



2009 TMA/MPO Modeling Activity Survey

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Survey Purpose

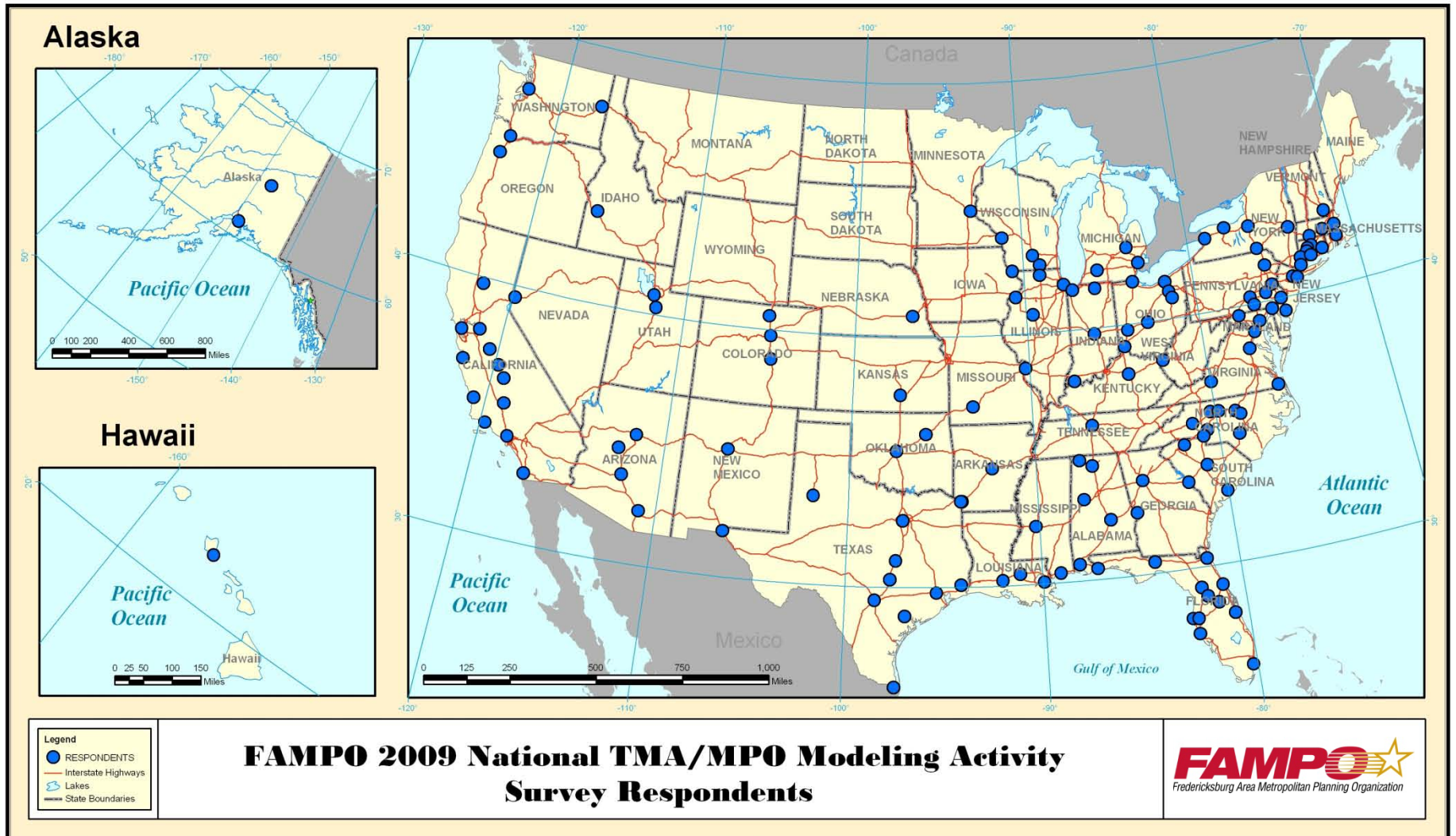
- To understand MPO's modeling activities and national trends.
 - Land Use Modeling
 - Travel Demand Modeling
 - Travel forecast procedures/methods
 - Integration efforts
 - Modeling circumstances
- Survey Instrument Design
 - 7 short questions

Survey

- Sep.~Oct. 2009
- Targeting TMA*/MPO that have a population exceeding 200,000
- Also includes some of small size MPO to understand their status
- Targeted/individual contacts and follow up calls
- 146 out of 201 responded (72.64%)

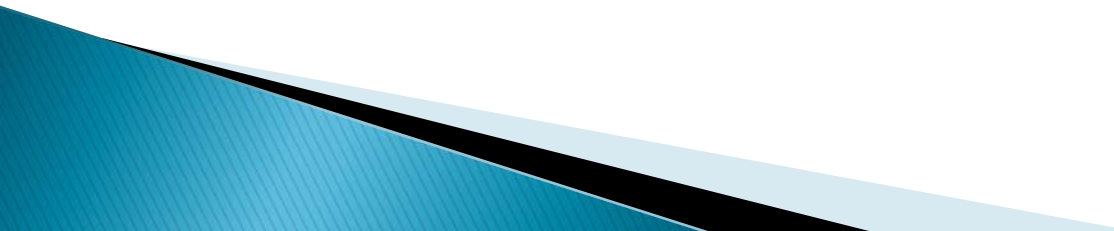
* TMA: Transportation Management Areas

TMA/MPOs Responses

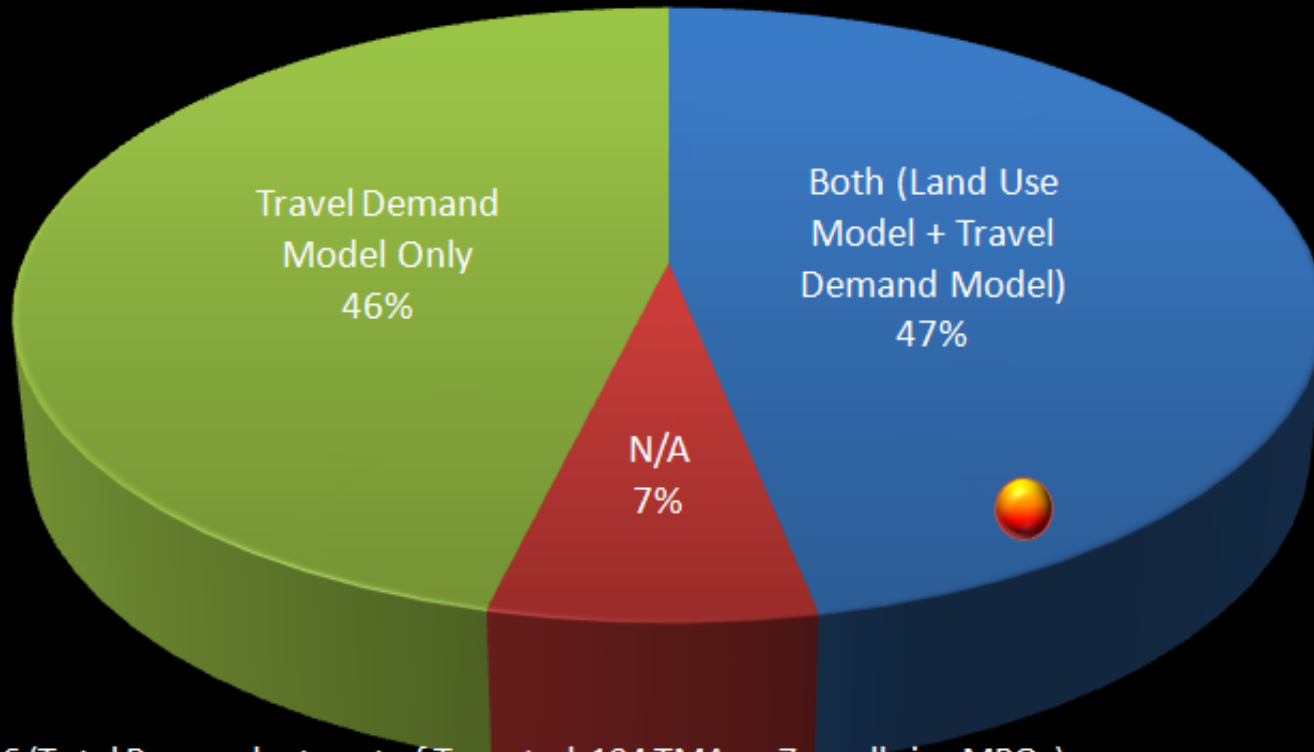


General Findings

Planning Models

- ▶ Most of TMAs are doing Travel Demand Modeling
 - ▶ Half of TMAs are doing both Land Use and Travel Demand Modeling
 - ▶ Some MPOs do NO travel forecasting
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MPO (TMA) Modeling Activities



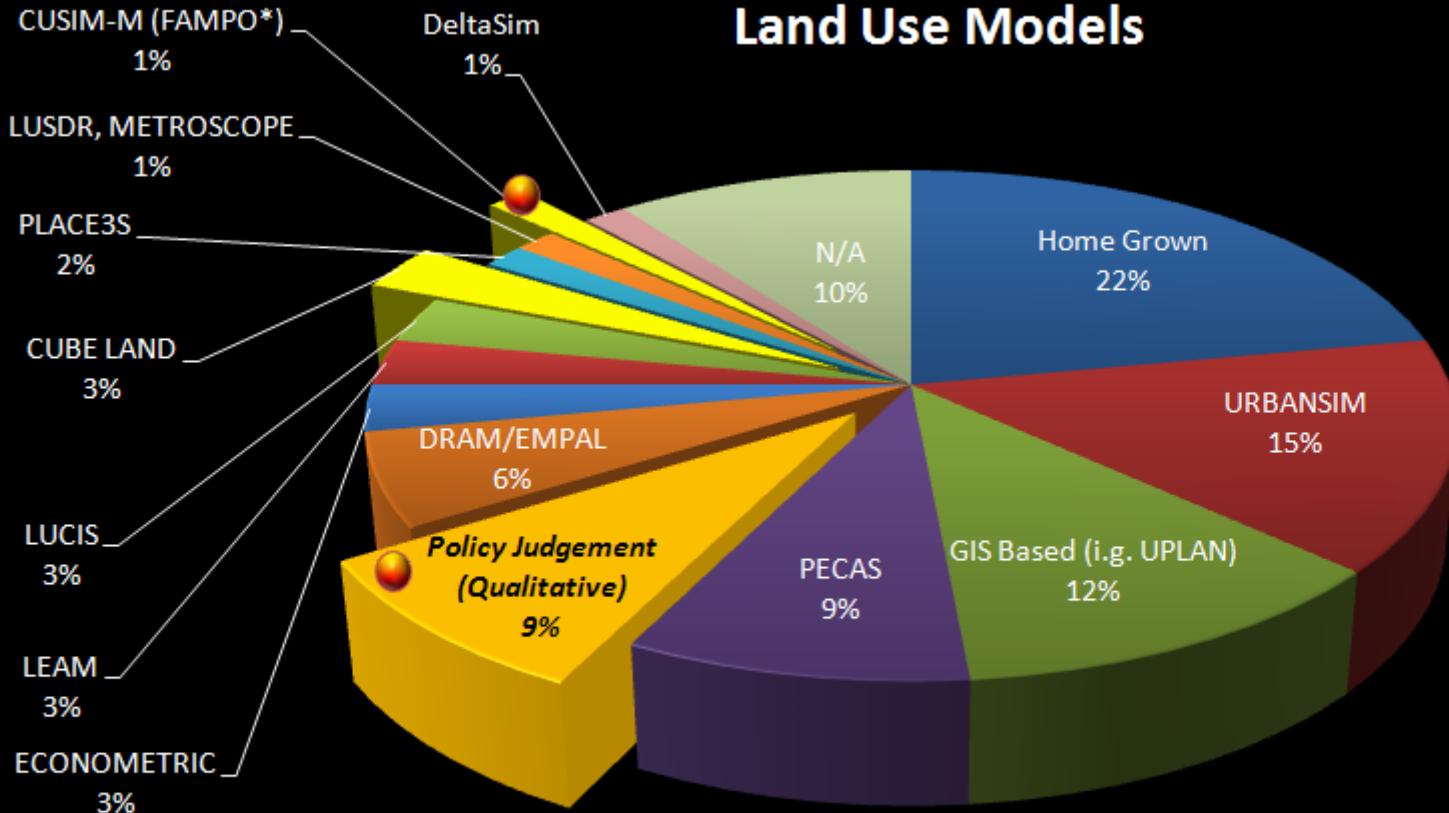
N=146 (Total Respondents out of Targeted 194 TMAs + 7 small size MPOs)

* TMA stands for Transportation Management Area wherein the urbanized area has a population of over 200,000 and has to meet certain requirements, such as Air Quality Control. A small MPO is defined as having a population of 50,000 to 100,000, a medium as having 100,000 to 200,000 and a large as over 200,000.

Land Use Modeling (LUM)

- ▶ About 20% of where LUM activity is on going is basically home grown application.
- ▶ Large MPOs have more capability to handle advanced *Quantitative* models such as UrbanSim and PECAS.
- ▶ GIS based approaches are settled.
- ▶ Many Mid MPOs are using sketch level and spreadsheet methods
- ▶ Some MPOs do *Qualitative* approach only (chip game, index, community viz, etc)

Land Use Models

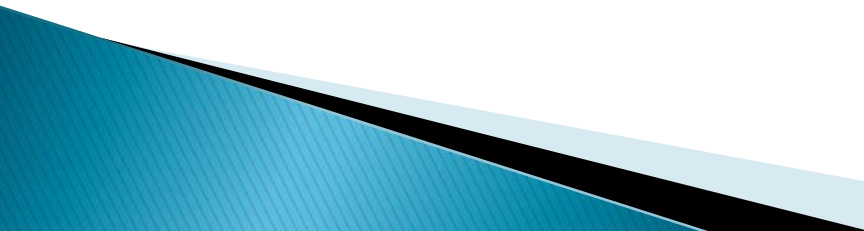


N=68 (who answered that they do Land Use Modeling)

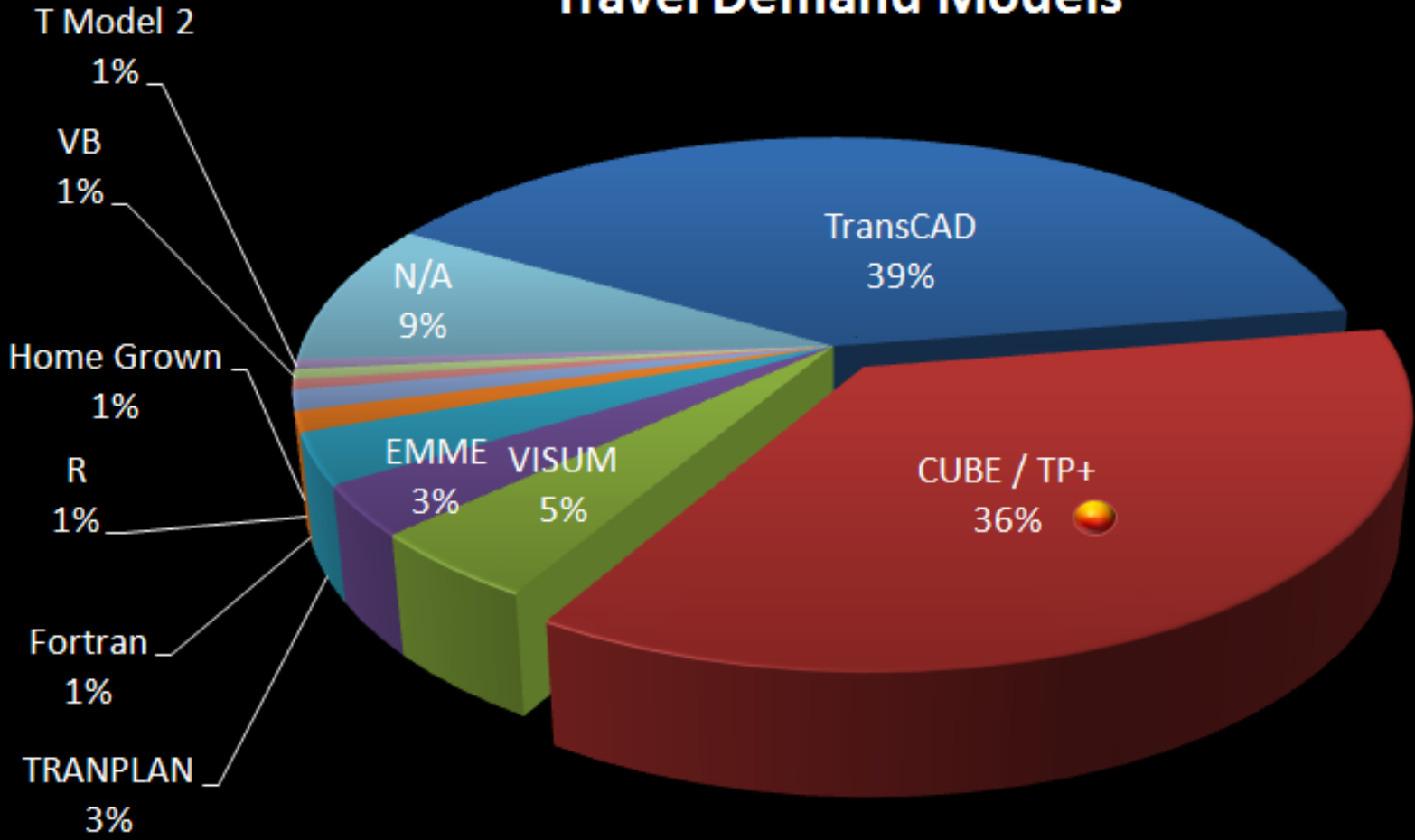
* FAMPO CUSIM-M can be a part of HOME GROWN category

** Policy Judgement through consensus (INDEX, Community Viz, Chip Game)

Travel Demand Modeling (TDM)

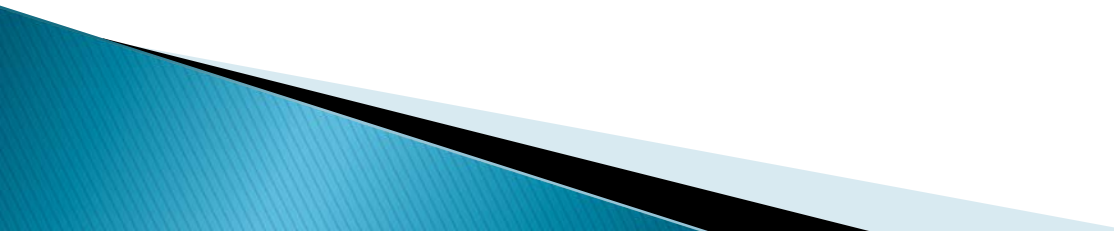
- ▶ CUBE Voyager and TransCAD are winners.
 - ▶ FAMPO and VDOT have a good relationship with Citilabs who provides CUBE Voyager.
 - ▶ Few MPOs develop own TDM using VB, R, and Fortran.
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Travel Demand Models

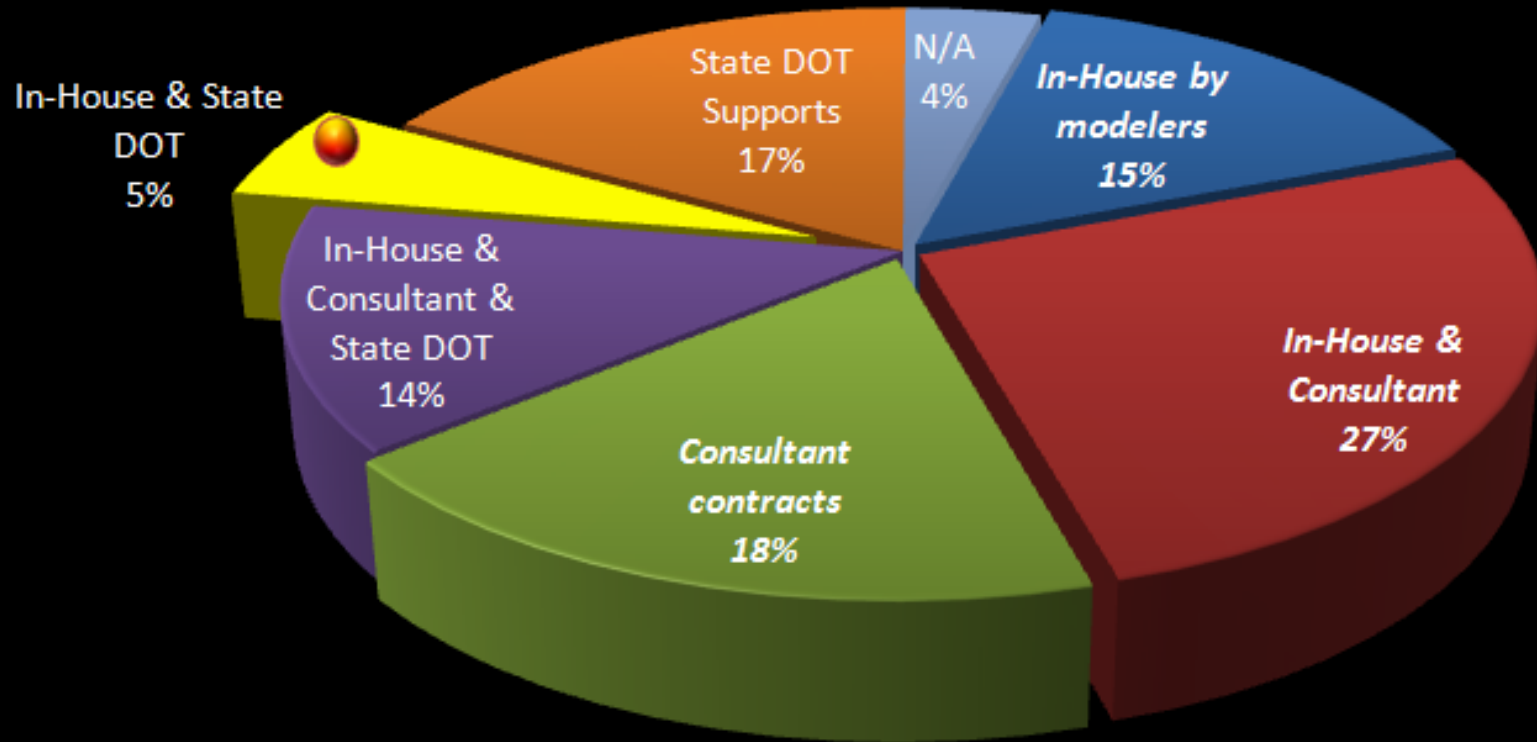


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How to develop models

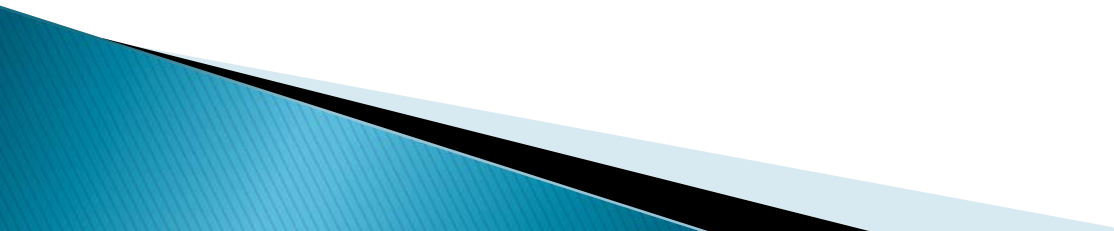
- ▶ 60% depend on consultants.
 - ▶ 20% develop in-house with supports.
 - ▶ 15~20% depend on State DOTs
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How do you develop your models?

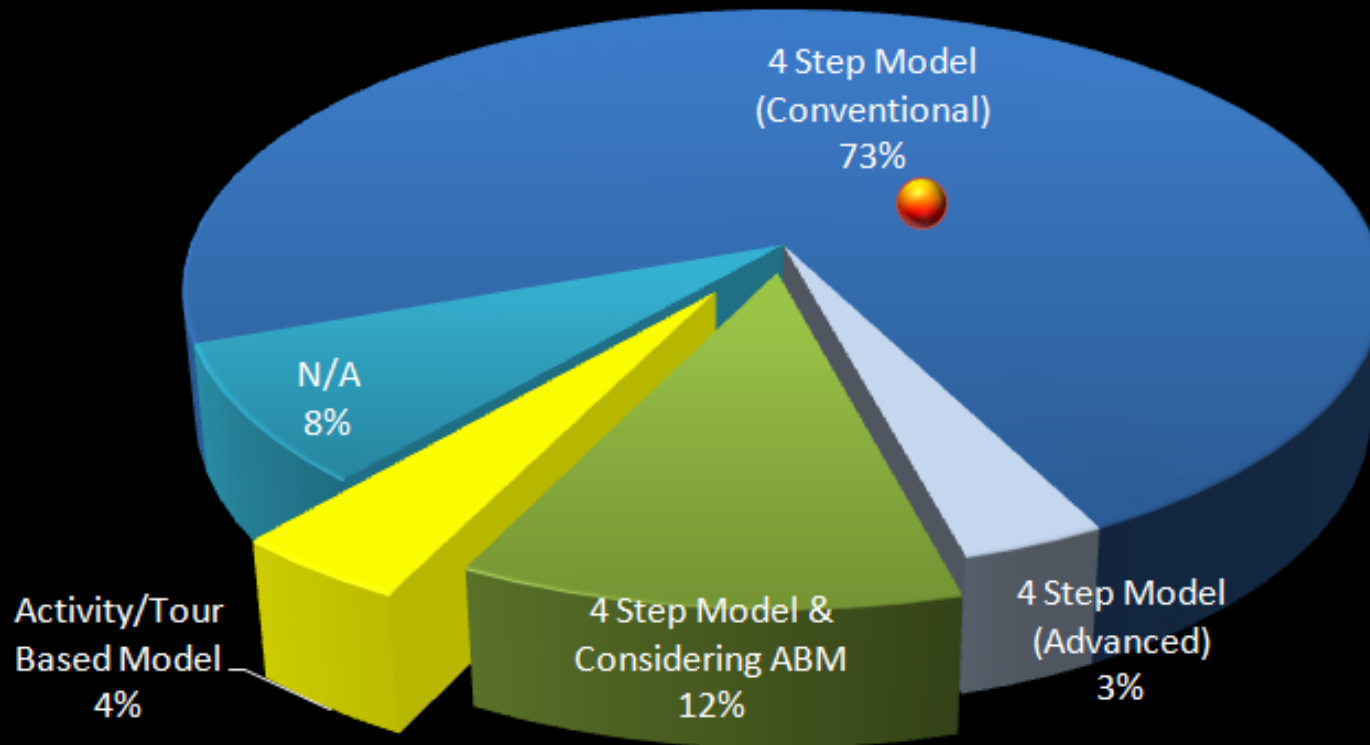


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Travel Demand Modeling Trends

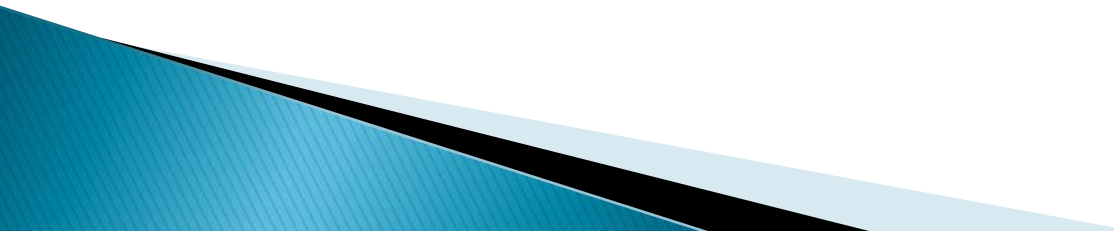
- ▶ Majority of MPOs use 4-step process
 - ▶ Few MPOs (4%) use activity/tour-based methods (ABM)
 - ▶ Many MPOs omit mode choice
 - ▶ There are growing interest in ABM for the future alternative (12%)
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4 Step vs. Activity/Tour Based Model

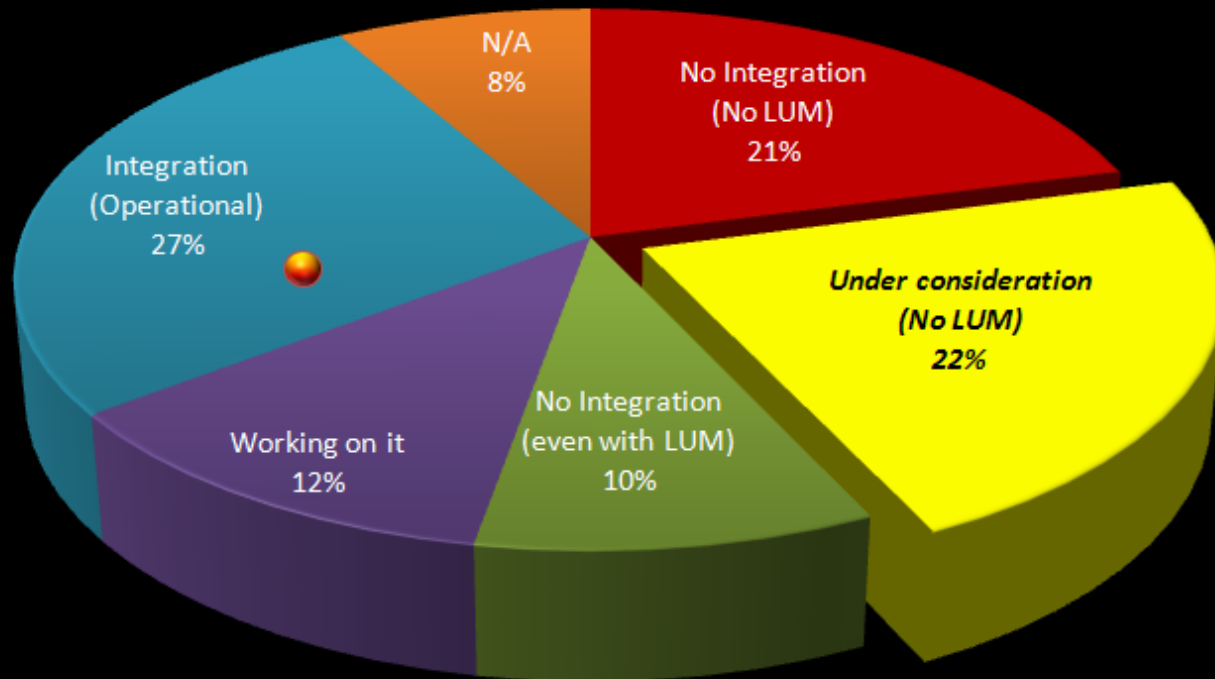


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Travel Demand Modeling Trends

- ▶ Majority of MPOs with LUM is either in operating Integration of LUM and TDM or under processing.
 - ▶ About 20% with LUM are not considering integration.
 - ▶ About half of MPOs without LUM are considering LUM for the future. (high interest)
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Integration of LU & Trans

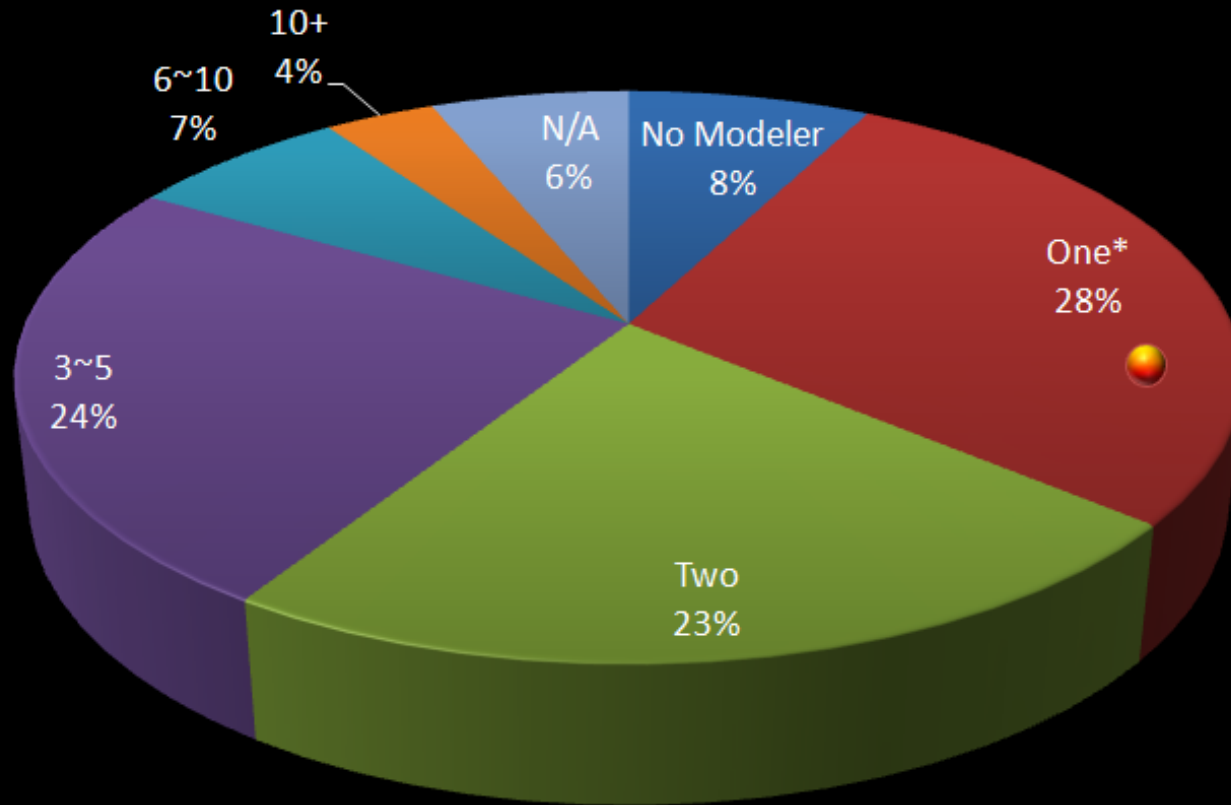


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Modeling Supports

- ▶ Modeling efforts are supported by
 - Transportation (demand forecasting + traffic simulation) group
 - Land Use (socio-economic forecasting) group
 - GIS group
 - Air quality group
- ▶ More intensive modeling efforts are being conducted in MPOs with a group of modelers.

Number of Modelers



* The agencies which have only ONE modeler normally does NOT do land use modeling. Modeling efforts are supported by Transportation (Demand Forecasting + Traffic simulation), Socio-Economic Forecasting (Land Use division), GIS, Air-Quality groups, etc.

N=146

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