year, we want input from local partners and the public

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Why and how we forecast

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

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About the future: local context

- Local forecast informs:
  - Capital improvement plans and service plans
  - Coordination with partner agencies
- Our plan review requirements:
  - Plan for future growth as detailed in forecast
  - Analysis of land supply accommodating the forecast
  - Reconcile the growth forecast with comprehensive plan
- Bottom line? Concurrency of plans and expectations
  - State, local, and regional planners working from the same numbers

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 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
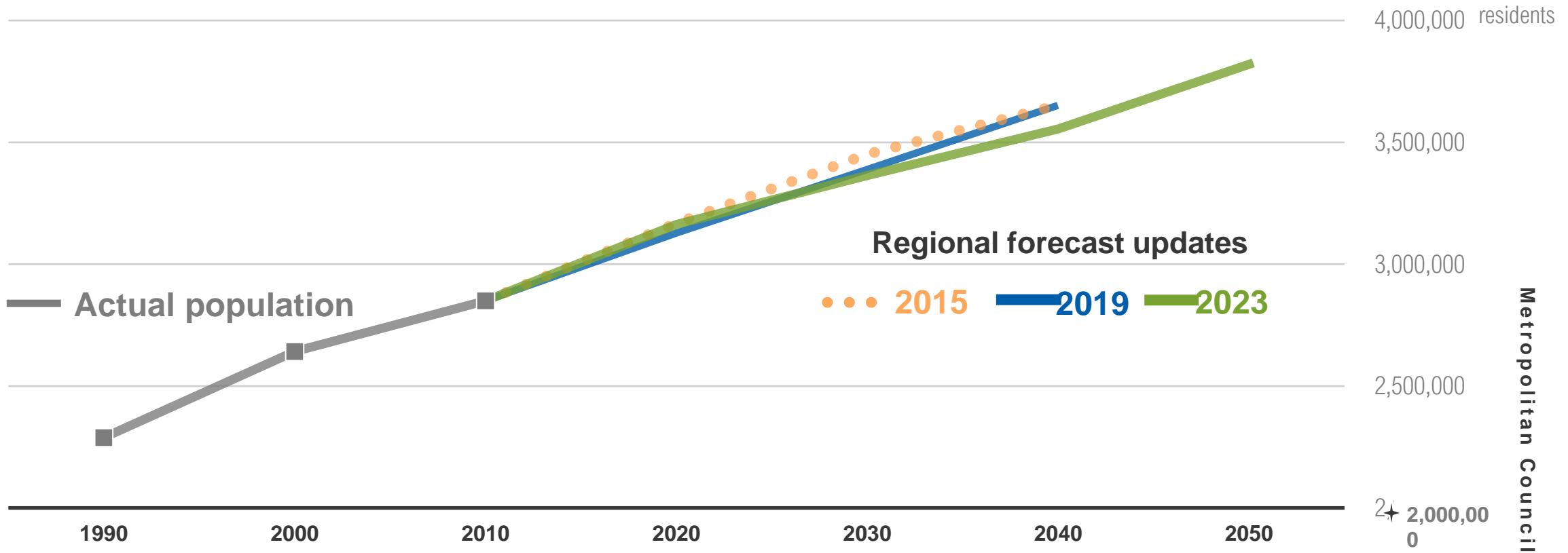
Regional forecast highlights

Updated regional forecast to 2050

	2010	2020	2023	2030	2040	2050
Employment	1,541,000	1,581,000	*1,754,000*	1,802,000	1,895,000	2,074,000
Households	1,118,000	1,240,000	*1,274,000*	1,350,000	1,450,000	1,564,000
Average HH size	2.50	2.50	*2.47*	2.44	2.40	2.39
Population	2,850,000	3,163,000	*3,207,000*	3,364,000	3,555,000	3,820,000
Population Growth	207,000	313,000	—	201,000	191,000	265,000

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Population grows, but slower

2023 update forecasts +705,000 people, down from +802,000 in 2015

4,000,000 residents

3,500,000

3,000,000

Regional forecast updates

Actual population

•••• **2015**   **2019**   **2023**

2,500,000

2,000,000

1990   2000   2010   2020   2030   2040   2050

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Source: 1990-2010 from U.S. Census Bureau; 2015, 2019, 2023 forecasts from Metropolitan Council.

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Growing racial and ethnic diversity

45% of the region's total population is BIPOC in 2050
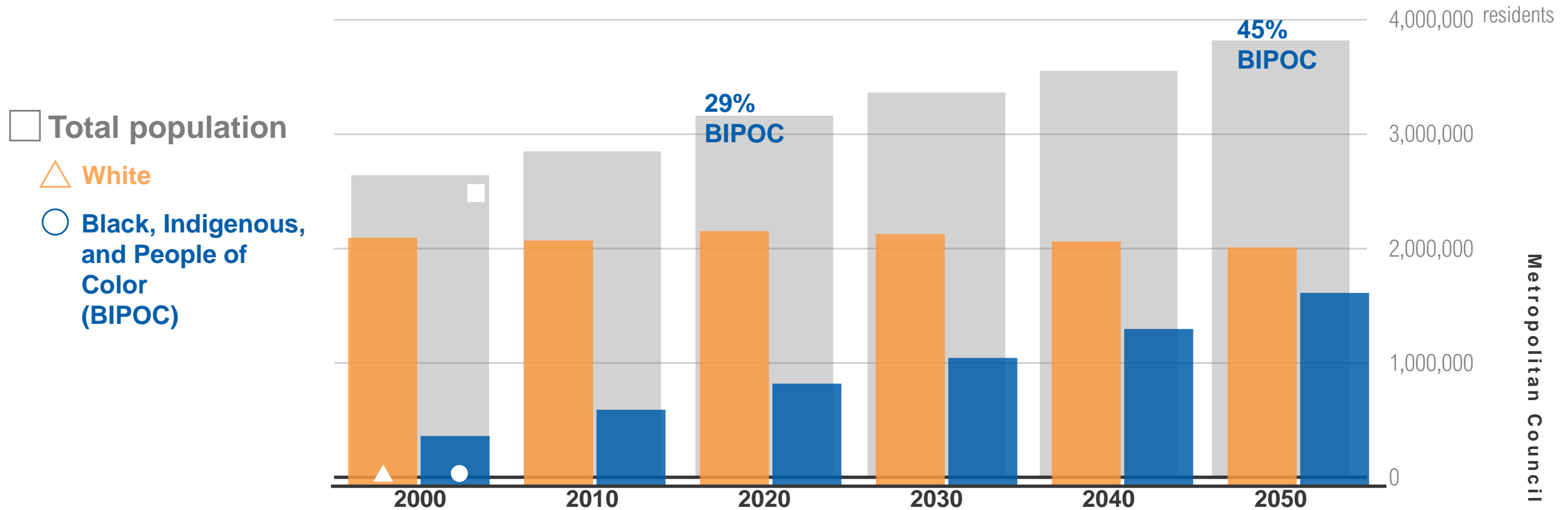
Total population
White
Black, Indigenous, and People of Color (BIPOC)

45% BIPOC
29% BIPOC

4,000,000 residents
3,000,000
2,000,000
1,000,000
0

2000 2010 2020 2030 2040 2050

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

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Growing racial and ethnic diversity

Almost half (45%) of the region's total population is BIPOC in 2050

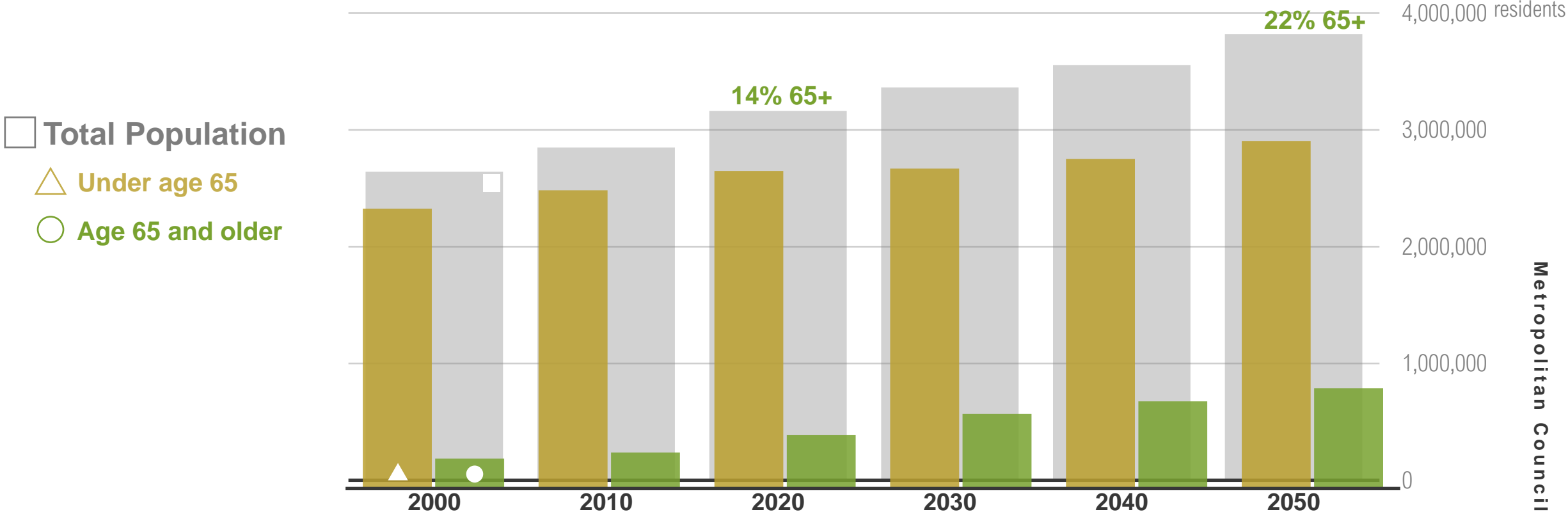**Black, Indigenous, and People of Color (BIPOC)**

- ■ **Black**
- ◆ **Asian or Pacific Islander**
- ● **Hispanic or Latino**
- □ **Other or multiracial**
- ▲ **Indigenous**
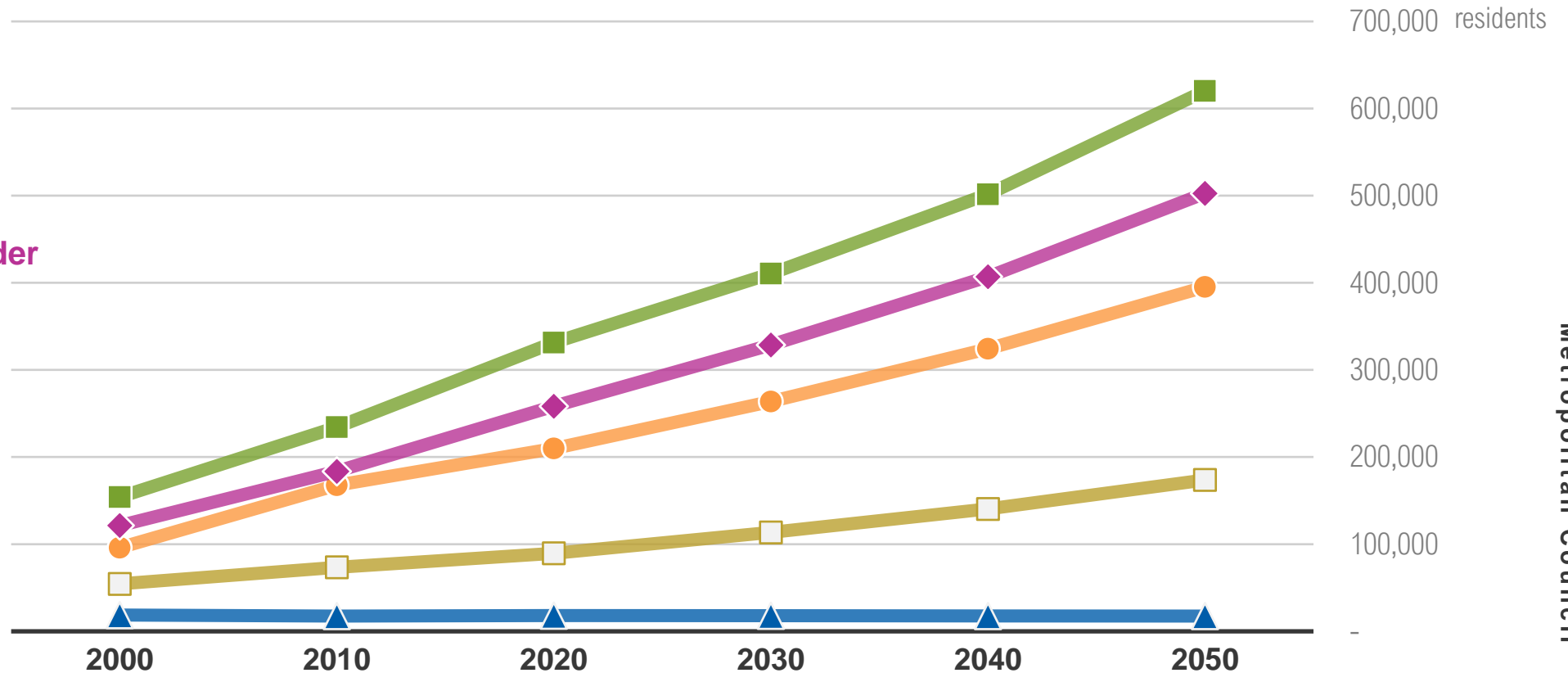
Source: 2000-2010 population from Census Bureau; 2020-2050 from Metropolitan Council regional forecast (2023).

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# Aging of the Population

Share of population over age 65 nearly doubles in 2050

22% 65+

14% 65+

4,000,000 residents

3,000,000

2,000,000

1,000,000

0

☐ **Total Population**

△ **Under age 65**

○ **Age 65 and older**

2000   2010   2020   2030   2040   2050

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

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Regional forecast summary

Growth expectations lower than past forecasts

- Metro will reach 3.8 million population and over 1.5 million households – but will take longer to get there

- Demographic sources of growth are weakened
  - Births and birth rates are at record-lows
  - Growth from migration is less than previously forecasted – partly demographics, partly economics, partly immigration policy

- 2050 will look very different
  - Growing racial and ethnic diversity
  - Growing numbers and share of older adults (65+)
  - Implications: different patterns of activity, time use, different housing demands

From macro-level to local

Population
Households
Jobs

Population
per acre
change
2020–2050
2
1
0
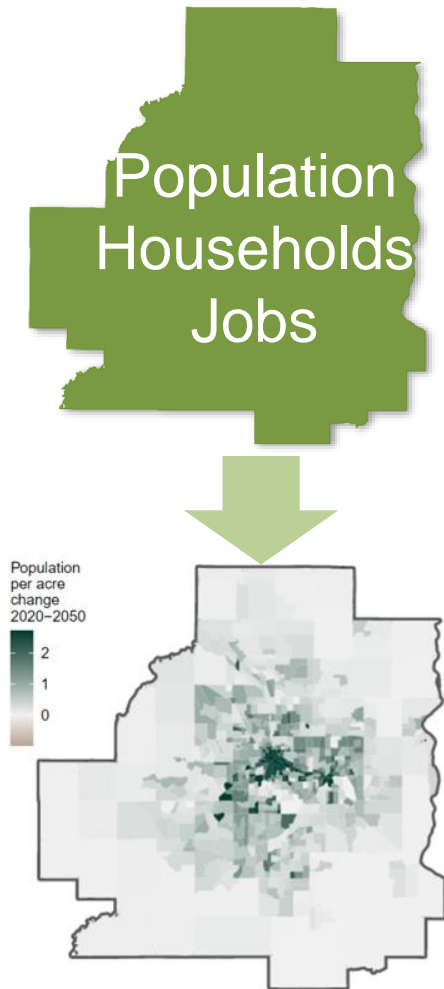
Regional totals from the macro model are allocated to specific places

- The local forecasts serve to accommodate the growth expected by the larger region
- All jobs, households and people are situated somewhere

How we forecast

From macro-level to local: UrbanSim is our local land use model platform

Population
Households
Jobs

Population per acre change 2020–2050
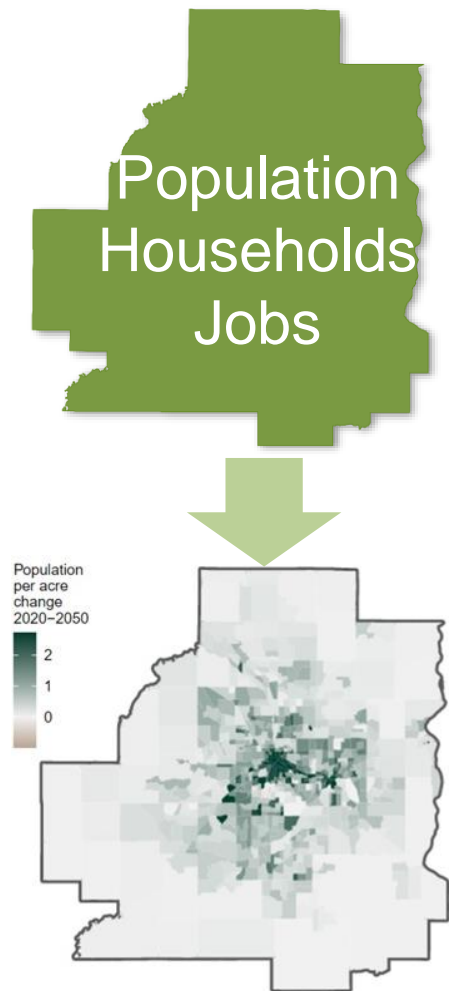
Regional totals from the macro model are allocated to specific places

UrbanSim model:

- Analyzes, represents, and projects where growth will happen
- This future projection involves extrapolation of behaviors, trends, patterns
- Accounts for the competition between places

Specifically, UrbanSim simulates real estate dynamics, with submodels that handle the projection of:

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

Location choice: We value place options, and places, to varying degree

$$P_{\underline{h}/\underline{vi}} = \frac{H_{\underline{h}}\, exp(\,\mu(\,b_{\underline{h}} + B_{\underline{h}vi}\,))}{\sum_{g} H_{\underline{g}}\, exp(\,\mu(\,b_{\underline{g}} + B_{\underline{g}vi}\,))}$$

- Location choice probabilities derived from observed data on choices
- And the factors that go into those choices
  - If one group especially values place characteristics, more likely to locate accordingly → *differentiation*
  - If **all** groups value a package of characteristics, then rents rise in locations which have that → *market valuation*
- What could matter in location choice
  - Place value and amenities
  - Access to destinations: everyone values this
  - Employment presence in neighborhood: differentiation in who values

What matters statistically: our findings

What most predicts working-age, **low-income households'** choices:
- Lower land values
- Urban location, Employment in neighborhood
- Capacity for future dev. (but underdeveloped, not new construction yet)
- Socioec: Other low-income households

What most predicts working-age, **high-income households'** choices:
- Area amenities, Higher land values
- Near but not "in" busy central areas
- Lower housing density, Less employment (or no employment) in neighborhood
- Greater car *and transit* access to destinations
- Socioec: Other high-income households

What most predicts **senior (65+) households'** choices:
- Newer housing, Multi-family housing (but little remaining land supply)
- Area amenities, Higher land values
- Access to destinations by car (but not necessarily transit-served)
- Socioec: Other older households

Where will the metro's next 324,000 households choose to live?

Population
Households
Jobs

Population per acre change 2020–2050

2
1
0
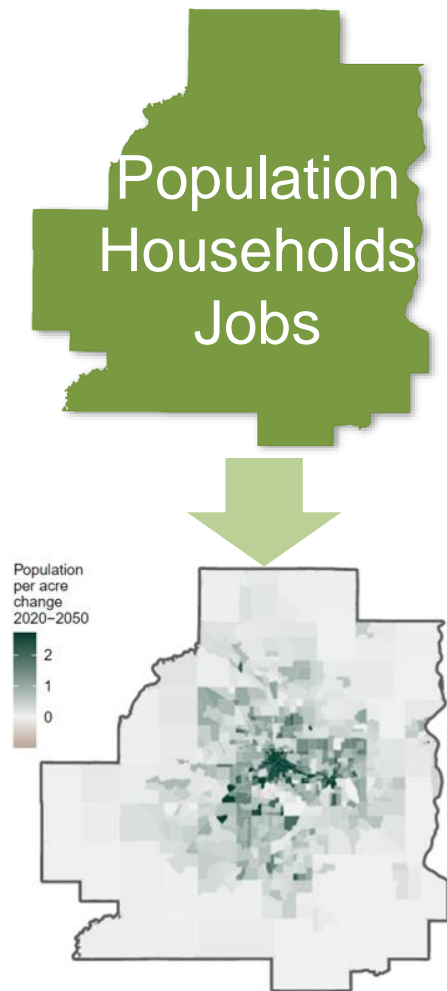
Local forecast results determined by both predictive modeling *and* policies, plans

UrbanSim is allocating with a 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 – these determine the capacity of places
- From Met Council: 2050 wastewater service area (MUSA), 2050 high-frequency transit, future highways and arterials network, etc.
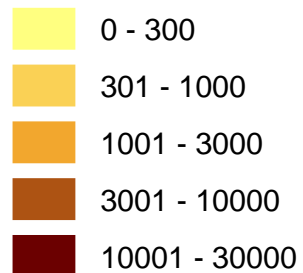
Preliminary local forecasts

Households in 2020

- 1,239,500 households in 2020

- 3,163,100 population

- A full range of community types

- More suburban in composition than most peer major metros

total_households / Square_Miles

- 0 - 300
- 301 - 1000
- 1001 - 3000
- 3001 - 10000
- 10001 - 30000
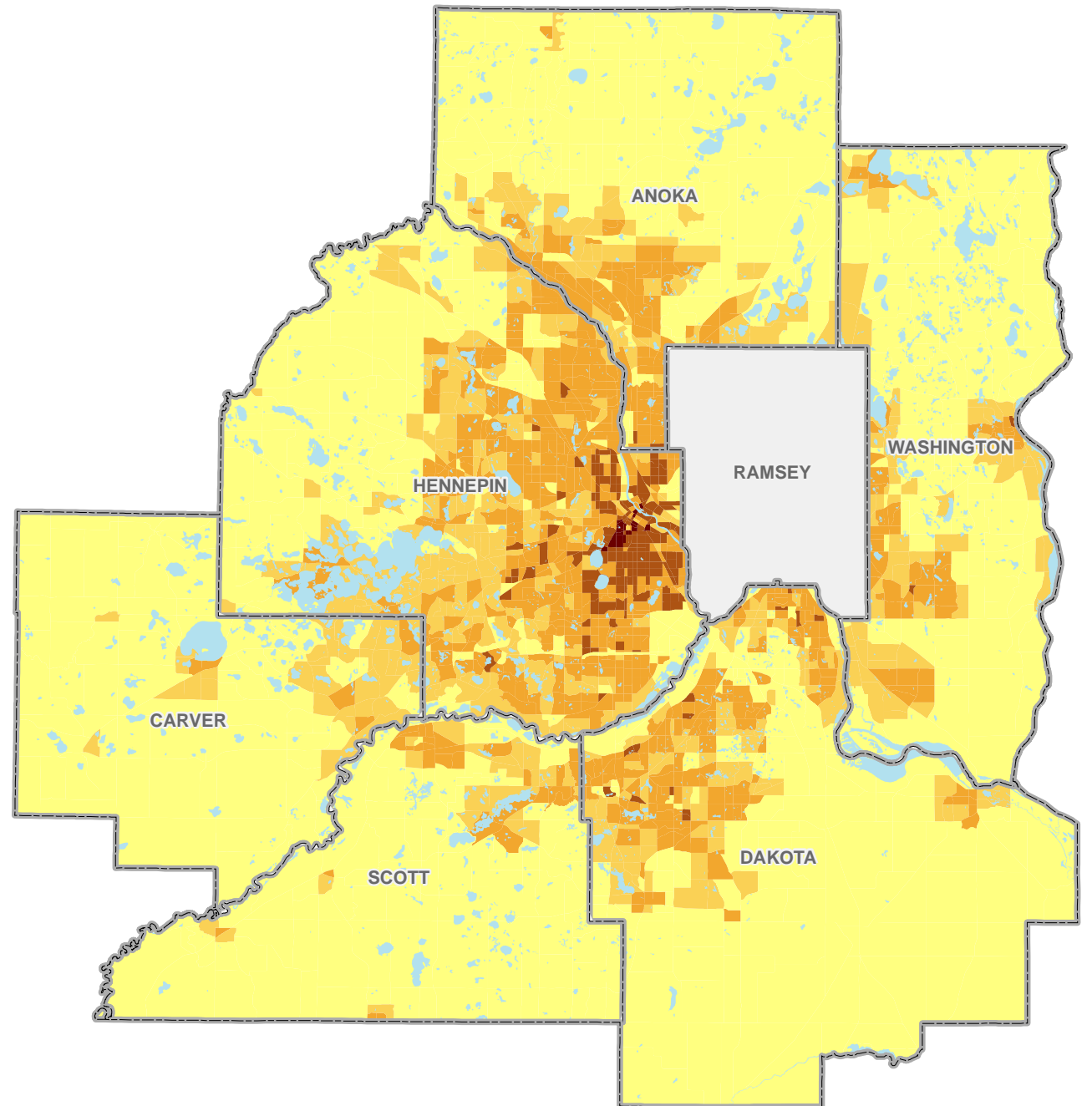
Households in 2050

- Metro region to add +324,000 households by 2050

- Outward growth around the suburban edges

- Existing suburbs are filling in

- Substantial intensification and redevelopment in urban centers
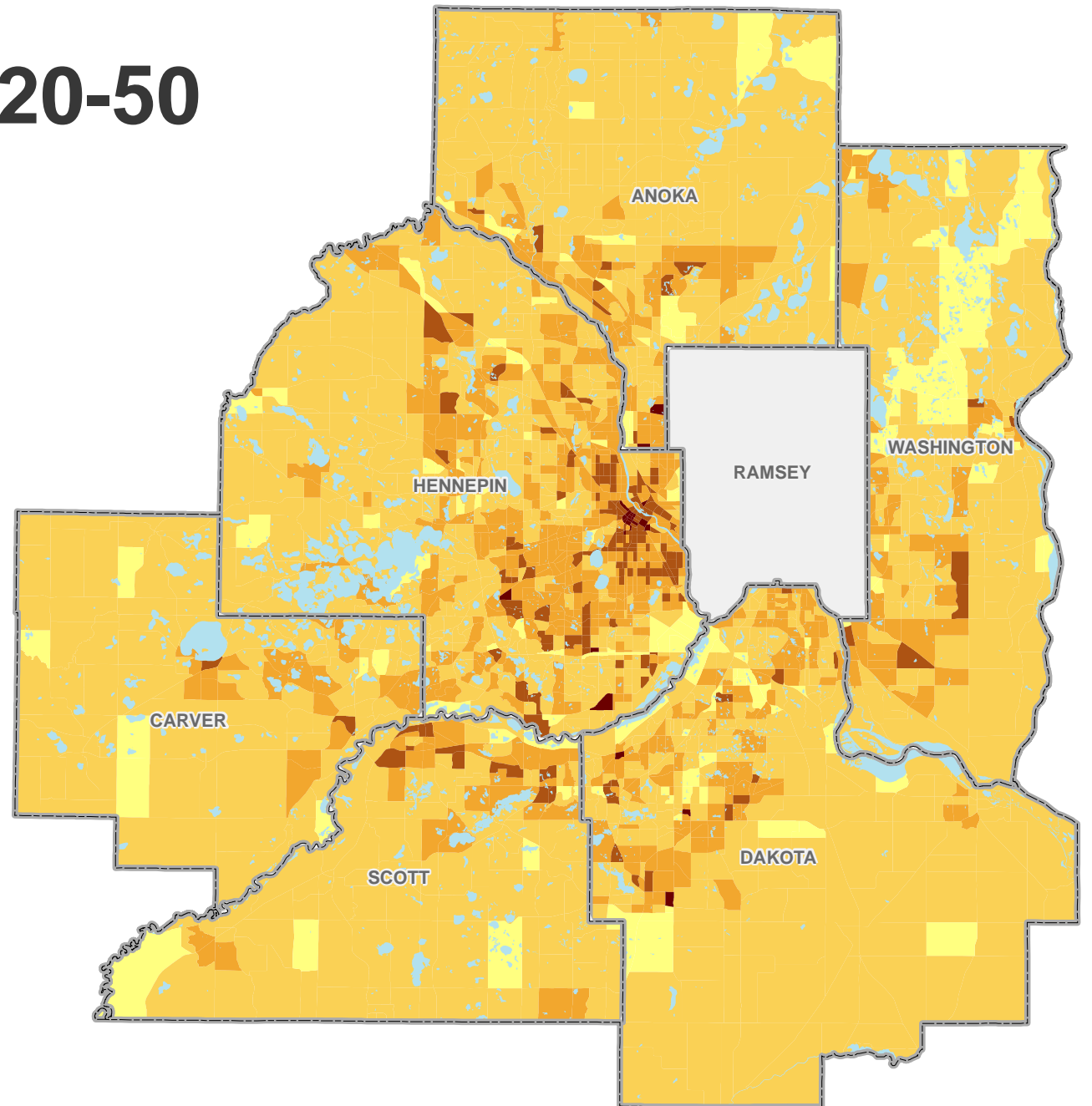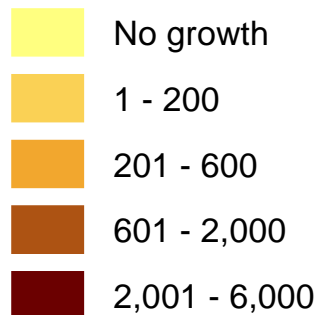 - Map graphic from v1

total_households / Square_Miles

- 0 - 300
- 301 - 1000
- 1001 - 3000
- 3001 - 10000
- 10001 - 30000
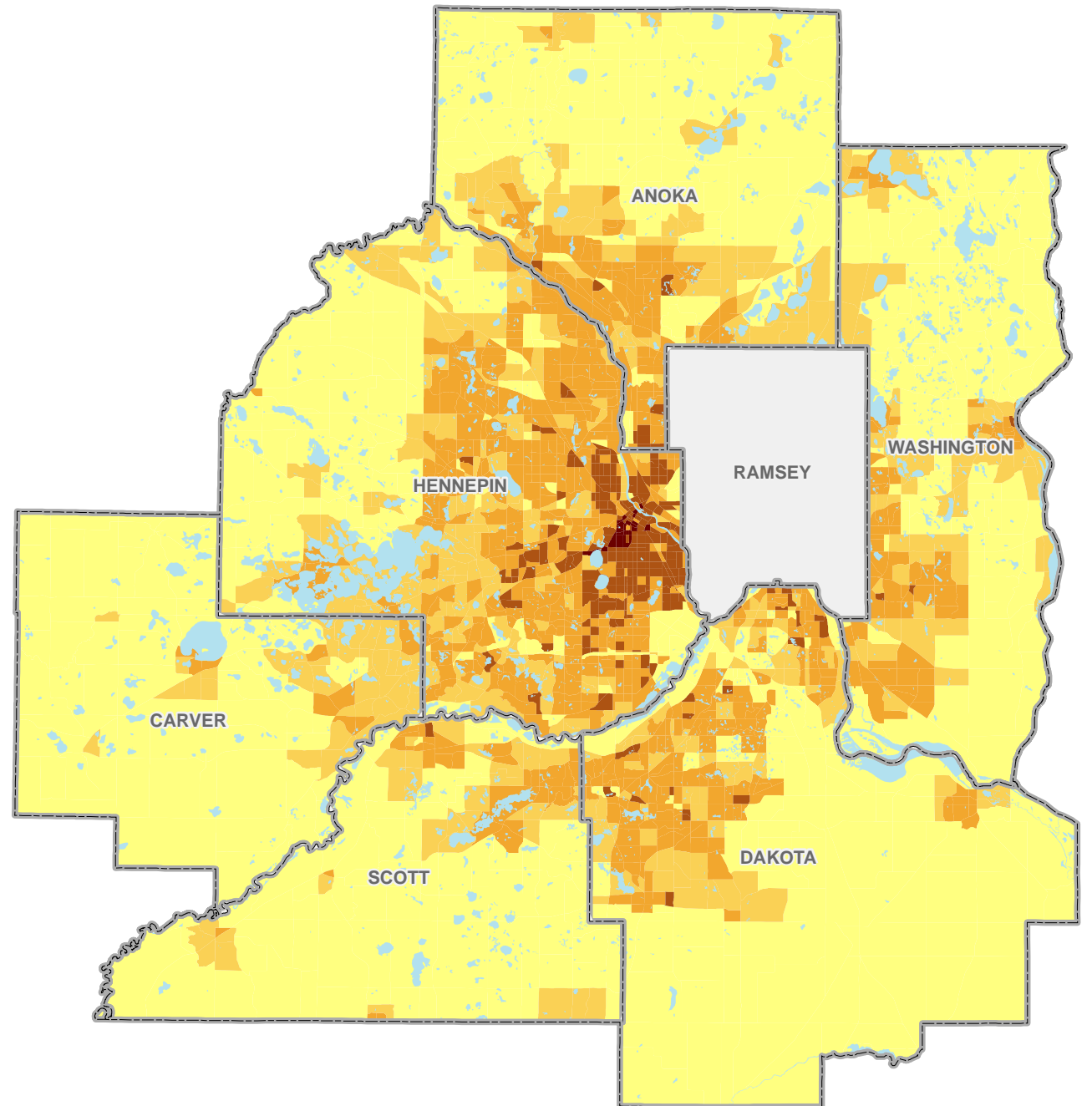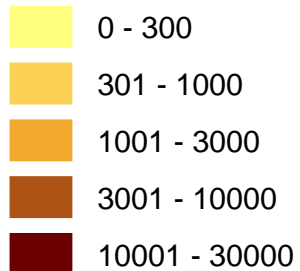
Households growth, 2020-50

- Metro region to add +324,000 households by 2050

- Pre-release, work-in-progress
  - Map graphic from v1

total_households / sq_miles

- No growth
- 1 - 200
- 201 - 600
- 601 - 2,000
- 2,001 - 6,000

Senior households growth, 2020-50

- Seniors are the dominant, market-making demographic – *because of aging and longevity*

- Gain of +236,000 senior households
  - The net change of working-age households: only +88,000

- Pre-release, work-in-progress
 - Map graphic from v1

hh_type_1 / sq_miles

	No growth
	1 - 200
	201 - 500
	501 - 1,000
	1,001 - 3,000
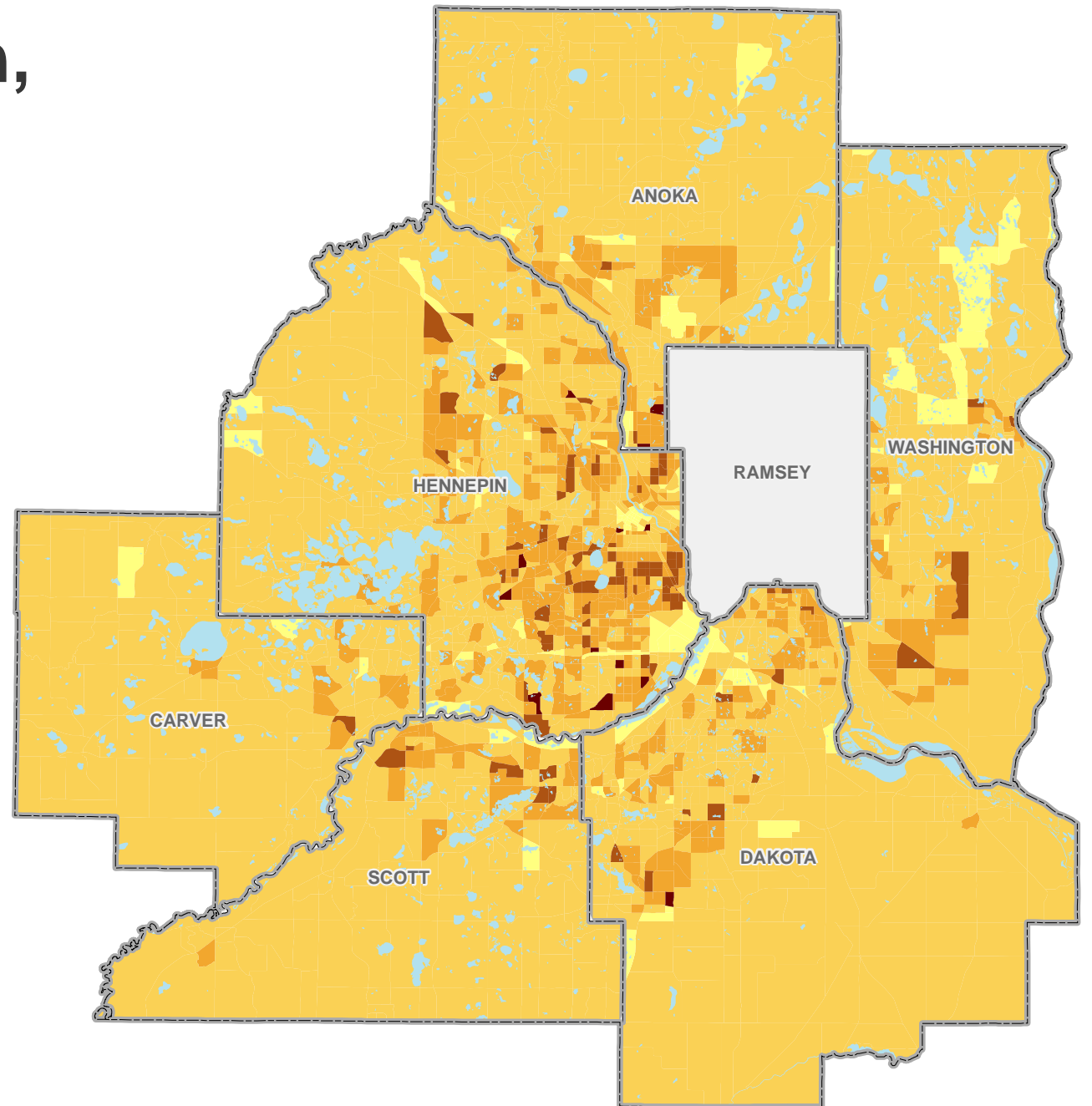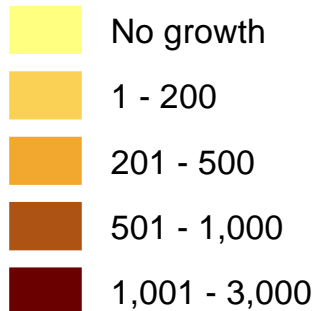
Youth population (under 18) growth, 2020-50

- Polarized demographic trends

- More youth growth in areas with BIPOC population

- More youth growth in wholly new (greenfields) neighborhoods

- No youth growth in mature suburbs that are majority white (and graying)

TAZs with growth

sum_children / sq_miles

- Loss or none
- 1 - 300
- 301 - 1,000
- 1,001 - 3,000
- 3,001 - 7,000
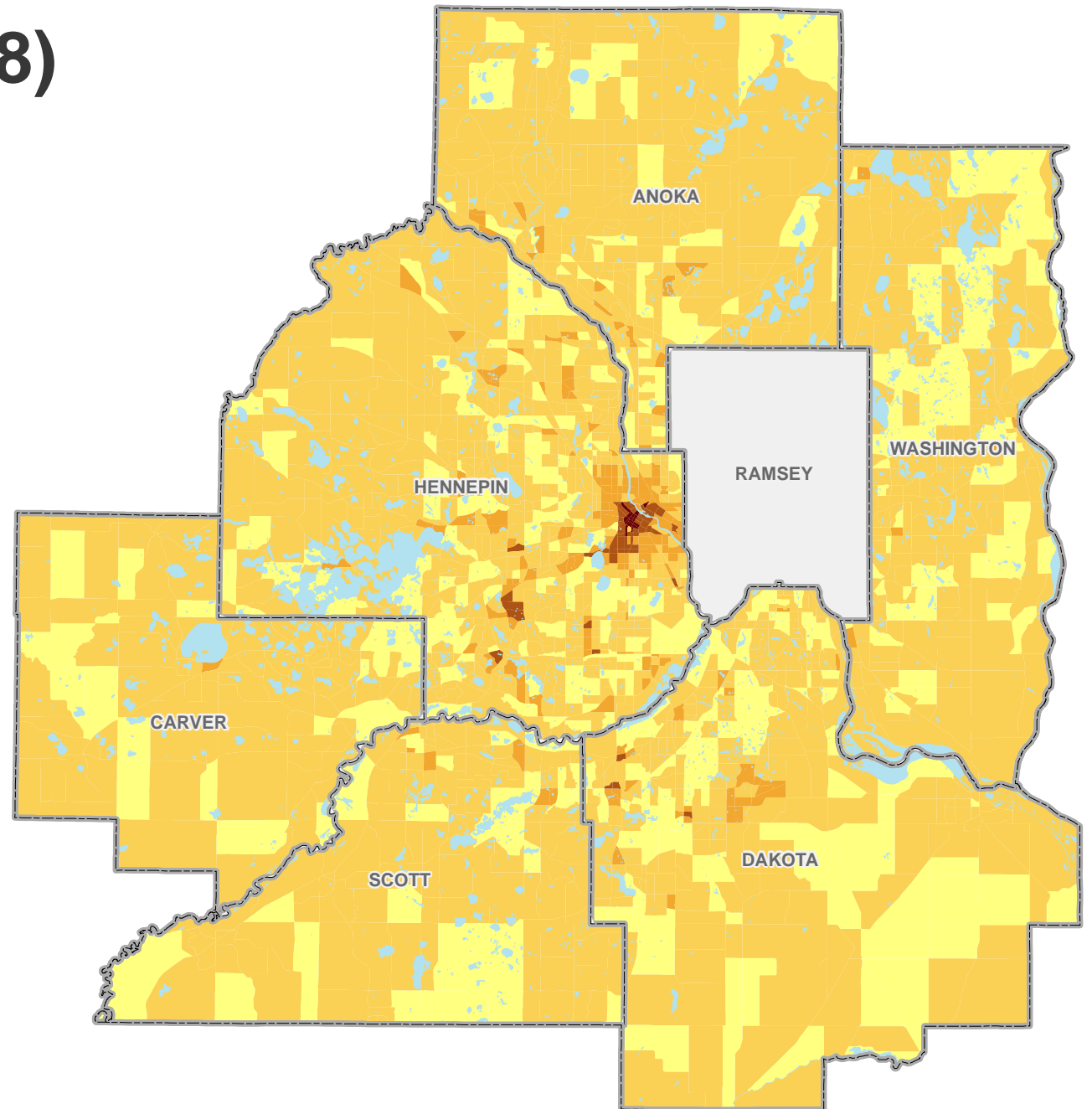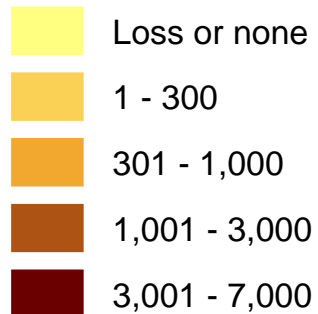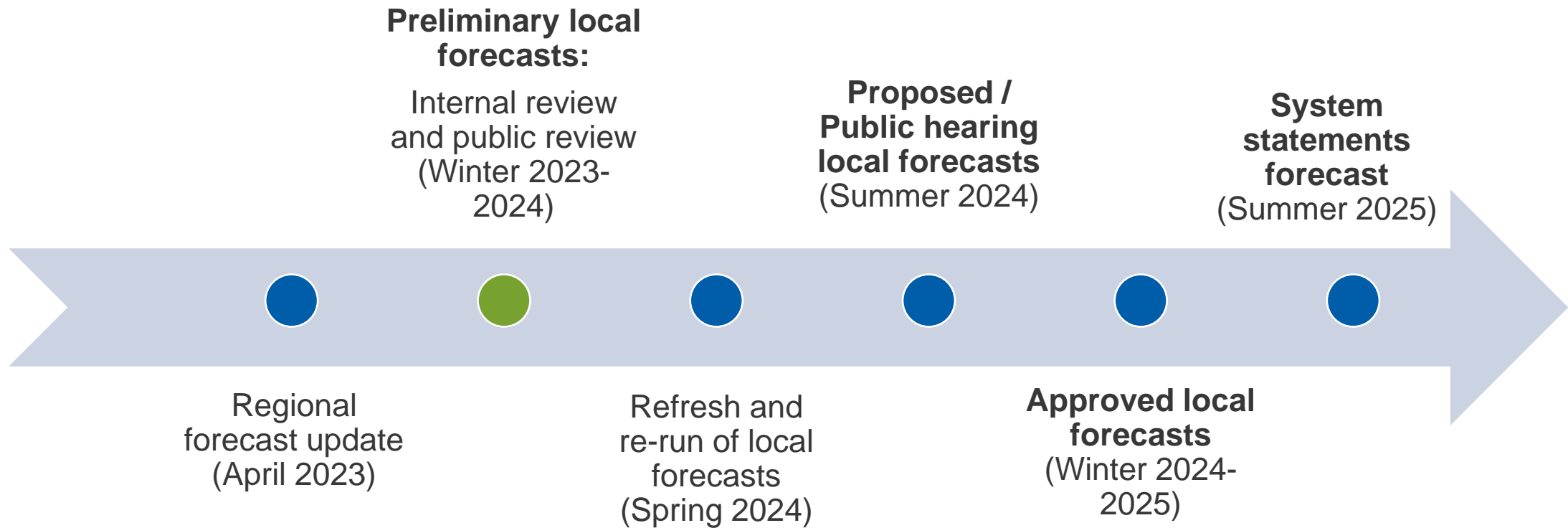
Input from local partners and the public

Preliminary local forecasts set (ver. 1), published January 2024

About the product set

- City- and township-level results
  - Subcity, zonal results come later
- Excel workbook format
- Also an interactive webmap

Visit https://metrocouncil.org/forecasts

Forecast timeline

Preliminary local forecasts:
Internal review and public review (Winter 2023-2024)

Proposed / Public hearing local forecasts (Summer 2024)

System statements forecast (Summer 2025)

Regional forecast update (April 2023)

Refresh and re-run of local forecasts (Spring 2024)

Approved local forecasts (Winter 2024-2025)

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Why versions 1, 2, 3…?

We want to get this right

Preliminary Local Forecasts, Version 1, do not yet reflect known developments that are proposed; do not yet reflect any (recent) update of transportation model results; do not reflect water supply analysis; and do not yet reflect any new regional policies.

- Published January 2024. Local governments can comment, Jan.–Feb.

Proposed Local Forecasts, Version 2, will introduce new regional system characteristics, including a refresh of planned transportation and transit networks. It will further introduce new regional policies and implications for spatial planning. Council staff are asking direction on new policies from Council Members.

- Expected Summer 2024. Public hearing, August–Oct. 2024

Forecast Model Team's expected work with partners and advisors

We want to get this right

We're providing a fair, analysis-based, realistic mechanism for prediction of future growth

We will

- Discuss with local partners
- Invite review of data inputs and preliminary local results
- Work with local partners to improve fit with local controls and plans

Validation and improvement: Input that will be most useful to us

We are most interested in:

- comments on the reasonableness of metrowide patterns,

- comments on the reasonableness of local results,

- validation *or substitution* of our data inputs and assumptions, including:
  - inventories of major proposed developments,
  - inventories of proposed removals of buildings and housing stock,
  - local land use plan maps for 2050,
  - local land policies not otherwise apparent in land use plan data,

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