

# Transitioning from ABM to ABM (to ABM)

TRB Applications Conference

Portland, OR



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4<sup>th</sup> June, 2019

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# Outline

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1. Why Transition?
2. Why Not Transition?
3. Why Now?
4. What is Involved?
5. Current Status
6. Next Steps
7. Transition Considerations



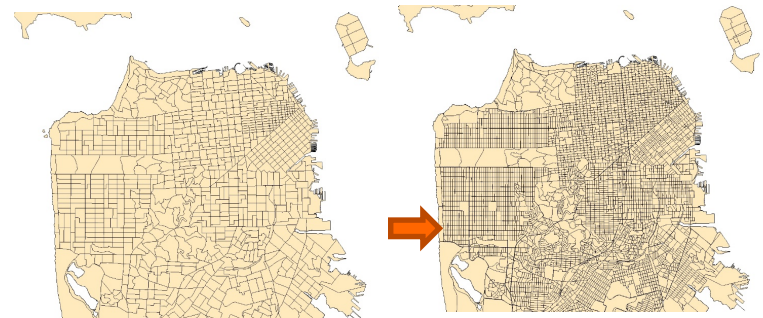
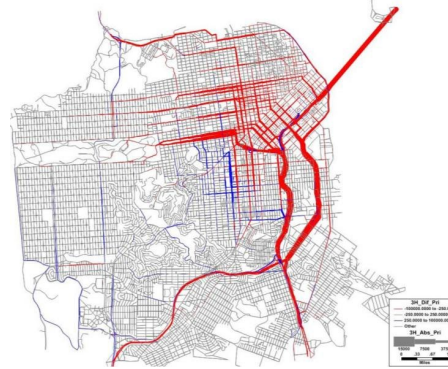
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# Why Transition?



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- Higher temporal resolution for DTA
- Trip purpose detail for environmental impact analysis
- Improved spatial detail for non-motorized travel
- Flexibility to add new modes efficiently
- Shared codebase





- **Working data pipeline and process setup**
- **Performs well for most applications**
- **Unique custom features**
  - Bike route choice model
  - Auto ownership adjustment at TAZ level
  - Congestion pricing
  - Weekend model

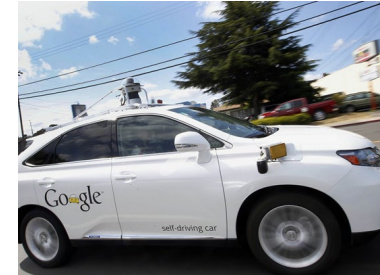
# Why Now?



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- New policy questions (Ex. TNCs and AVs)
- DTA model update
- Use improved residential parking supply data
- Availability of mature open source ABM (DaySim)

<https://github.com/RSGInc/DaySim>

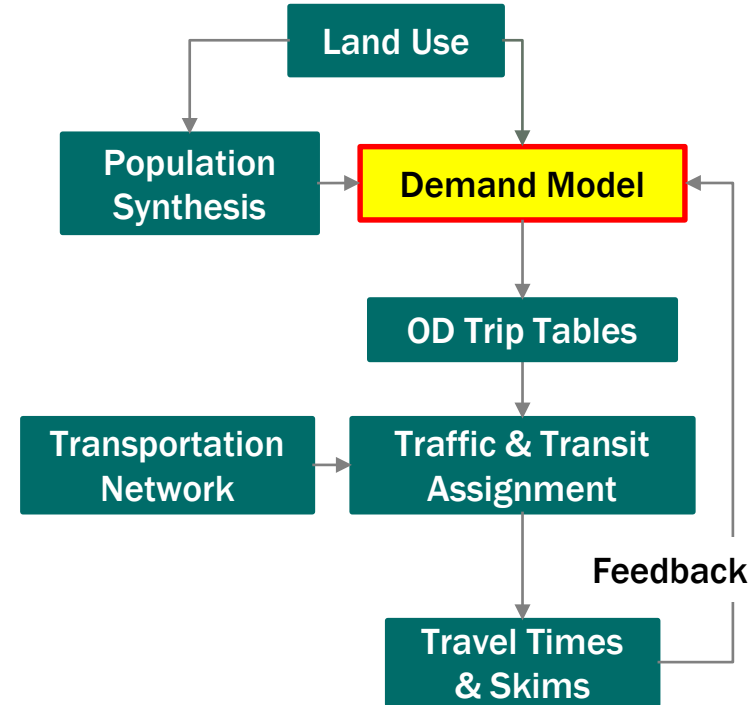
A screenshot of the GitHub repository page for RSGInc/DaySim. The page shows the repository name, a navigation bar with options like Code, Issues, Pull requests, Projects, Wiki, and Insights. Below this, there's a link to the DaySim Activity-Based Model wiki page. The repository statistics show 668 commits, 5 branches, 151 releases, and 6 contributors. A table of recent commits is visible, with the most recent commit by PeterVermont reformatting all files to use .editorconfig settings, committed 7 days ago. Other recent commits include reformatting files, reverting a change to the default path, and updating the build system from 2.7.0 to 2.8.0.

Commit Message	Author	Time Ago
Reformatted all files so that .editorconfig settings are used	PeterVermont	7 days ago
Reformatted all files so that .editorconfig settings are used		7 days ago
Revert "Change default path to DaySim executable"		16 days ago
Reformatted all files so that .editorconfig settings are used		7 days ago
UtilPack.NuGet.MSBuild update from 2.7.0 to 2.8.0		5 months ago

# What is Involved?



- **Input data preparation**
  - Land use attributes
  - Synthetic population
  - Skims
- **Aligning configurations (choice models, modes, skims, etc.)**
- **Interfacing with supply models and feedback**

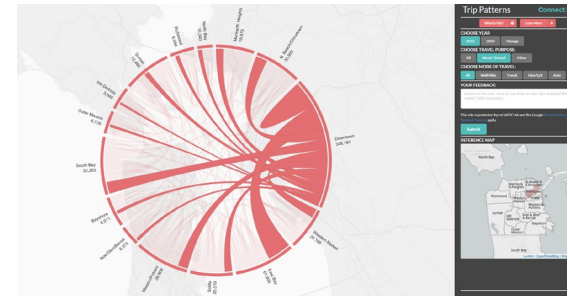




- **Re-estimation of choice models with local data**
- **Revised reporting**
- **Calibration and Validation**
- **Sensitivity testing (TNC and AV scenarios)**
- **Resources**
  - Staff required consultant assistance
  - Approximately 1,500 hours spent over a 3-year period

- **CHAMP 6.0 released in Fall 2018**
  - Ready to provide model services (for both SFCTA and other agencies)
- **ConnectSF Application**
  - Multi-agency long range planning effort for San Francisco

## ConnectSF







- **Integrate with DTA**
- **Support future studies**
  - Congestion Pricing
  - Freeway Corridor Management
- **Port essential customizations (from legacy model)**
- **Transition to another ABM**
  - ActivitySim



- **Current Model**
  - Limited applications?
  - Adequate policy sensitivity?
  - Sufficient spatial and temporal detail?
  - Satisfactory calibration and validation procedures?
- **Potential New Model**
  - Alignment with current model?
  - Flexibility to accommodate future needs?
  - What exactly is involved?
  - Available time and resources?

Thank you.  
Any Questions?

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