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

Todd Graham, Principal Forecaster

Dennis Farmer, Planning Analyst

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This presentation will cover:

1. Forecasts: why and how
2. Met Council's forecasts in the new planning cycle
3. When expectations change: interim forecast revisions

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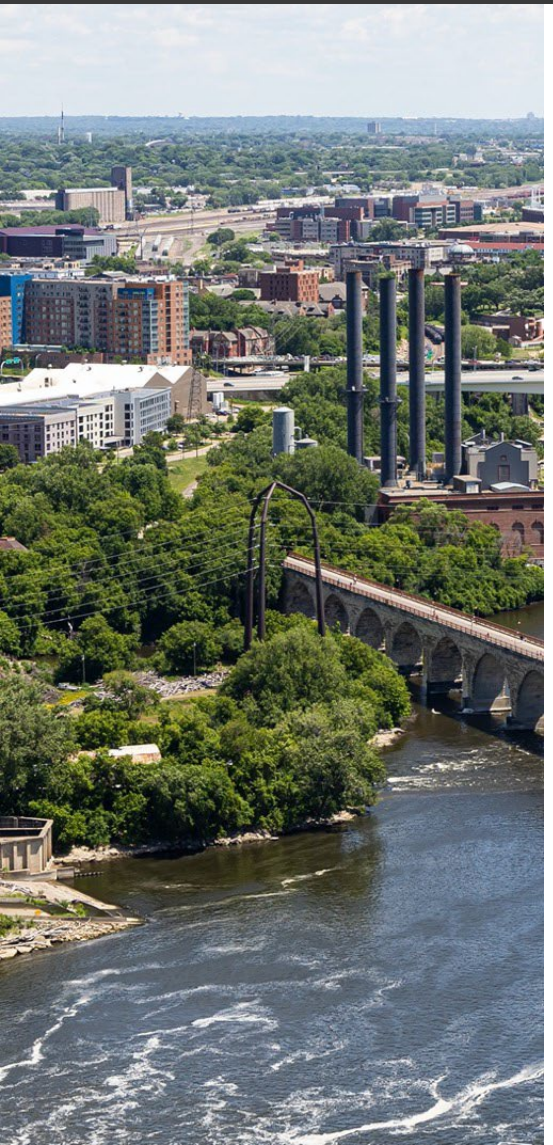
Forecasts: why and how

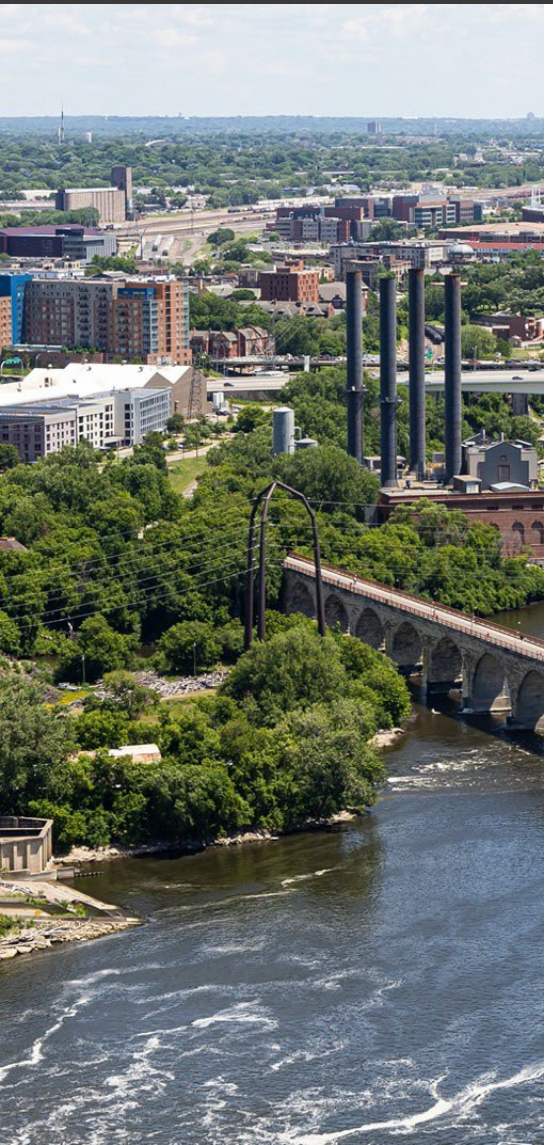
Why we forecast: regional context



Long-term 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*

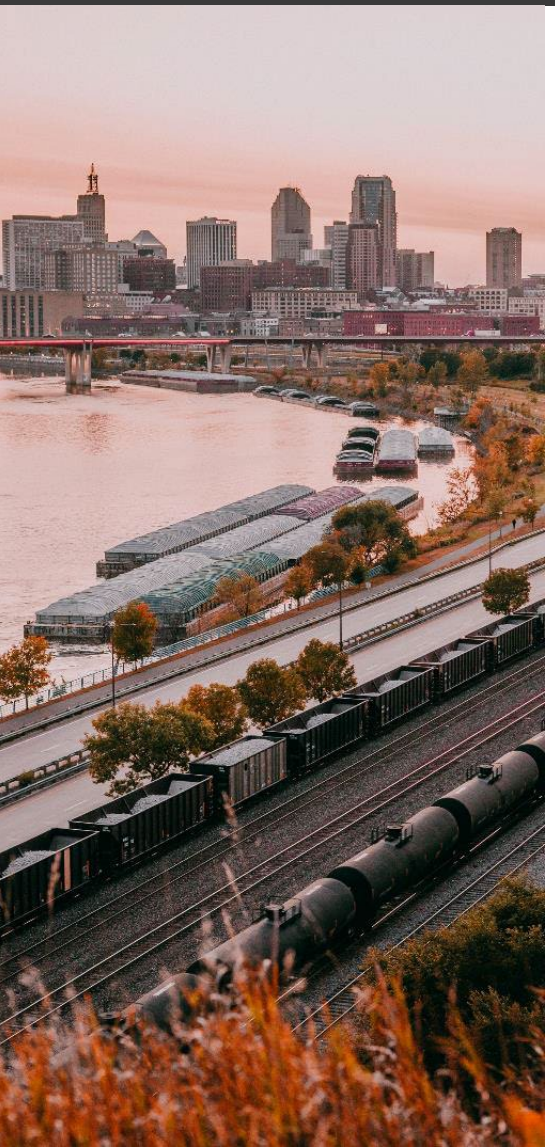
How we forecast: models

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

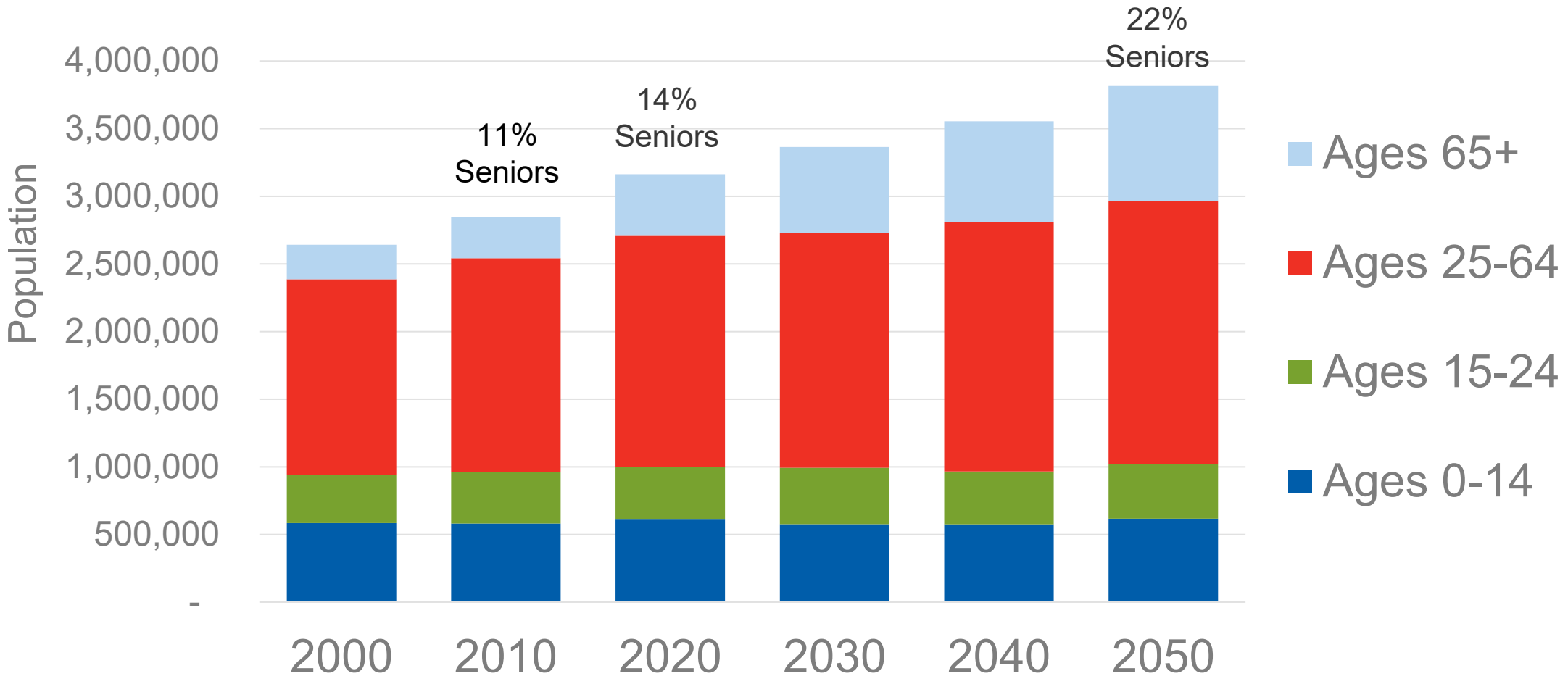


Regional economic model for macro-level employment and population

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

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



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

From macro-level to local

Regional totals from the macro model are allocated to local zones

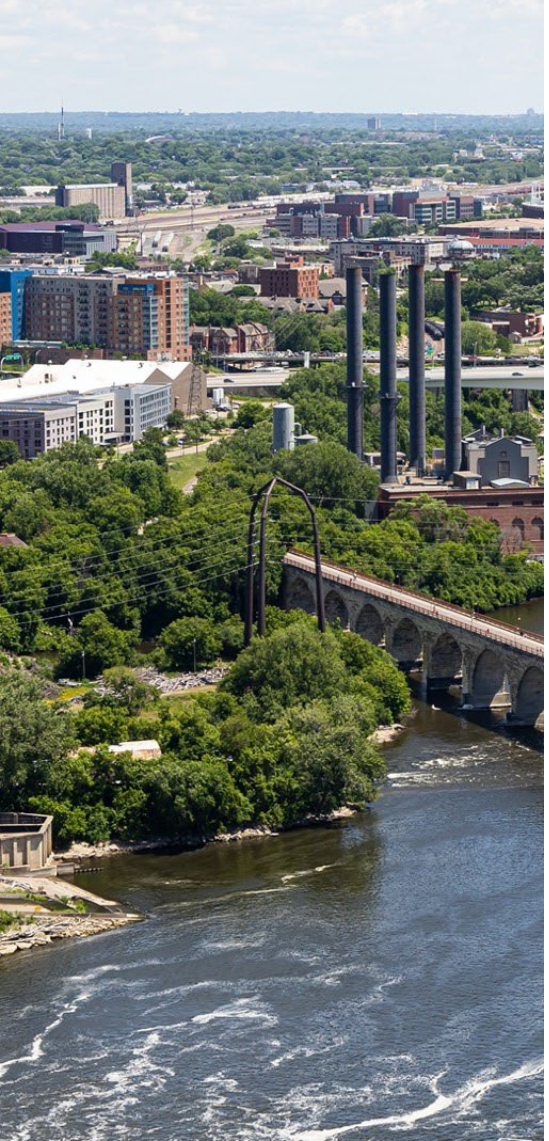
UrbanSim's allocation logic is simulated real estate dynamic, with submodels that handle the projection of:

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

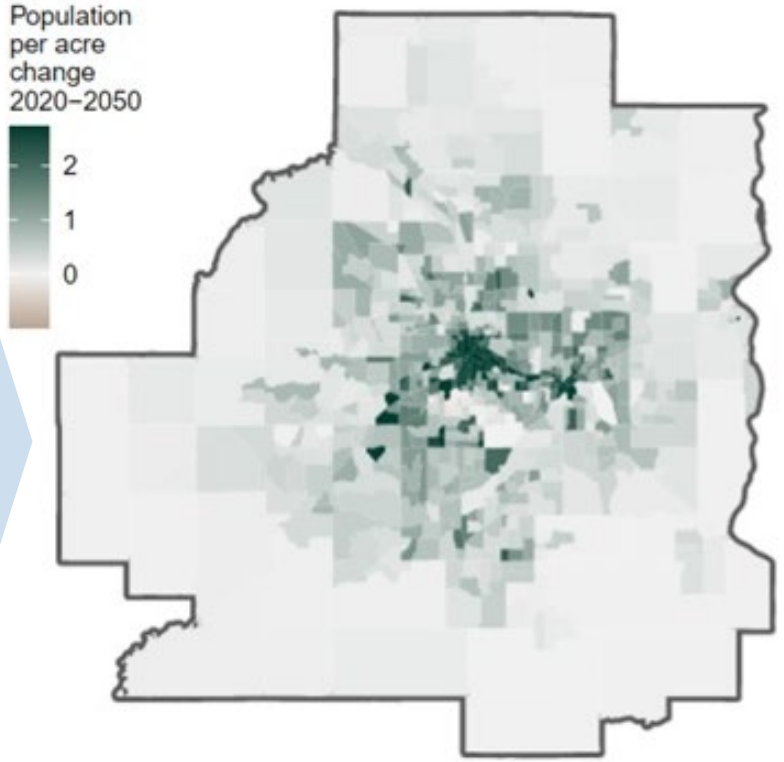
Travel demand model – a separate model – projects future network conditions, accessibility measures

- 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.

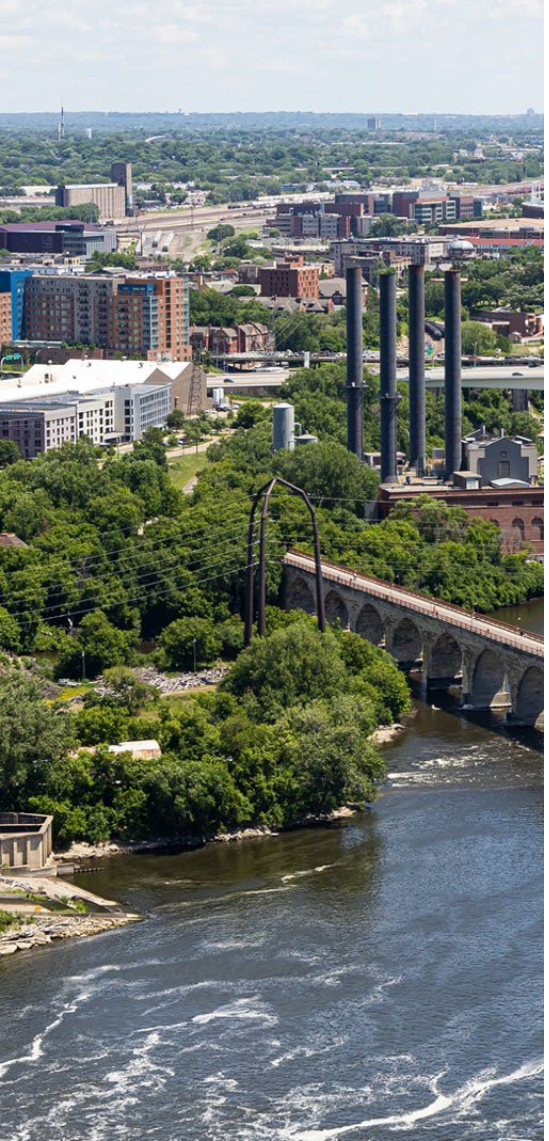
- From local governments: Allowed land uses, allowed densities
- From Met Council: wastewater service area (MUSA)

Metropolitan Council's forecasts in the new planning cycle

Local forecast set is work-in-progress

- Last complete update of local forecasts was in 2014
- Upcoming update of local forecasts, in 2023-24, part of the Metro Development Guide
- The regional forecast provides totals for the forthcoming local forecasts
- The local forecast set answers: *Where will the metro's next 657,000 residents live?*

From modeled to plan-ready forecasts



Timeline

2022: Forecast models preparation and tuning

Jan.–July 2023: Prepare **Preliminary Forecast (v1)**

August 2023: **Preliminary Forecast (v1)** available for internal divisions

- August 2023–Feb. 2024: 6 months for system-specific analysis or modeling with population, households, employment and land use as inputs

Fall 2023: Share preliminary city totals to local planners, vetting and feedback

- Details of outreach plan: TBD

Spring 2024: Refresh the land use model and **Proposed Forecast (v2)**

- Refresh to include late arriving inputs, proposed transportation network changes and model results, proposed MUSA changes, other new policies

July 2024: Publish a **Public Hearing/Proposed Forecast (v2)**

New forecasts v.1 *still a year away*

In the meantime, still forecasts set from the previous cycle is still in place, still on our website

- 2040 forecasts for cities, townships: https://metrocouncil.org/forecasts/
- 2040 forecasts for transportation analysis zones (19 counties): https://gisdata.mn.gov/dataset?q=taz+forecast

Discussion

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

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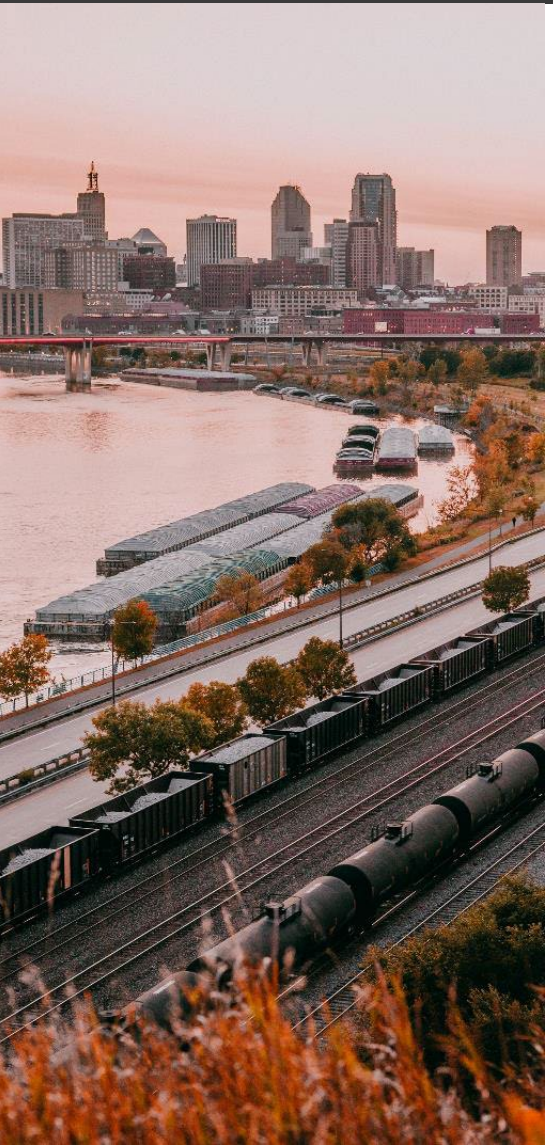
Discussion questions



- What limits or policies does the TAC suggest be explored w.r.t. 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?
  - So that they can be introduced in the models we use.
- Any other thoughts to share on our approach to forecasts?

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