Association of Monterey Bay Area Governments Regional Travel Demand Model Program

SCCRTC ITAC
September 21, 2023

Dr. Bhupendra Patel, Director of Modeling
Gina Schmidt, GIS Coordinator

OUTLINE

- AMBAG GIS Data and Modeling program

- Why Regional Travel Demand Model (RTDM)

- Objectives of RTDM upgrade

- RTDM framework and brief overview

- Land Use Model

- Development Monitoring System

- Stakeholder's participation and their stake
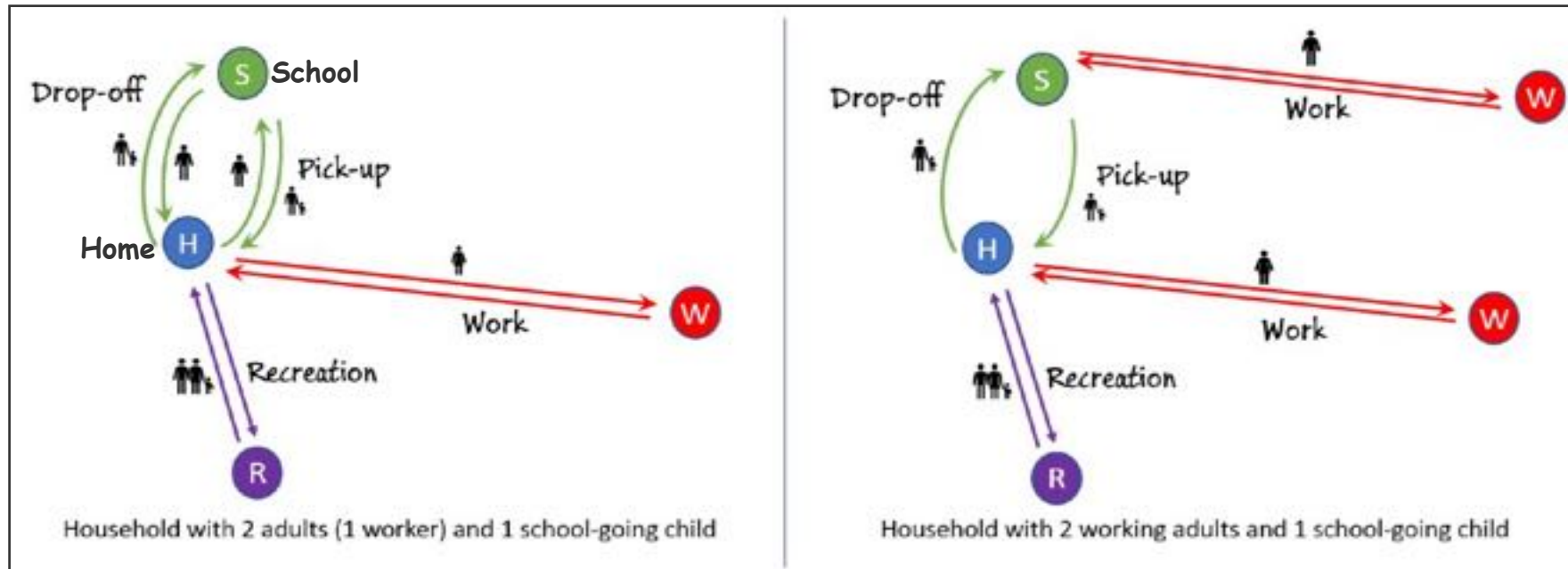
- Discussion

AMBAG GIS DATA AND MODELING PROGRAM

- Geographic Information Systems (GIS) data: used for land use, transportation, environmental and policy planning

- AMBAG collects, analyzes, and maintains various GIS datasets for planning and policy purpose

  - ➢ Census data
  - ➢ Regional employment
  - ➢ Highway and transit network
  - ➢ Active transportation and complete street network
  - ➢ Regional economic data for population and housing forecast
  - ➢ Environmental data
  - ➢ Traffic/truck counts
  - ➢ Freight and goods movements

- Provide data support to all stakeholders of Monterey Bay region and Caltrans

- To solicit greater public participation and building consensus

- Better inform policy bodies

WHY REGIONAL TRAVEL DEMAND MODEL?

- Required under Federal Law to:

  ➢ Estimate region's future travel demand and analyze alternative transportation scenarios

  ➢ Develop region's Metropolitan Transportation Plan (MTP)

  ➢ Carryout air quality conformity analysis

  ➢ Receive federal funding for major transportation investment projects

- Under SB 375, MPO is required to:

  ➢ Develop Sustainable Community Strategies (SCS) in conjunction with region's MTP

  ➢ Conduct GHG analysis as recommended by California Air Resource Board (CARB)

OBJECTIVES FOR RTDM UPGRADE

- Develop and apply an innovative modeling approach, ABM or Hybrid Model for AMBAG region:

  ➢ Policy sensitive tools appropriate for Monterey Bay Area

  ➢ More detailed representations of person level travel and activities pursued

  ➢ More sensitive models of non-motorized modes

  ➢ Built on a single software platform- easy to use, maintain and apply

Household with 2 adults (1 worker) and 1 school-going child

Household with 2 working adults and 1 school-going child

RTDM & LU MODEL STATISTICS

- Traffic Analysis Zones (TAZ): 1,673
- Parcels (County assessor): 237,052
- 2020 Census Geographies
  - 466 Block Groups
  - 184 Tracts
  - 5 PUMAs
- 2020 Base year network
- 2015 Households: 238,862
- 2015 Population: 762,241
- 2015 Group Quarters: 33,889
- 2015 Employment: 377,335
- 2015 Students (K-12): 138,373
- 2015 College Students: 63,365

ABM FRAMEWORK
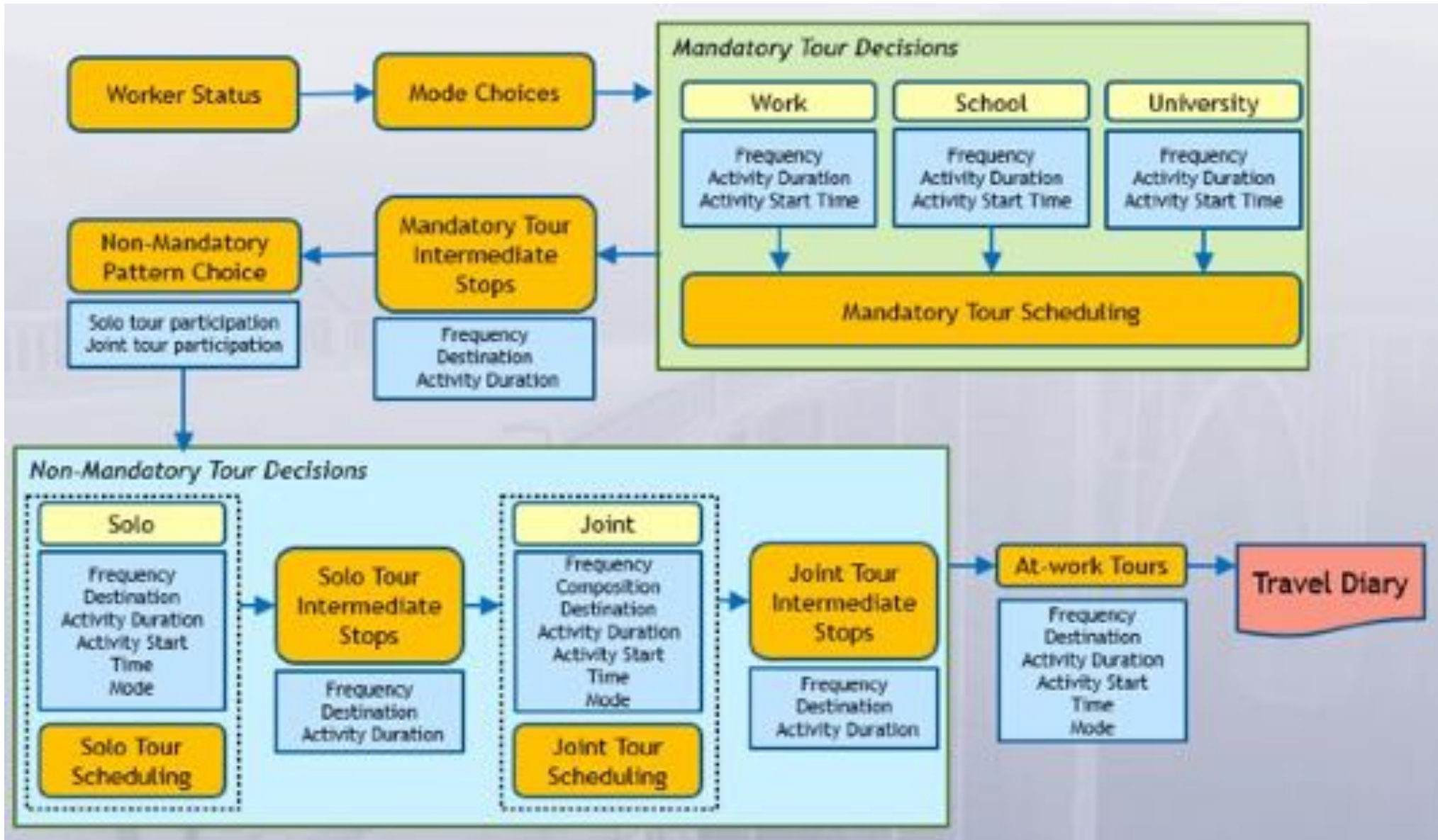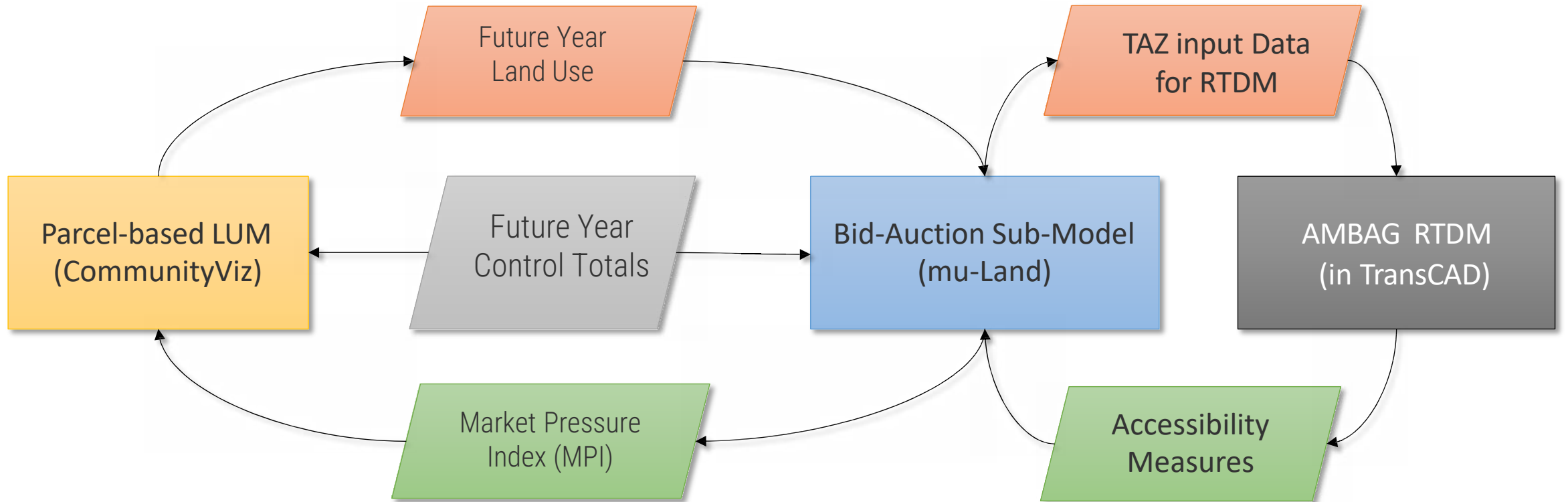
Data flows between the parcel-based LU Model and AMBAG RTDM

DEVELOPMENT MONITORING TOOL

- Web-based data entry portal open to local jurisdiction planners
- Open-source software customized for AMBAG's partner agencies
- Developing to gather info about upcoming development projects as well as current/completed projects

DEMO OF CALBUILDS TOOL

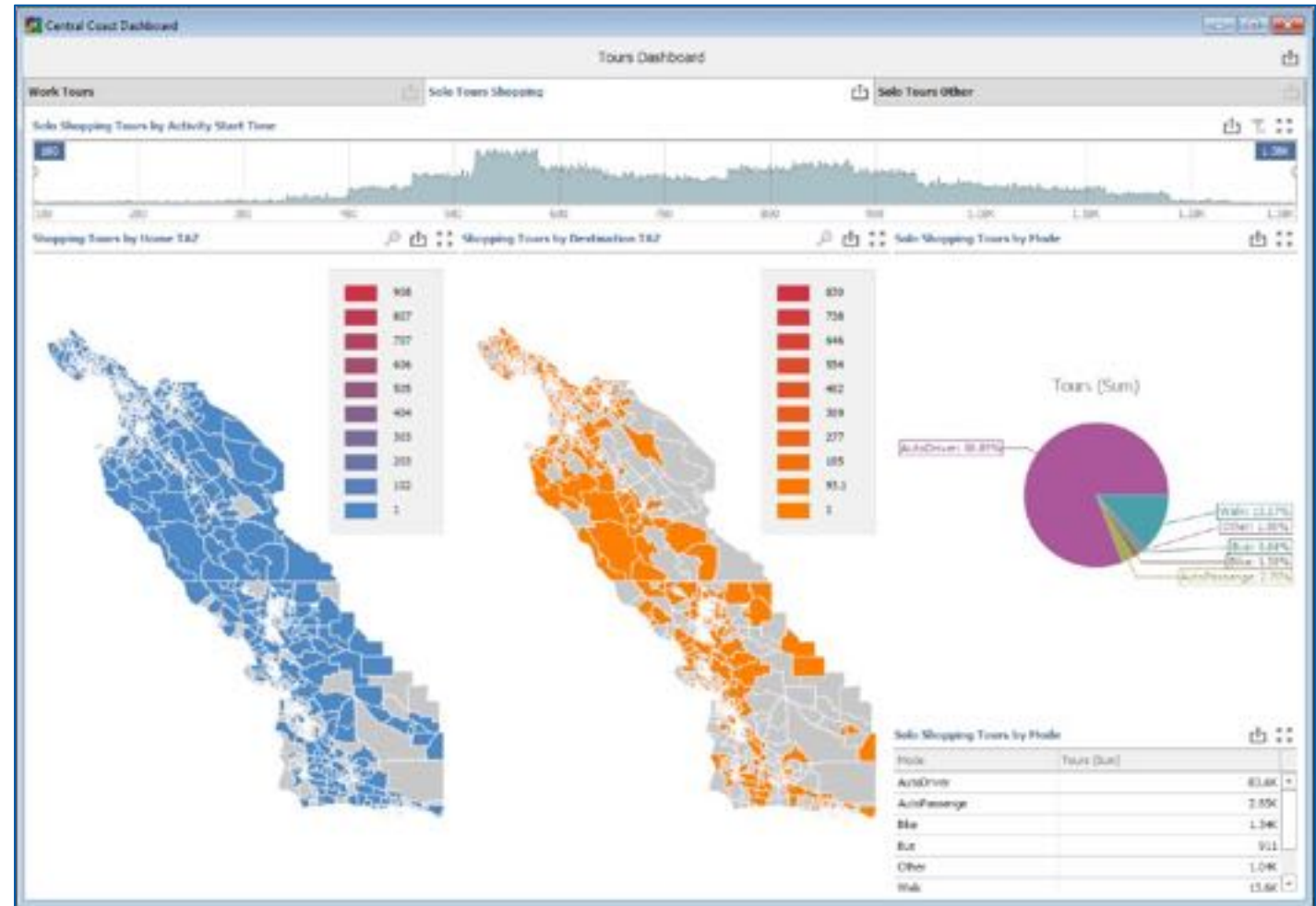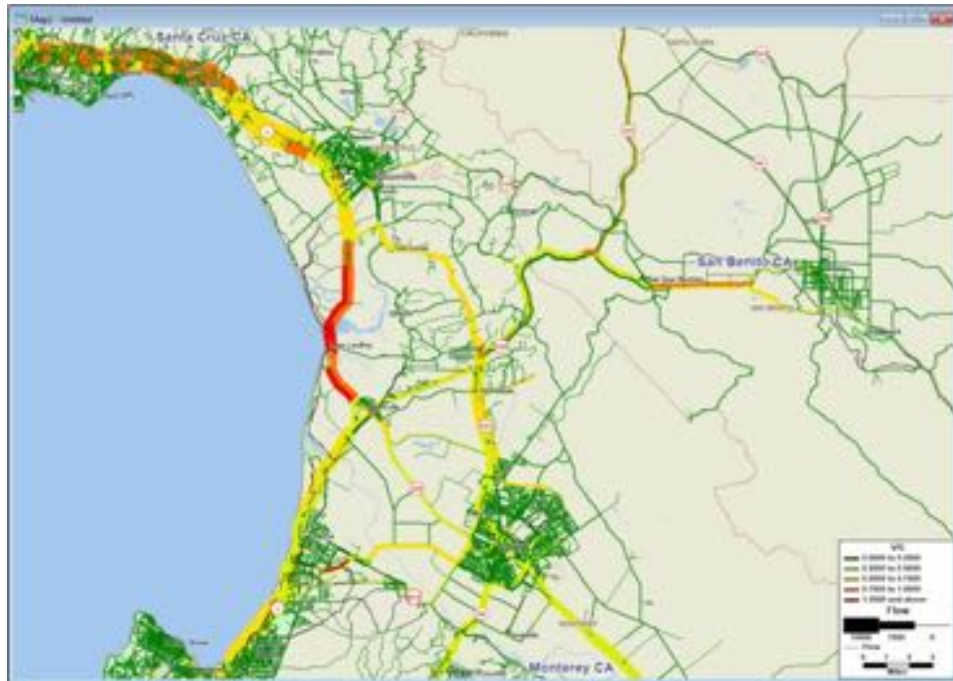# LU MODEL AND LAND USE TRACKING SYSTEM TOOL

CALIBRATION RESULTS
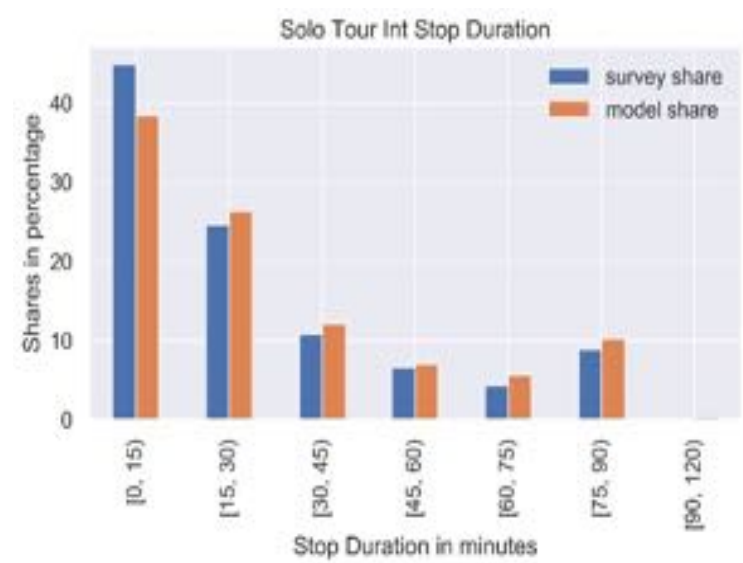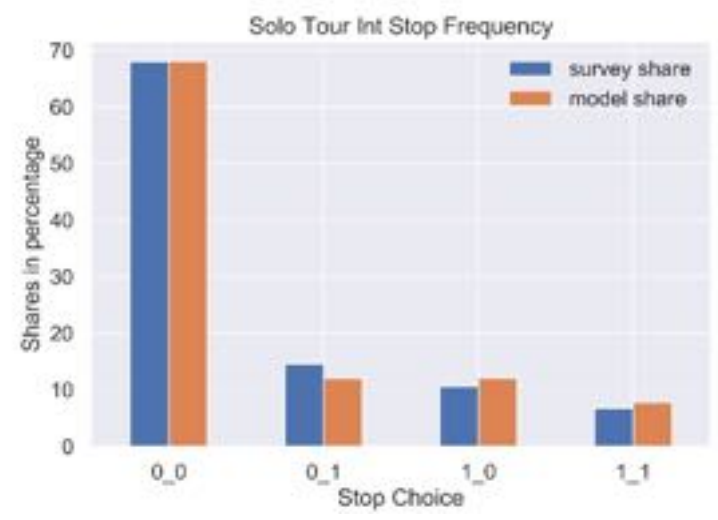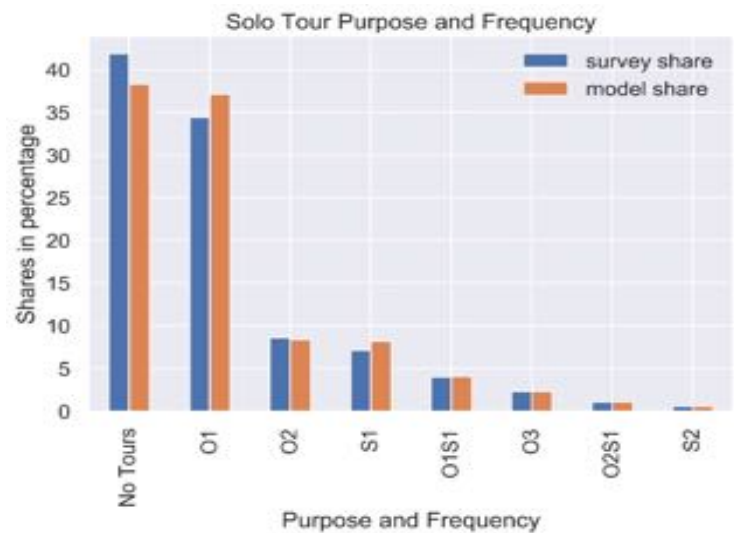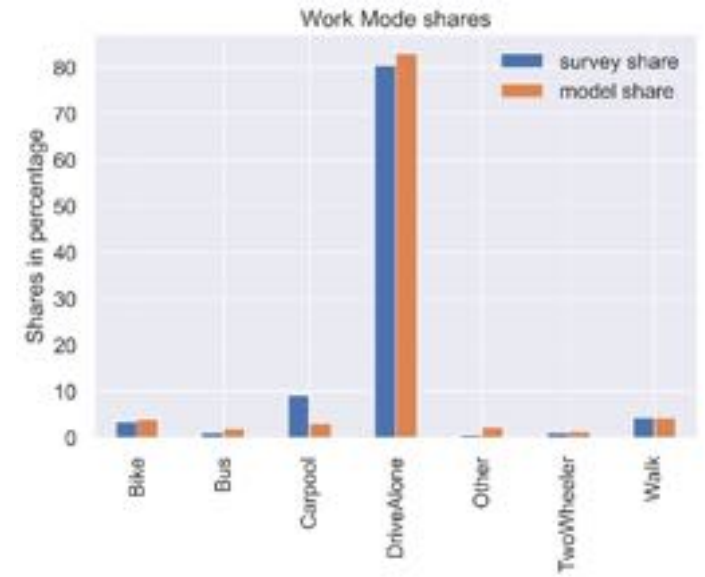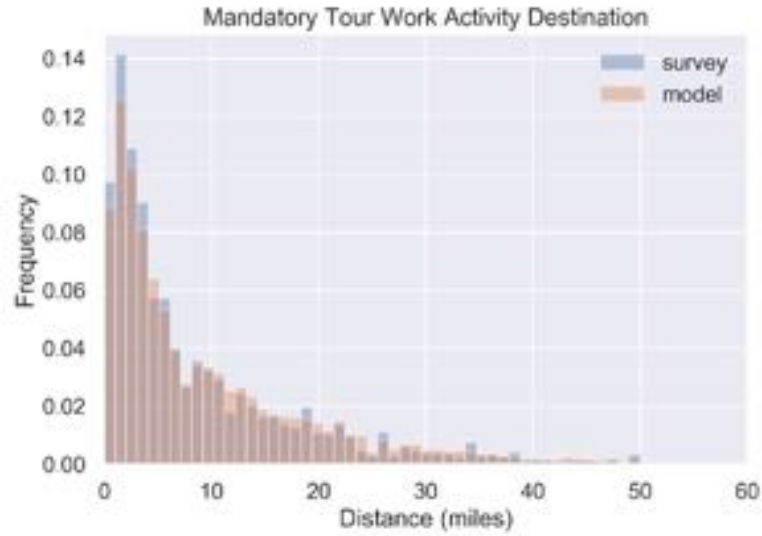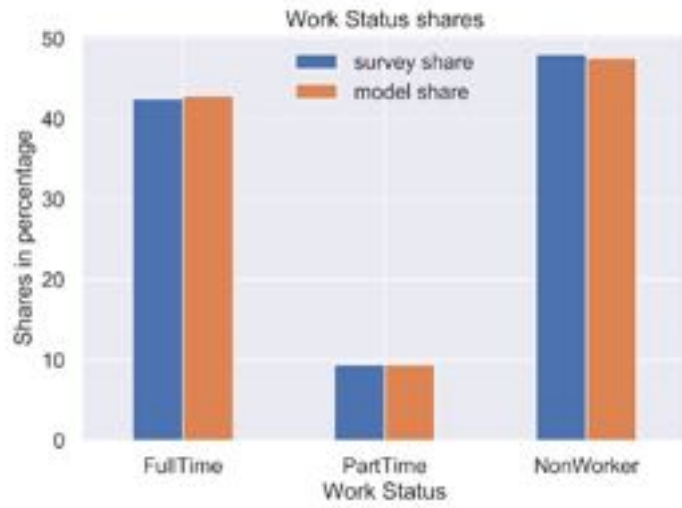
MODEL VISUALIZATION

- Custom dashboards, maps and reports to utilize ABM outputs
  - ➢ Leverages TransCAD's GIS capabilities

QUESTIONS?

Contact:
Gina Schmidt
GIS Coordinator
gschmidt@ambag.org
831-264-5098