

CAMBRIDGE
SYSTEMATICS

Think  Forward

Peer MPO Survey

Initial Results

presented to
COG/TPB TFS

presented by
Cambridge Systematics, Inc.

September 18, 2026

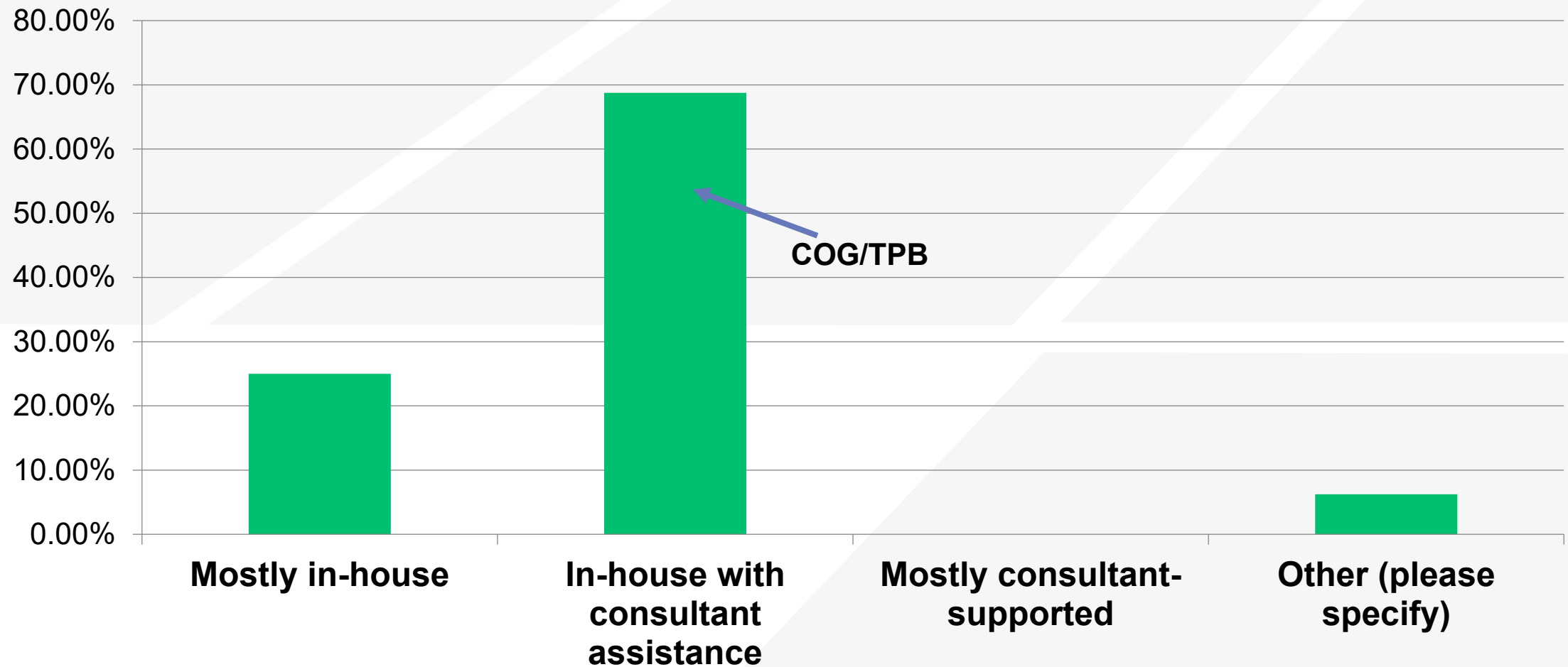
Overview

- COG/TPB is developing a strategic modeling plan
- Survey objective: Obtain information on travel modeling practice from COG/TPB's peer MPOs
 - » U.S. MPOs in large metro areas
 - » Other MPOs known to have a history with advanced travel models
- Besides COG/TPB, survey invitations were sent to 21 MPOs
- Survey responses were received from 16 invitees

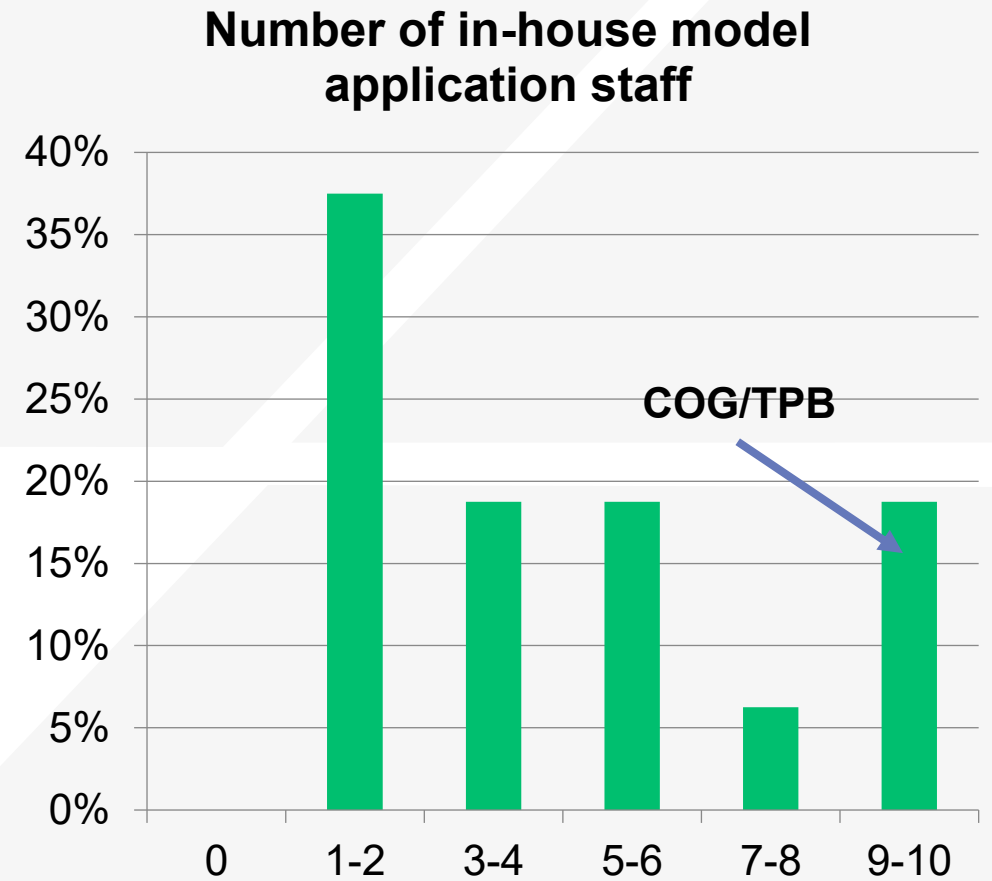
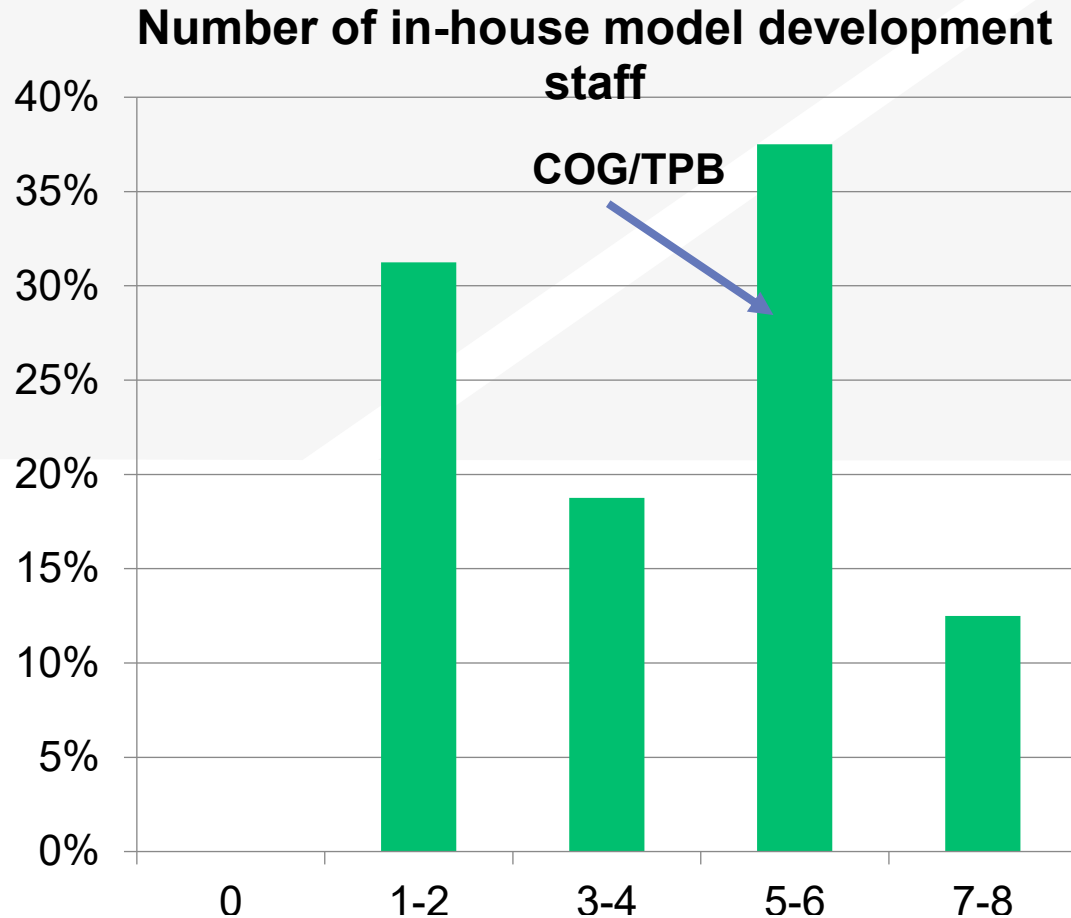
Overview

- Respondents reported an average of 22 years of experience in travel demand modeling
 - » The fewest years of experience were 8 years (MORPC)
 - » The most years of experience were 40 (NYMTC)
- Respondents reported an average modeled area population of 7.2 million
 - » The smallest reported population was 1.9 million (MORPC)
 - » The largest reported population was 22 million (NYMTC)

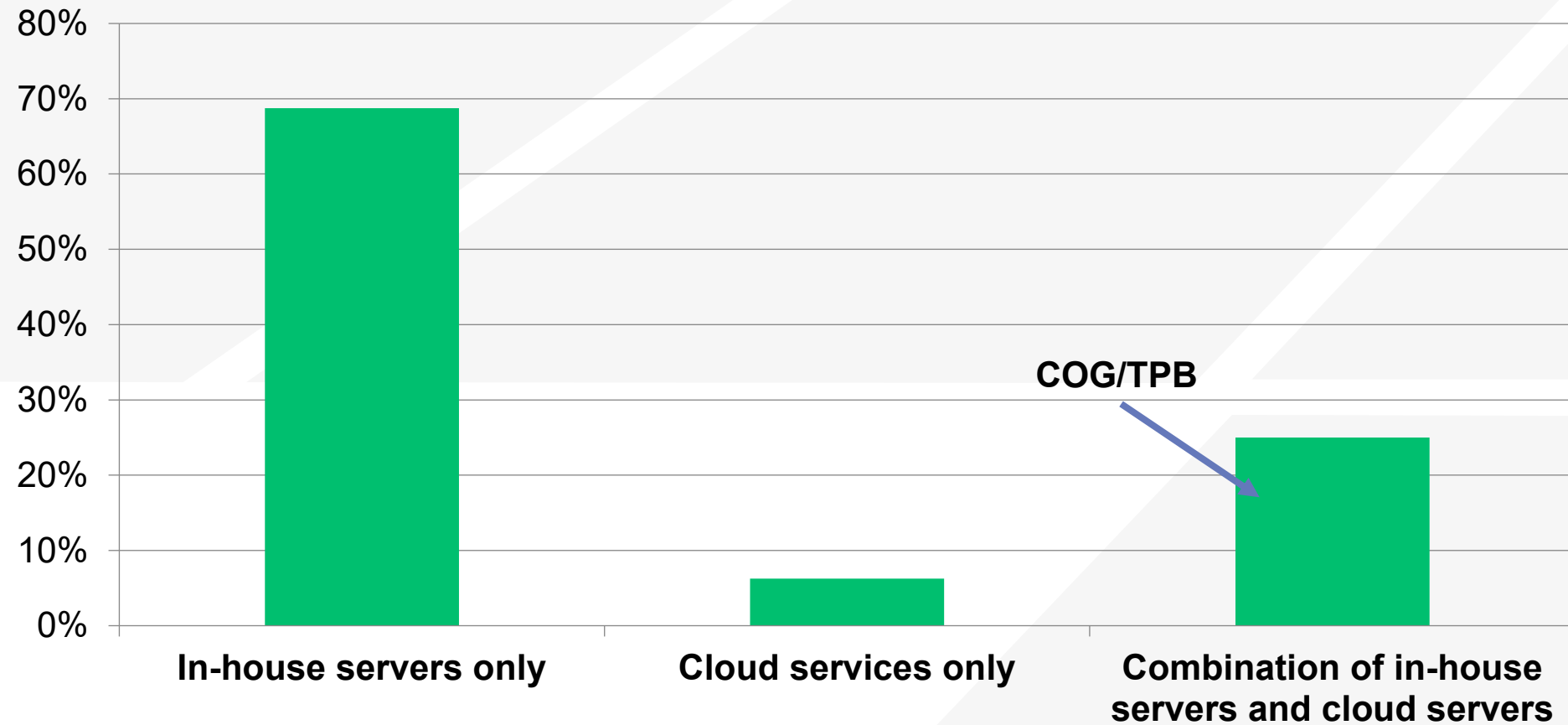
How Does Your Agency's Modeling Group Work? (n=16)



Agency Modeling Staff (n=16)



Agency Hardware Environments (n=16)



Types of Demand Models Used – Summary

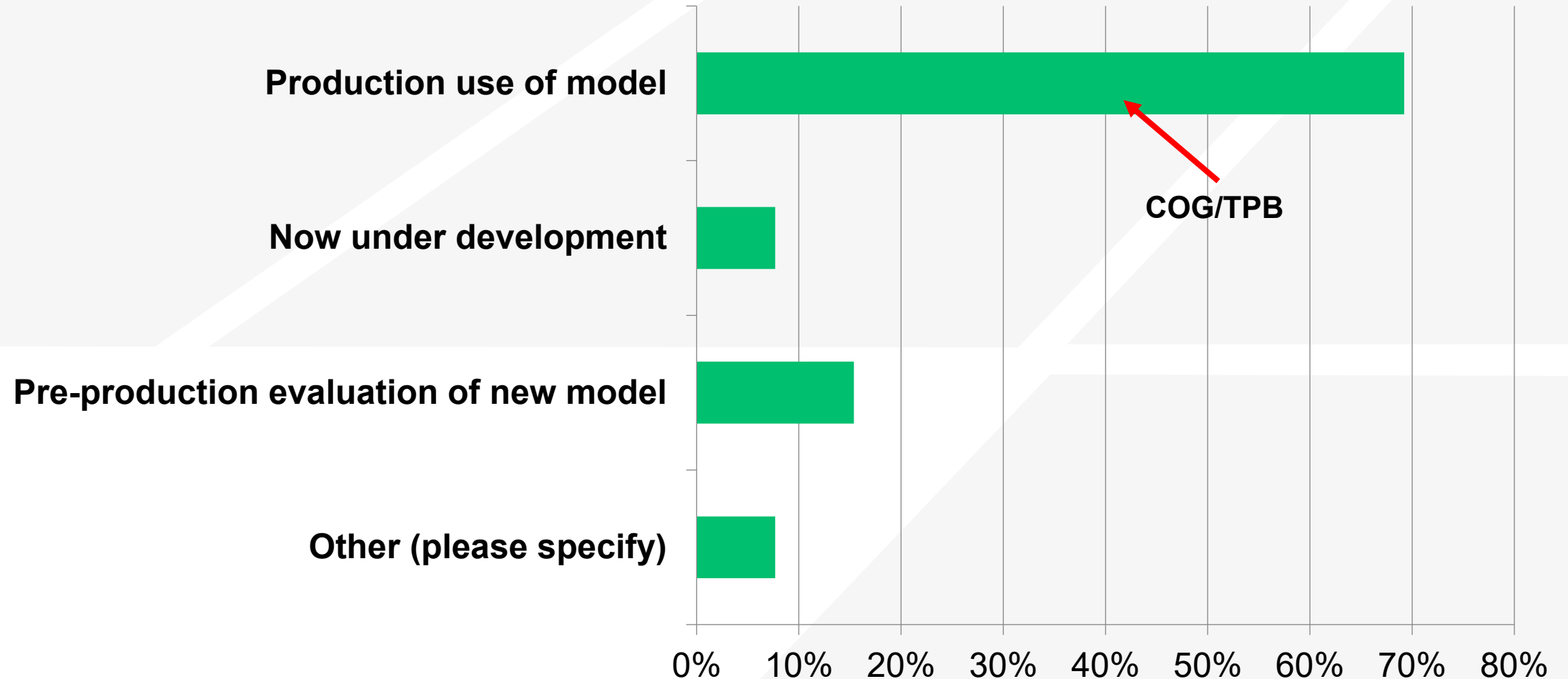
- ABM only – 7
- ABM and 4-step – 6 (including COG/TPB)
- 4-step only – 3

Trip-Based Model Status

- 8 out of 9 agencies have a trip-based/four-step model in production use
- One agency indicated their trip-based/four-step model is now under development

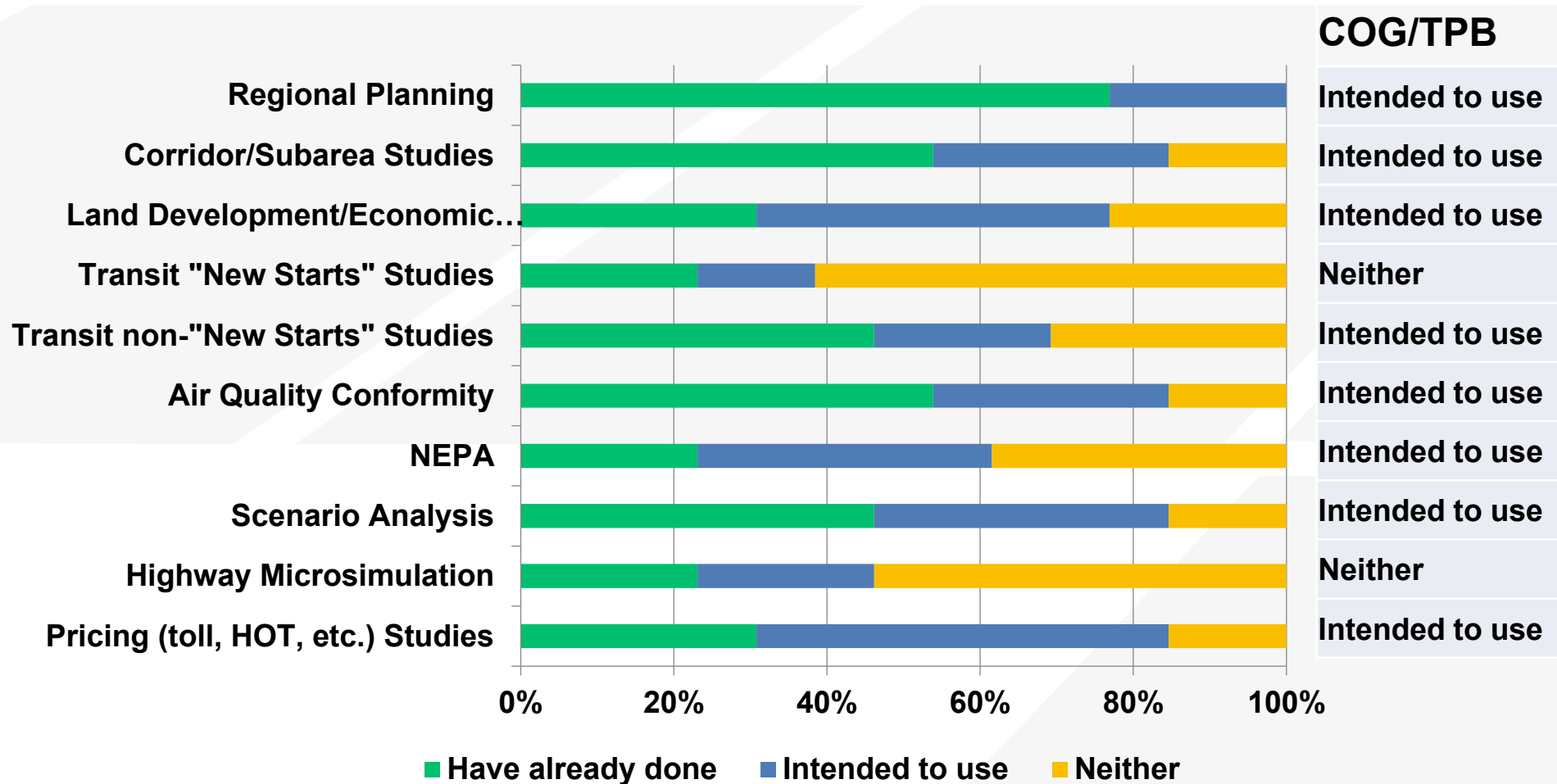
Activity-Based Model Status

(n=13)



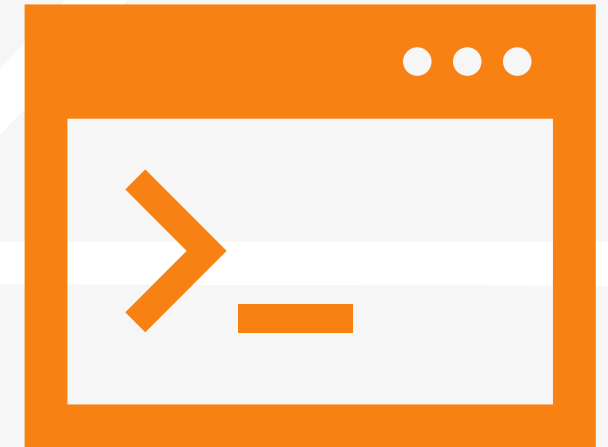
Types of Studies/Applications for ABM

(n=13)



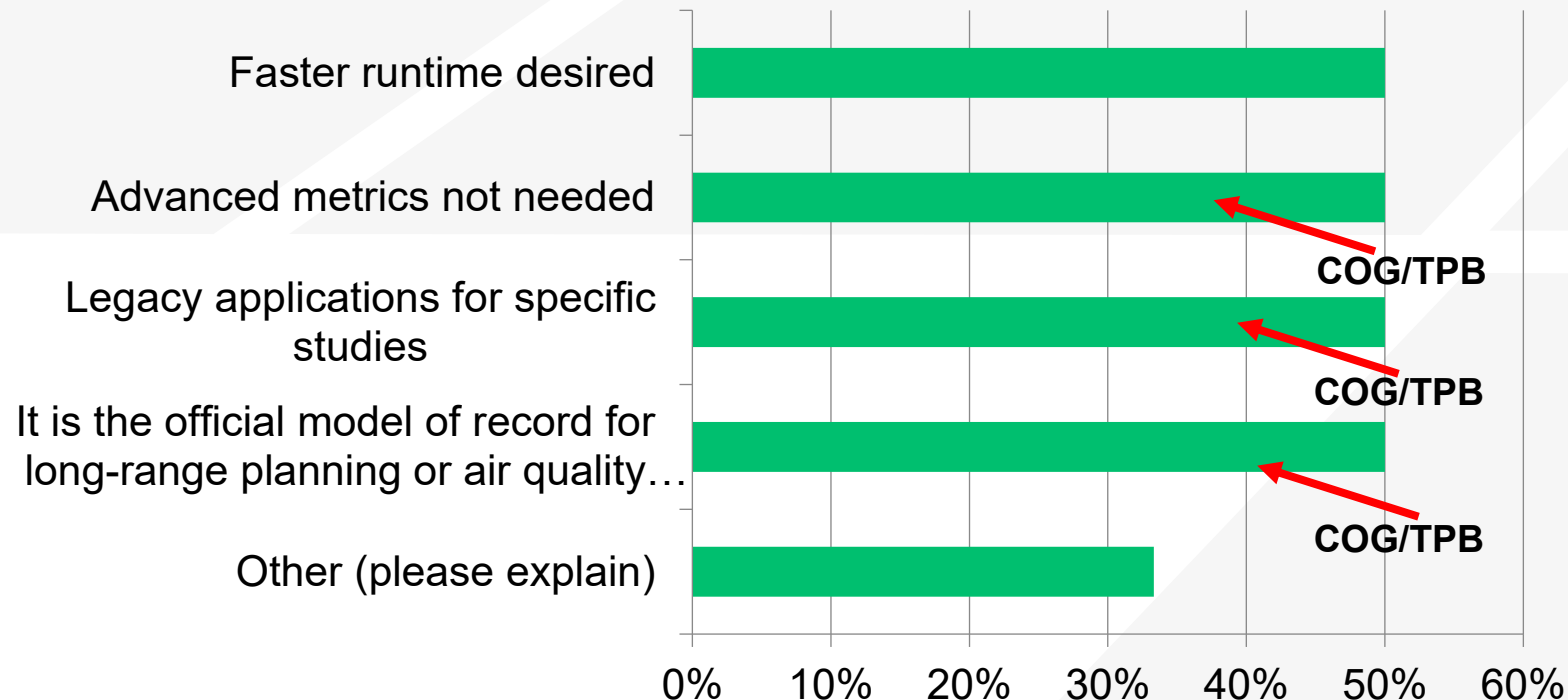
Percentage of ABM Application Runs

- Six agencies reported maintaining both trip- and activity-based models
- Five out of six (including COG/TPB) indicated 0-20% of application runs used the ABM
- The sixth agency used the ABM for 81-100% of their application runs
- (Seven agencies used only ABM)



Trip-Based Over Activity-Based Model Use (n=6)

If you maintain both trip- and activity-based models, in what situations do you opt for running the trip-based model instead of the activity-based model? (Check all options that apply)

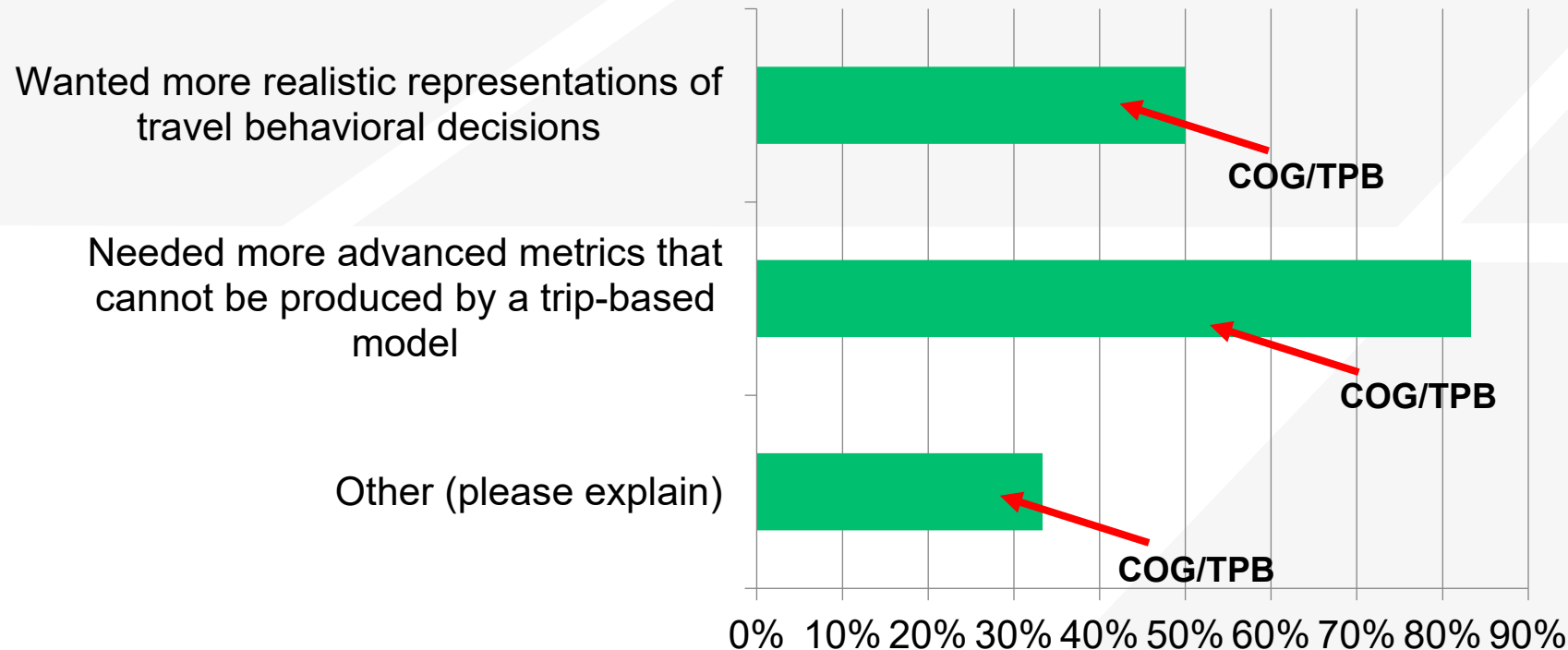


Other:

- Oregon Metro - Still developing ABM ... anticipate the need to run both TBM and ABM depending on use case, to be determined
- DVRPC - Transitioning from trip-based to ABM; ongoing studies use trip-based model.

Activity-Based Over Trip-Based Model Use (n=6)

If you maintain both trip- and activity-based models, in what situations do you opt for running the activity-based model instead of the trip-based model? (Check all options that apply)



Other:

- **COG/TPB - Certain policy analysis/scenario analysis that would not be possible with the trip-based model (e.g., telecommuting)**
- **DVRPC - Transitioning from trip-based to ABM; new studies will use ABM.**

Activity-Based Model Barriers

If your agency has an operational activity-based model, what has been the single biggest barrier to using it for model applications such as conformity analysis, project studies, stakeholder use, or consultant use? How did your agency address this barrier, or what do you wish had been done differently?

- General themes:
 - » Limited staff time and experience
 - » Computational and data weight
 - » Long run time and lack of ability to conduct multiple runs simultaneously
 - » Model region too large
 - » Estimation, calibration, and validation

COG/TPB - Our ABM has not been put into operation yet.

DTA Model Status and Spatial Resolution

➤ Status

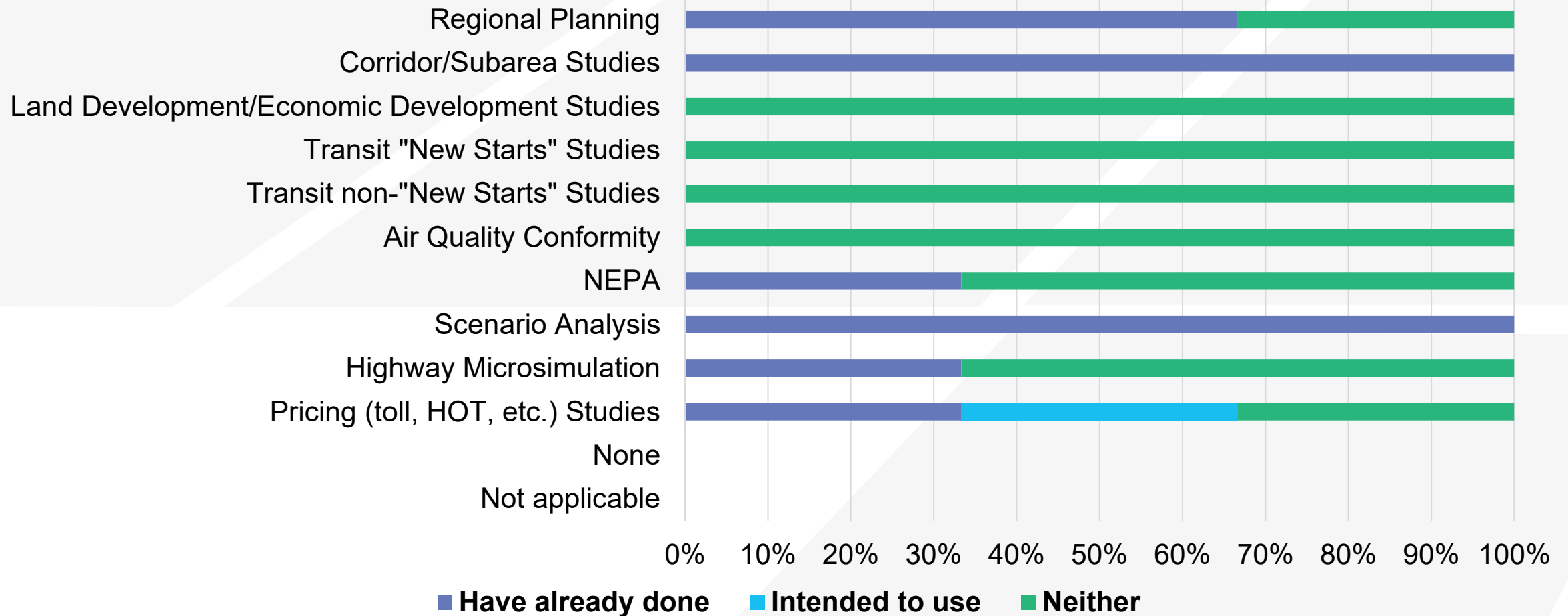
- » Three agencies indicated that they had a DTA model in production use
- » One agency is undergoing pre-production evaluation of a new model

➤ Spatial Resolution

- » All four agencies reported a TAZ-level spatial resolution for their model

DTA Model Applications

(n=3)

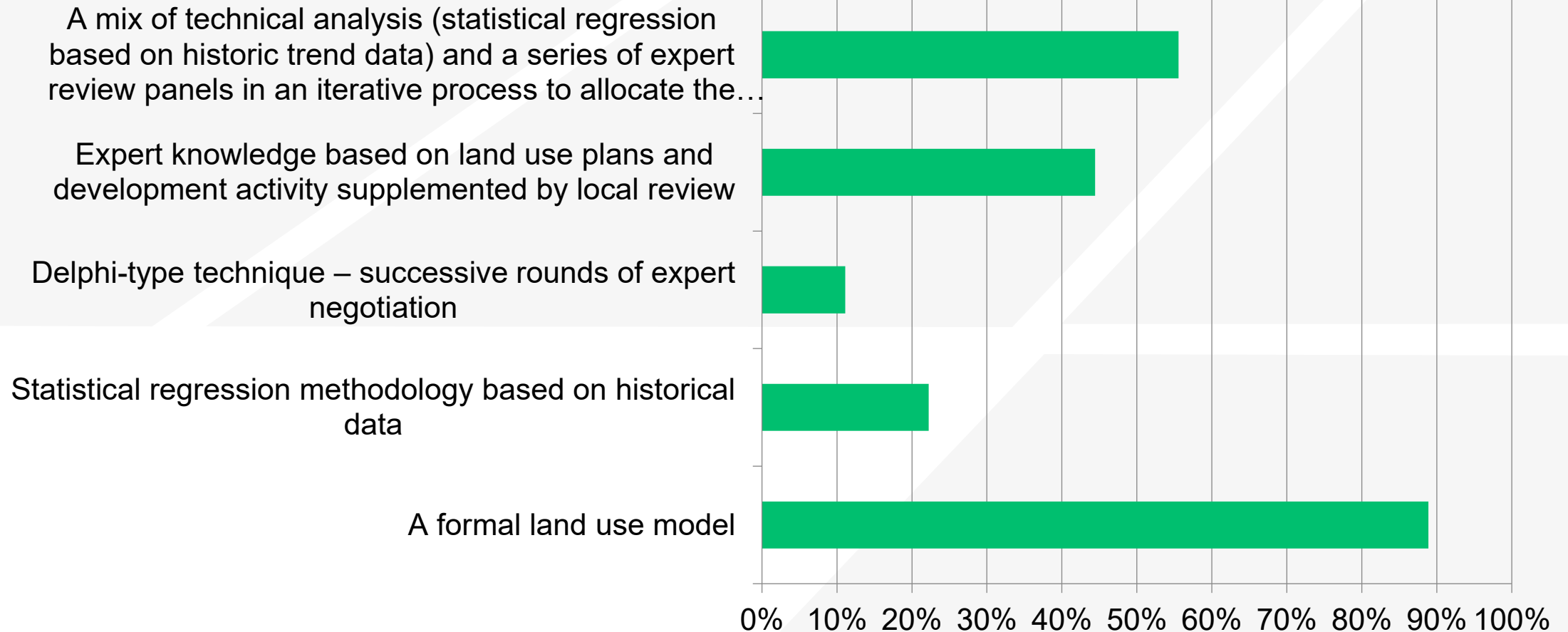


Land Use Model Status

- Eight agencies reported having a land use model in production use
- One agency responded with “Other”, stating there was a production process, but not a model system that was being improved

Forecasting Future Land Use

(n=9)



Next Steps

- Results from both peer MPO and stakeholder surveys are being used in the strategic plan to identify:
 - » Strengths of COG/TPB models
 - Features to retain – importance to stakeholders
 - Features that peer MPOs have found important
 - » Desirable features to add
 - Ability to perform analyses the models are used for
 - Features used in other regions that would be useful to the COG/TPB region
 - » Potential areas of improvement to COG/TPB models
 - Areas expressed by stakeholders
 - Improvements found useful by peer MPOs