# 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. Met Council's forecasts in the new planning cycle
3. When expectations change: interim forecast revisions

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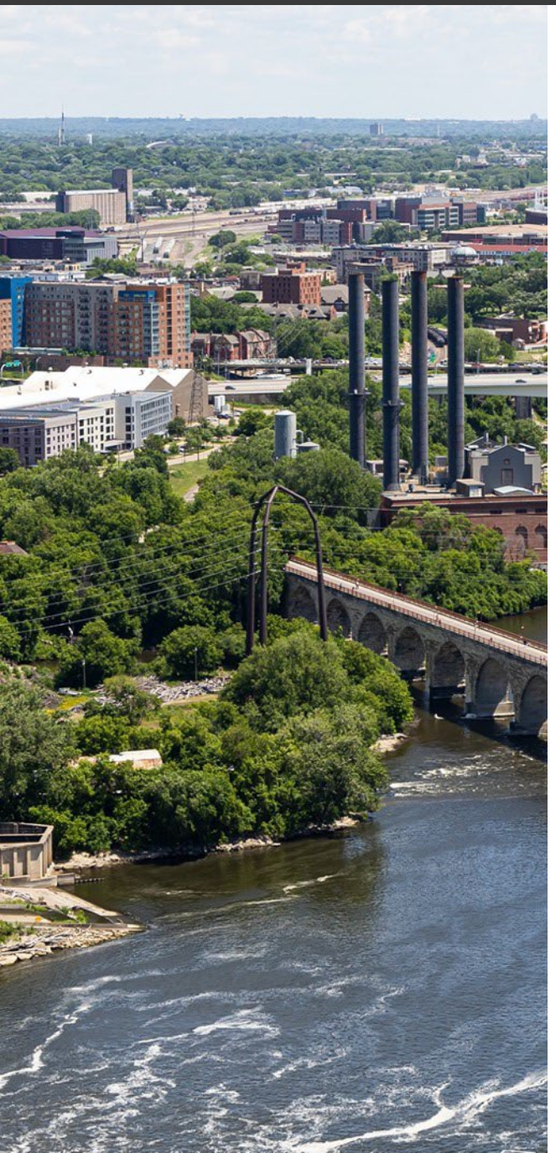
# Forecasts: why and how

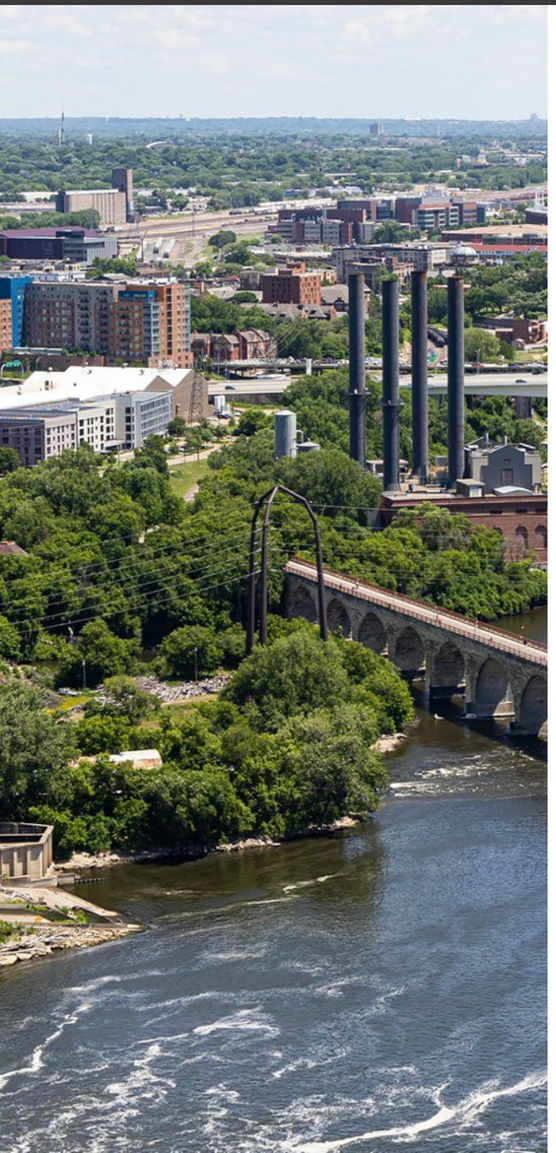
# Why we forecast: regional context



## 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*

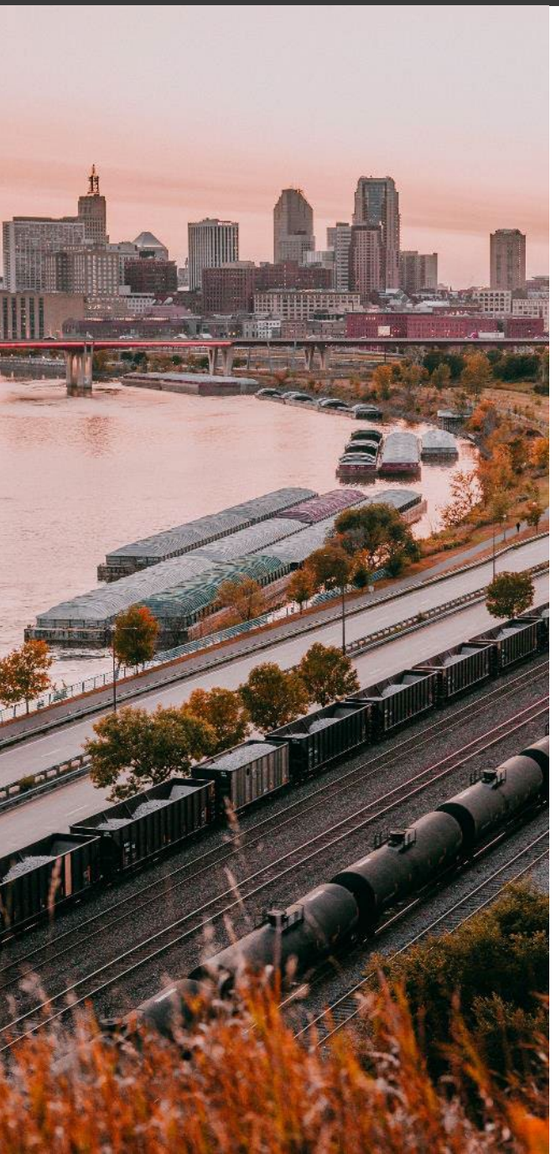
# How we forecast: models

## 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

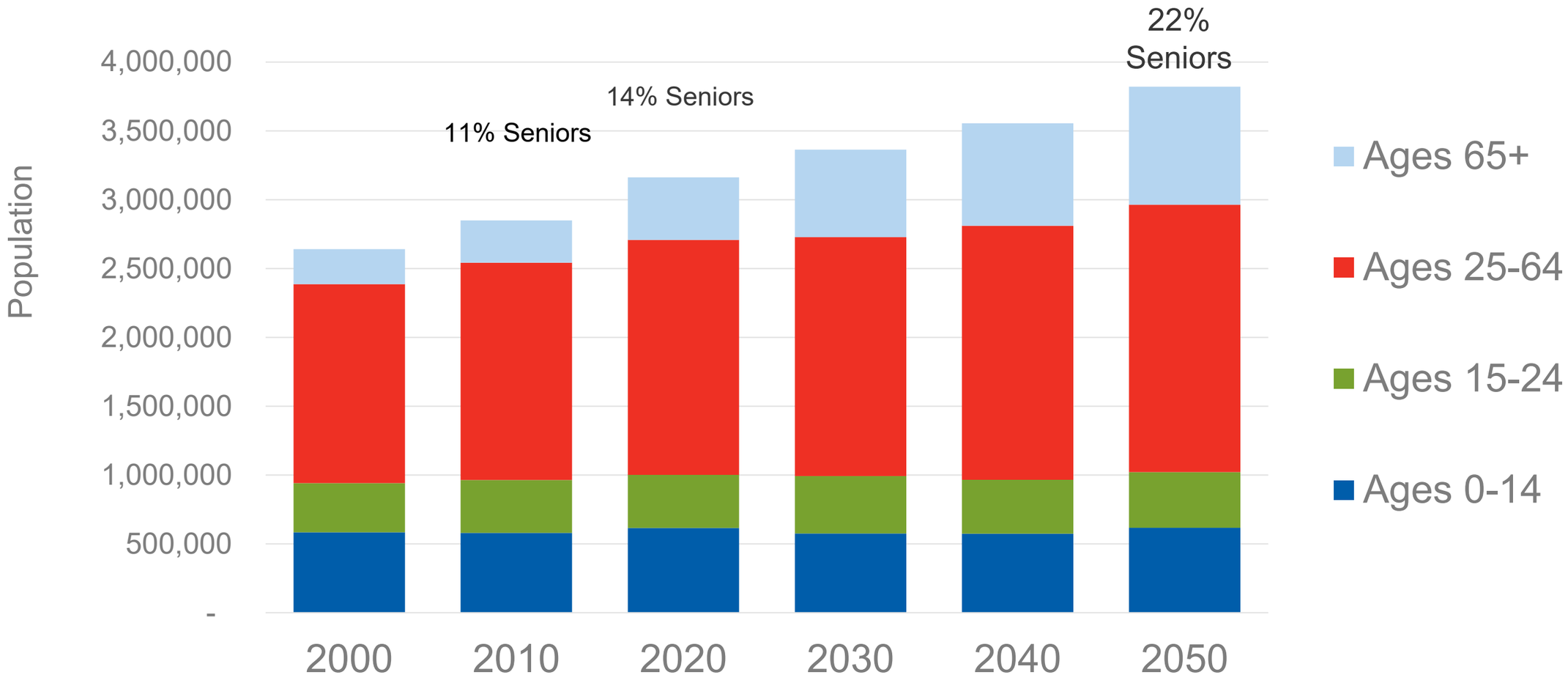


**Regional economic model** for macro-level employment and population

**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

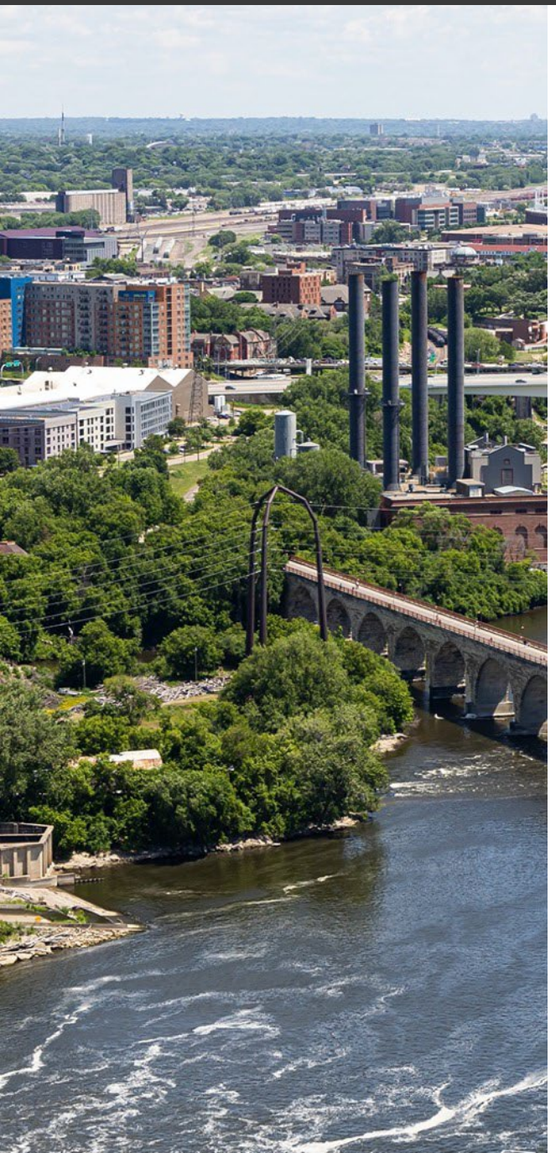
UrbanSim's allocation logic is simulated real estate dynamic, with submodels that handle the projection of:

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

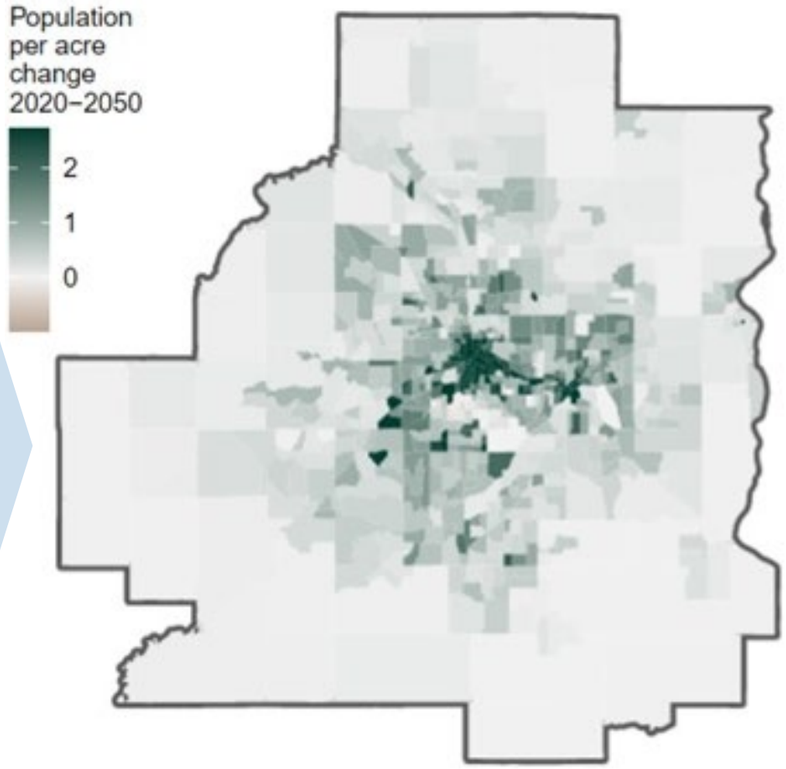
Travel demand model – a separate model – projects future network conditions, accessibility measures

- 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.

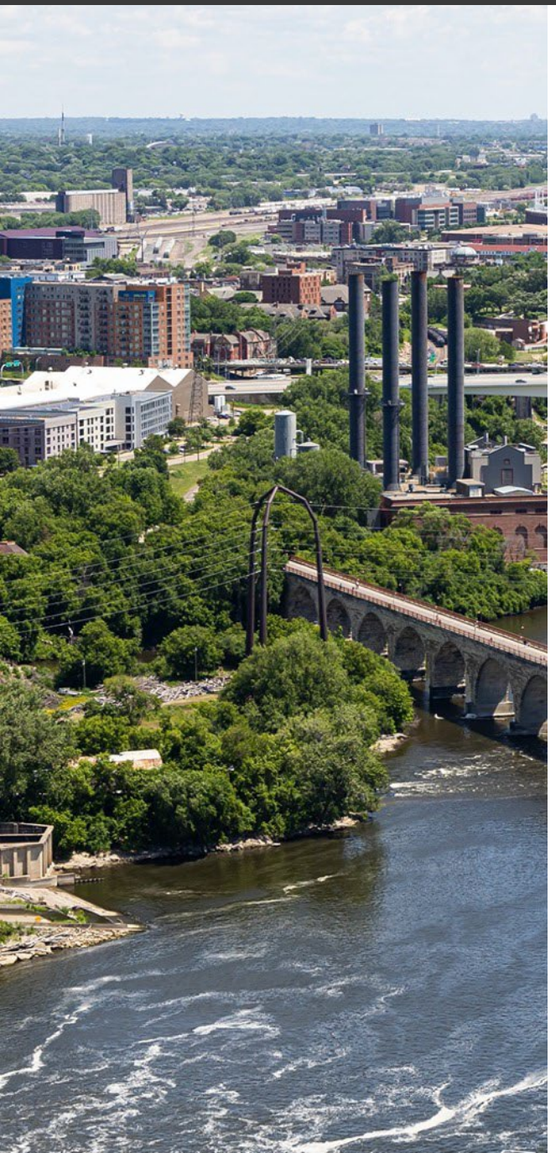
- From local governments: Allowed land uses, allowed densities
- From Met Council: wastewater service area (MUSA)

# 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)**

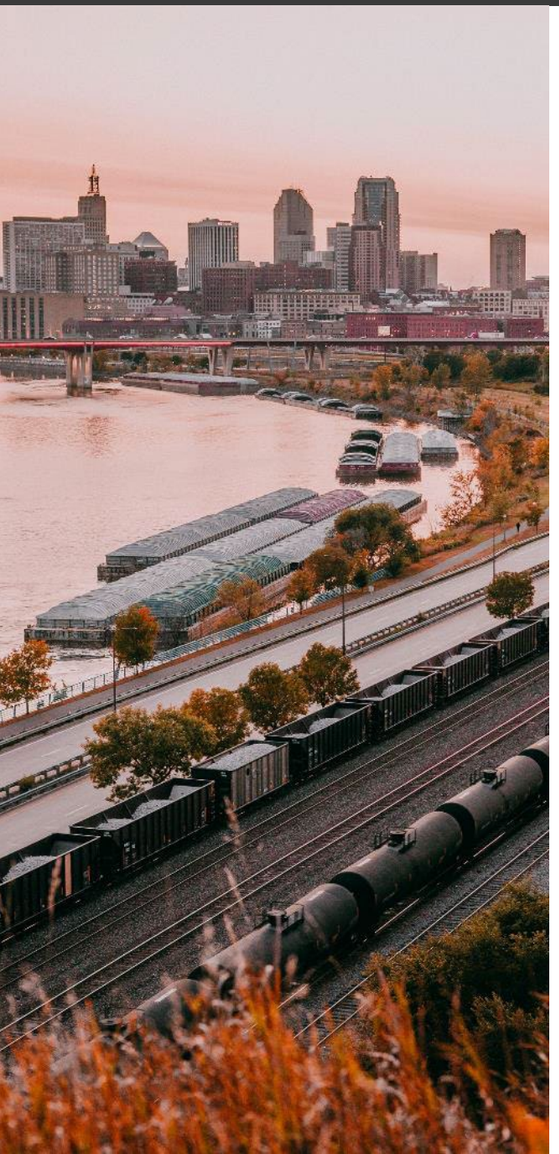
# New forecasts v.1 *still a year away*

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

# Discussion questions



- What limits or policies does the MAWSAC 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?