

# Bob Hope Airport Multi-Modal Ground Access Planning Study (MGAPS)

## Travel Forecasting Approach

SCAG Model Task Force Meeting

July 24, 2013



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# Overview

- Project Description
- Blended Model Process
- Validation Approach



# Project Description

Two separate, but cooperating, planning studies led by the Burbank-Glendale-Pasadena Airport Authority:

- Multimodal Ground Access Planning Study (MGAPS)
  - STV is lead consultant
  - AECOM is responsible for travel demand modeling
- Land Use Study
  - AECOM is lead consultant



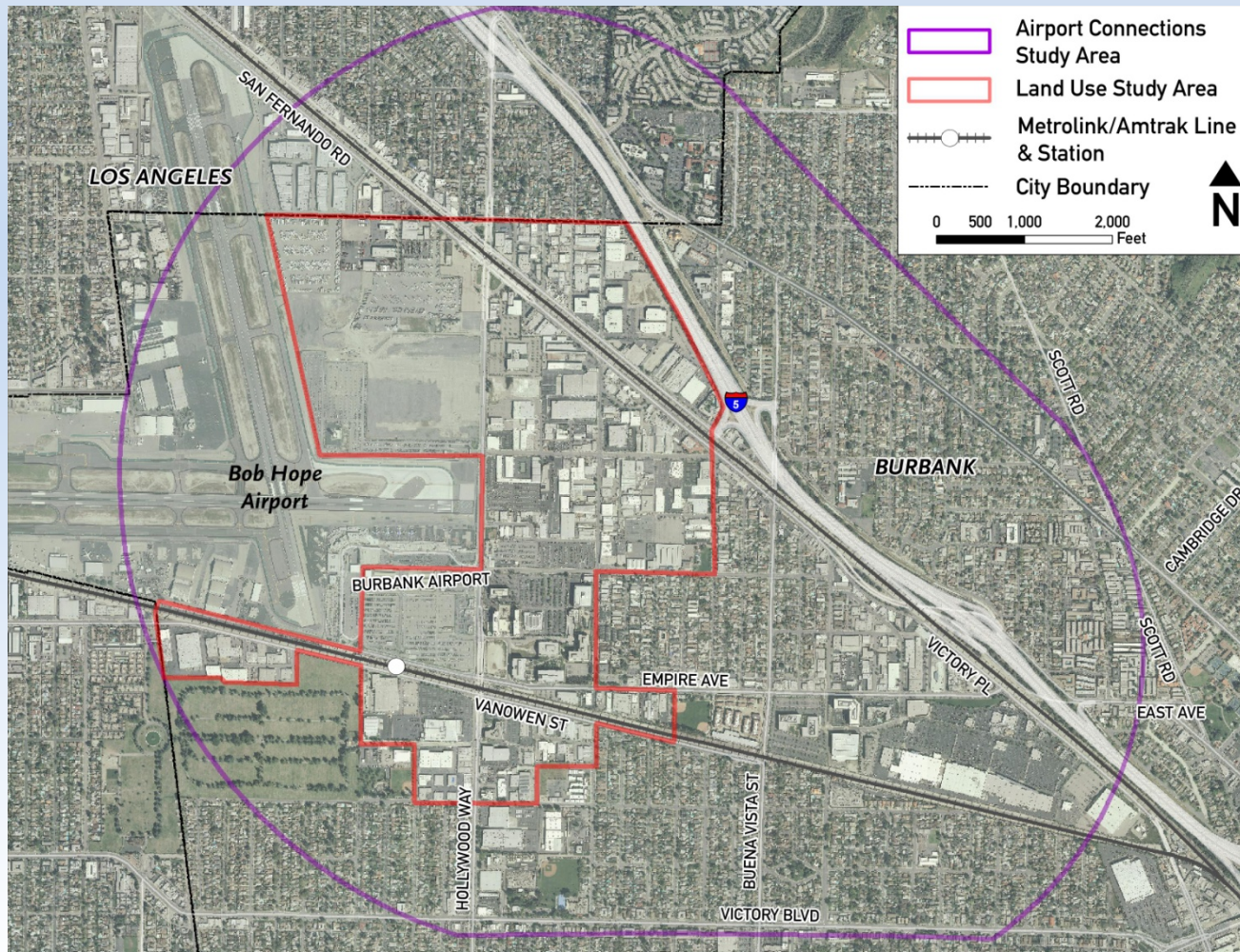
# Project Description

The goal of the MGAPS is to develop ground transportation improvements that will allow the Airport to serve as a multi-modal regional transportation hub.

The Land Use Study is intended to identify Transit Oriented Development (TOD) opportunities in the Airport area to take advantage of the Airport's transportation connections.



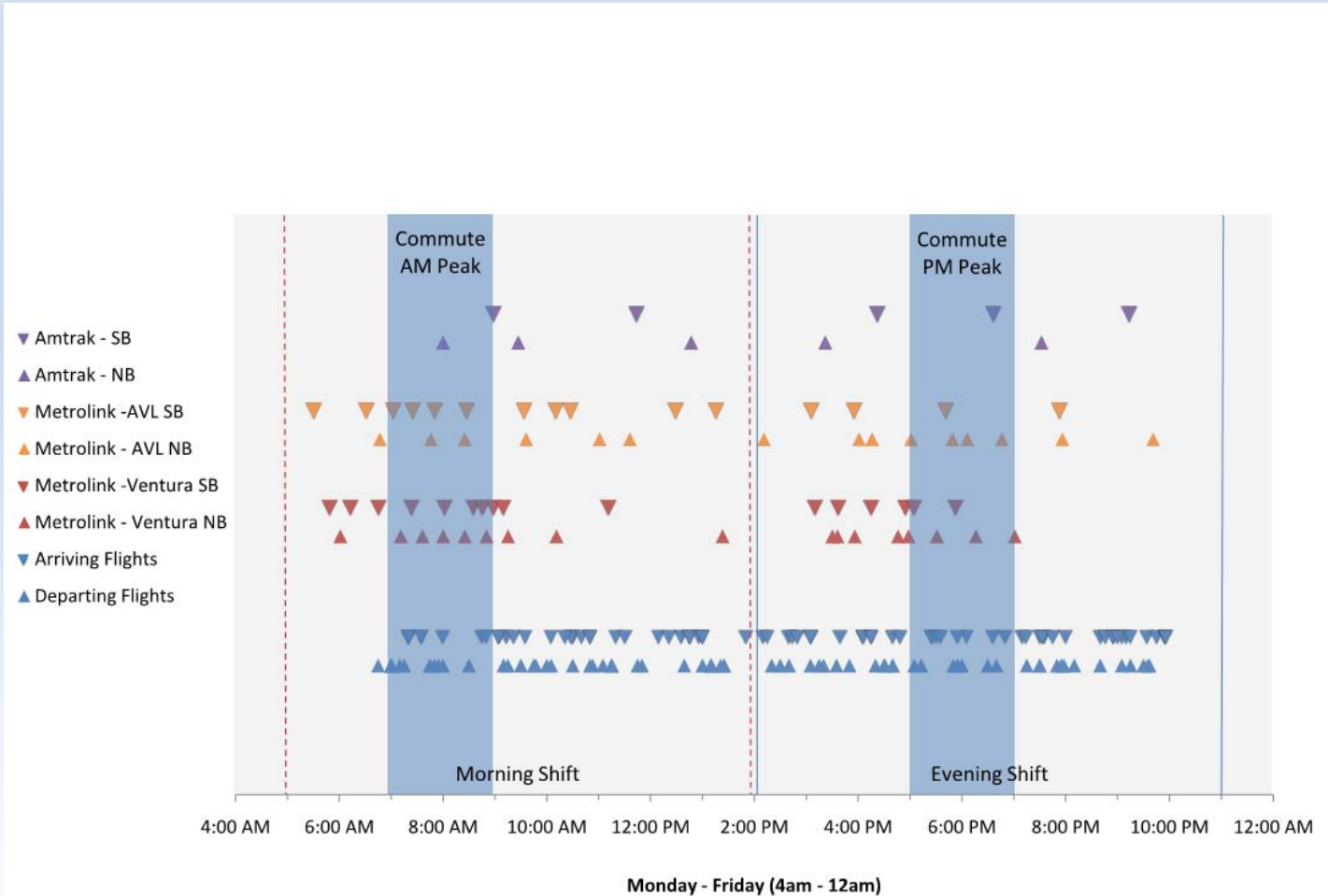
# Study Areas



Source: STV



# Existing Rail Service

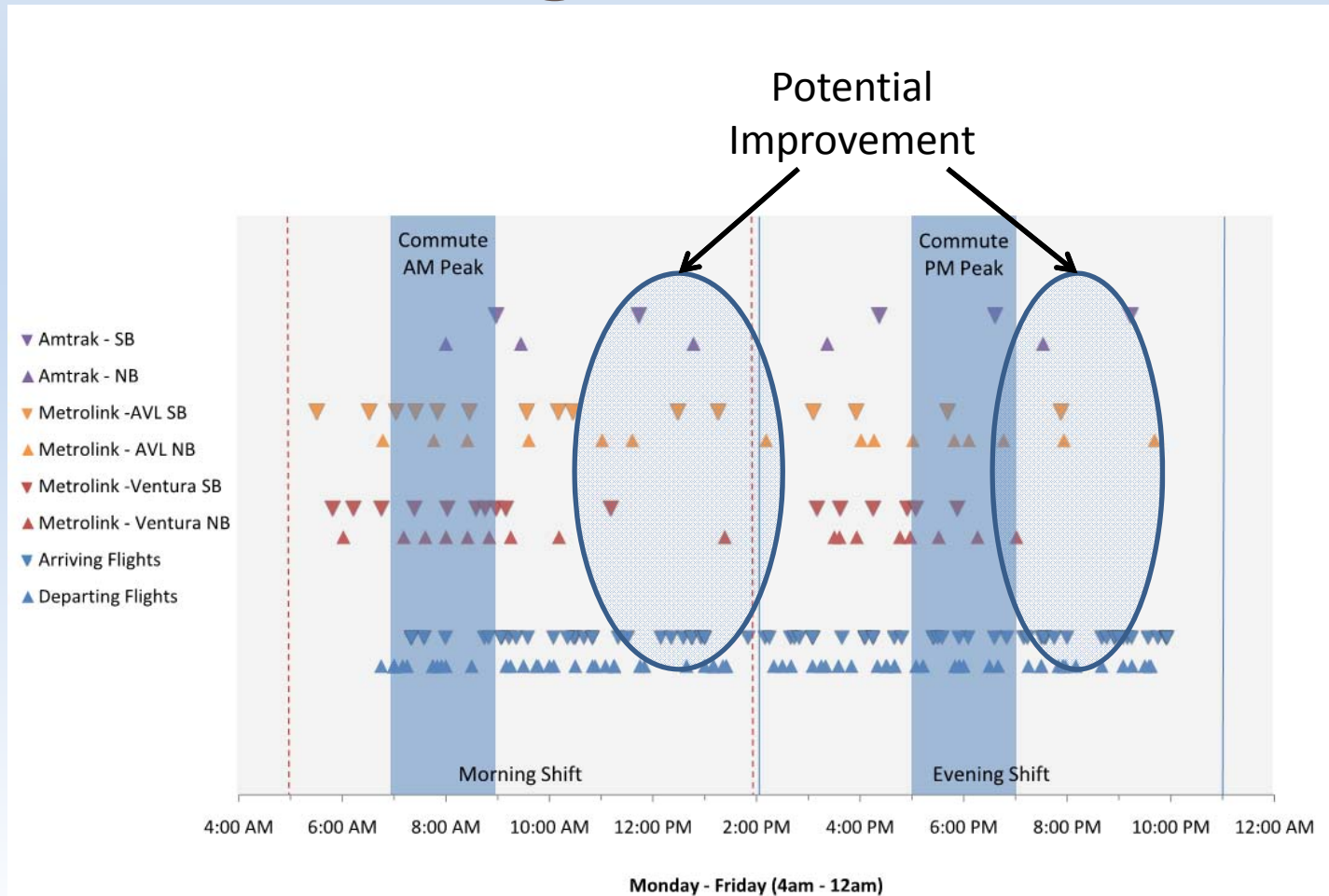


Source: STV





# Existing Rail Service



Source: STV



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# Blended Model Process

The study involves the impact of **transit** improvements on localized **traffic** conditions, a portion of which is related to **air travel** demand.

→ No one model is sufficient





# Blended Model Process

Model	Use in this Project
Metro Travel Demand Model	<ul style="list-style-type: none"> <li>• Changes in transit ridership resulting from regional transit improvements</li> <li>• Reductions in automobile trips entering and exiting study area resulting from regional transit or highway improvements</li> </ul>
City of Burbank Travel Demand Forecasting Model	<ul style="list-style-type: none"> <li>• Changes in local travel patterns resulting from changes in locations of land uses</li> <li>• Changes in local trip generation resulting from transit oriented development</li> </ul>
Air Passenger Model	<ul style="list-style-type: none"> <li>• Based on Metro's Air Passenger Model (LAXAPM)</li> <li>• Calibrated to markets and conditions at BUR</li> <li>• Changes in passenger mode of access to airport resulting from transit improvements</li> </ul>



# Metro Models

- Tranplan model with detailed transit network in and around Los Angeles County and has been vetted by FTA for use in forecasts supporting Section 5309 New Starts applications.
- Air Passenger Model
  - Runs in parallel with the “regular” Metro model, was originally developed for use in the Crenshaw and South Bay Green Line projects
  - Person Trip tables developed from the SCAG RADAM model were originally used to represent person travel to and from LAX
  - Originally calibrated for LAX using the 2006 LAWA Air Passenger survey, by trip purpose (Resident Business, Resident Non-Business, Visitor Business, Visitor Non-Business)
  - Will be calibrated to market and conditions at BUR based on extensive data collection (LAX air passenger trips will not be modeled in this project)

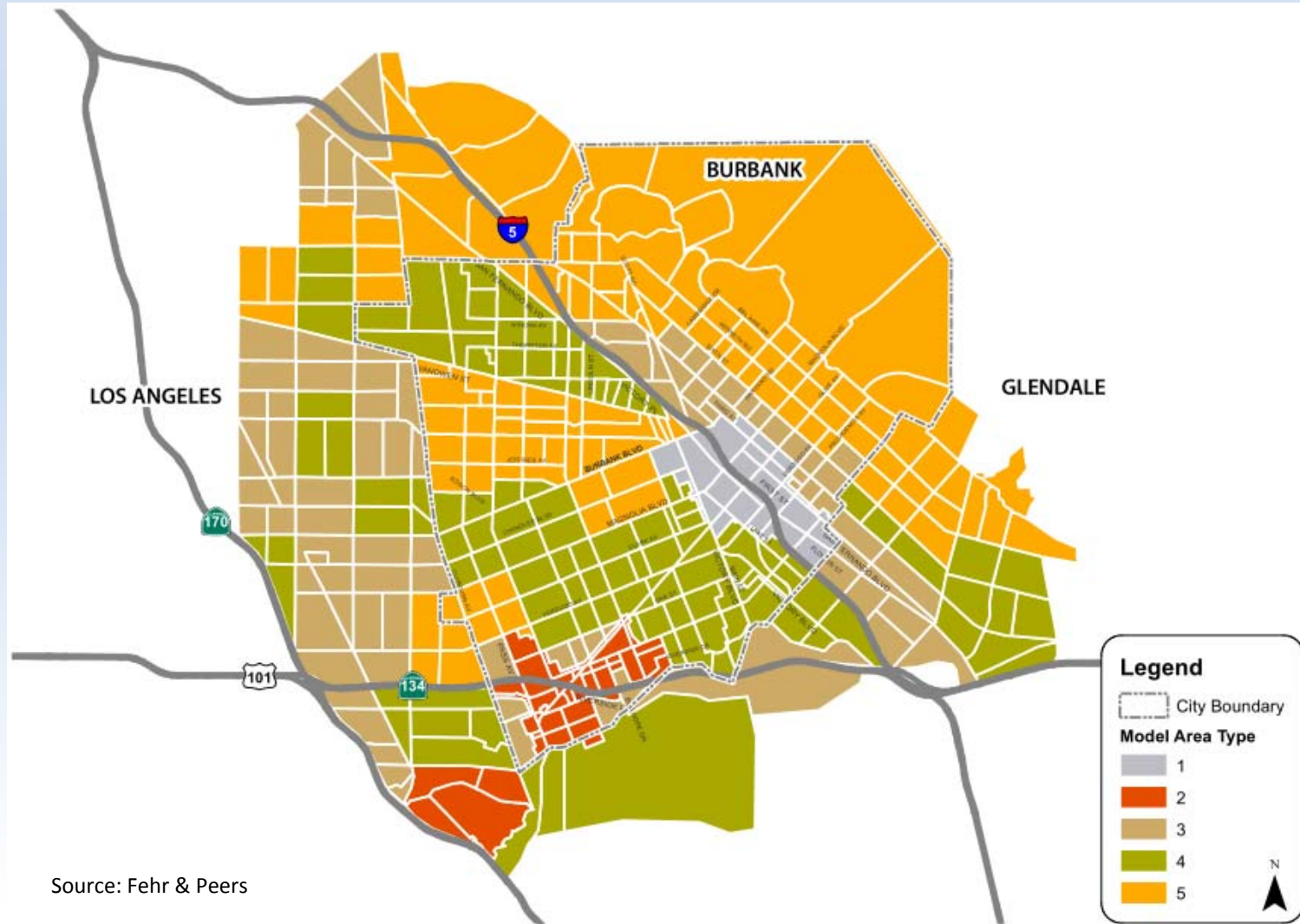


# Burbank Model

- Developed by Fehr & Peers based on RTP 2008 model
- Includes the City of Burbank and neighboring areas that have high levels of interaction with Burbank with detailed zone structure in and around BUR
- Uses a land use based trip generation module, a gravity trip distribution module, and a capacity constrained equilibrium traffic assignment process
- Synthetic generation and distribution of auto trips at BUR will be replaced by a survey-based trip table
- No transit component



# Burbank Model

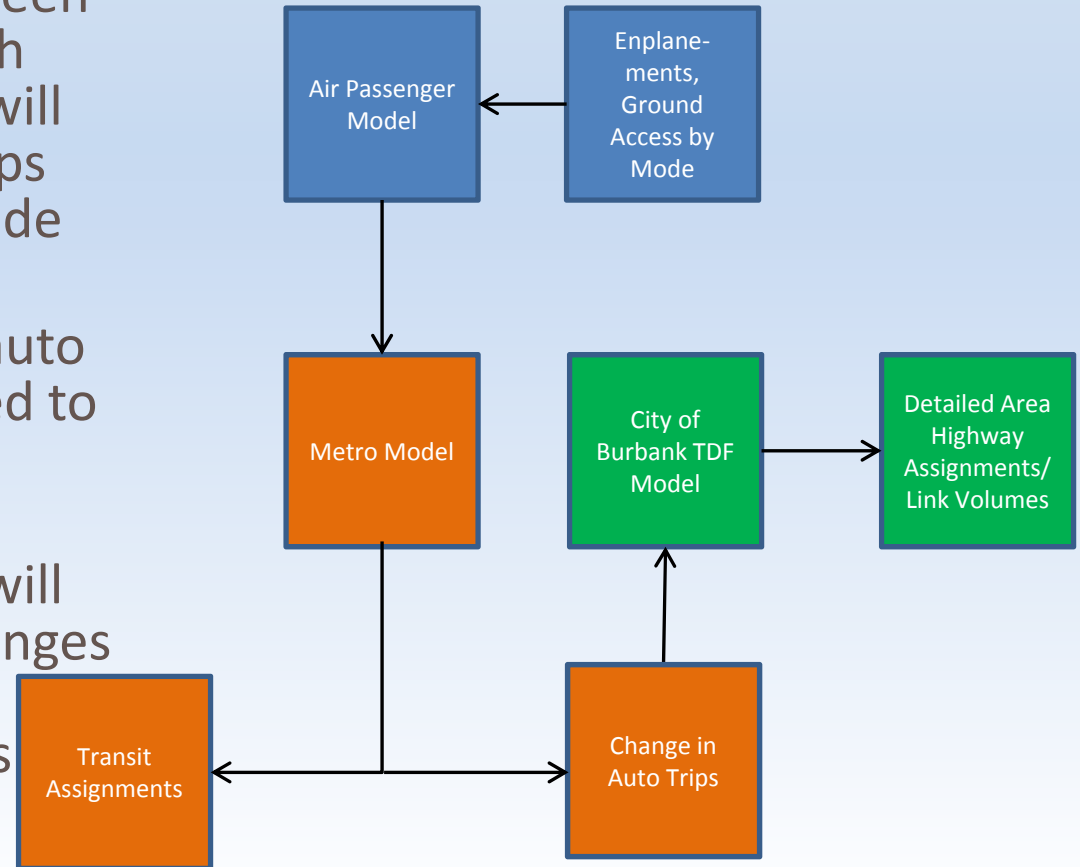


Source: Fehr & Peers



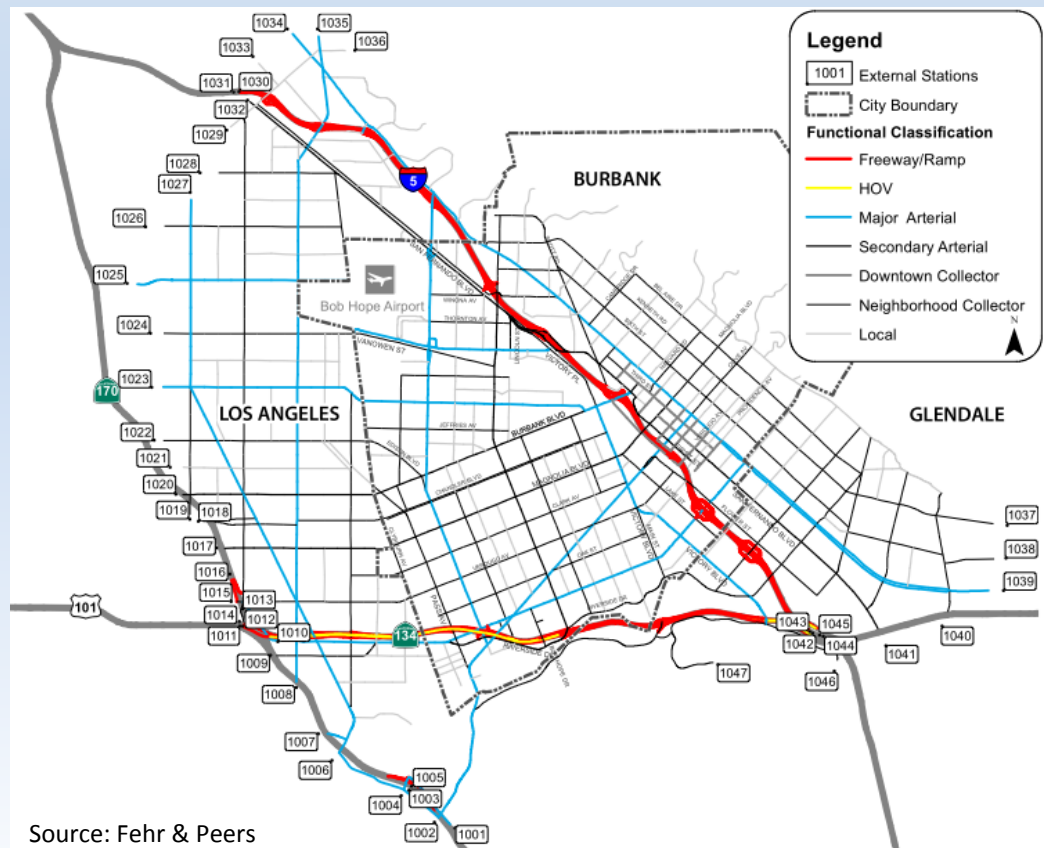
# Blended Model Process

- The primary interface between the two models (Metro with APM and City of Burbank) will be the incremental auto trips coming from the Metro mode choice model.
- A reduction or increase in auto travel would then be applied to the City model just prior to highway assignment.
- This reduction or increase will reflect the net effect of changes caused both by land use changes and by mode shifts resulting from transit improvements.



# Blended Model Process

- Metro model zones outside the study area must be aggregated, and trips to and from them must be matched to the external zones of the City model.
- Metro zones outside the City model area have been assigned to 16 external zones of the City model, based on the routes that trips from those zones would take to reach the Airport.







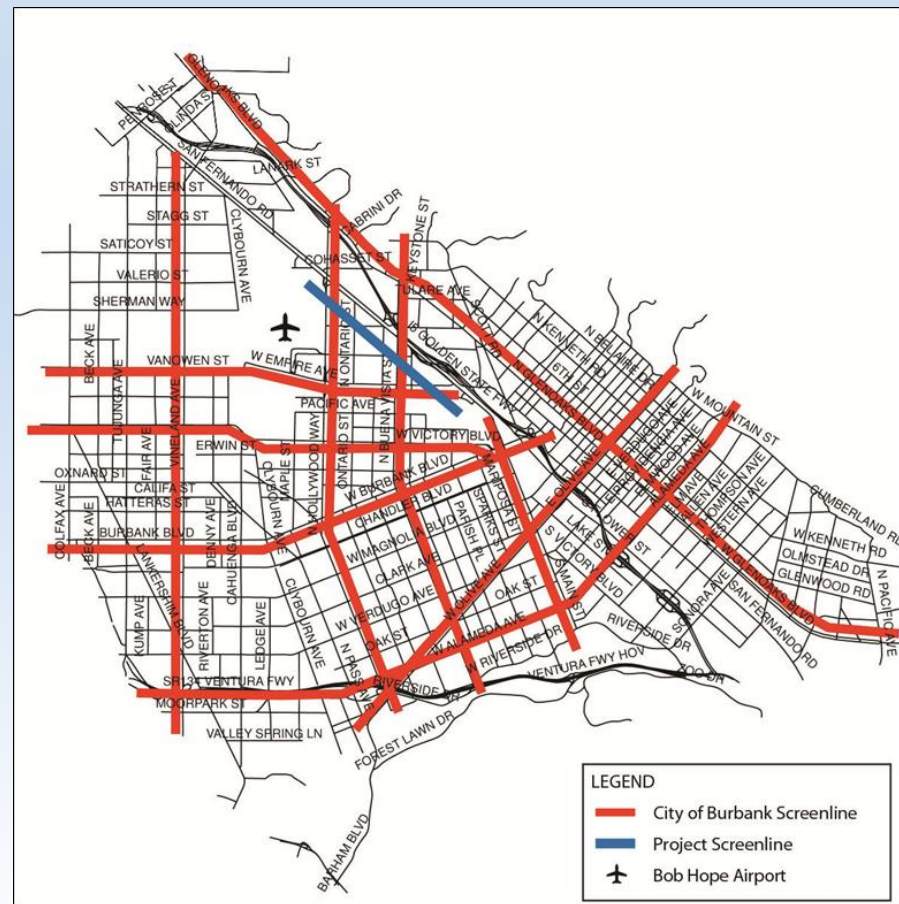
# Validation Approach

- Validate Burbank and Metro models to study area conditions
- Calibrate Air Passenger Model to BUR travel markets and modes of arrival



# Burbank Model Validation

- The City of Burbank model was validated with 2010 traffic volumes counts along 10 screenlines
- Additional screenline between BUR and I-5:
  - Hollywood Way between San Fernando Boulevard and Tulare Avenue
  - Ontario Street between Floyd Street and Winona Avenue
  - Naomi Street between Winona Avenue and Thornton Avenue
  - Buena Vista Street San Fernando Boulevard and Thornton Avenue
  - Winona Avenue between Ontario Street and Naomi Street
  - Thornton Avenue between Buena Vista Street and Lincoln Street

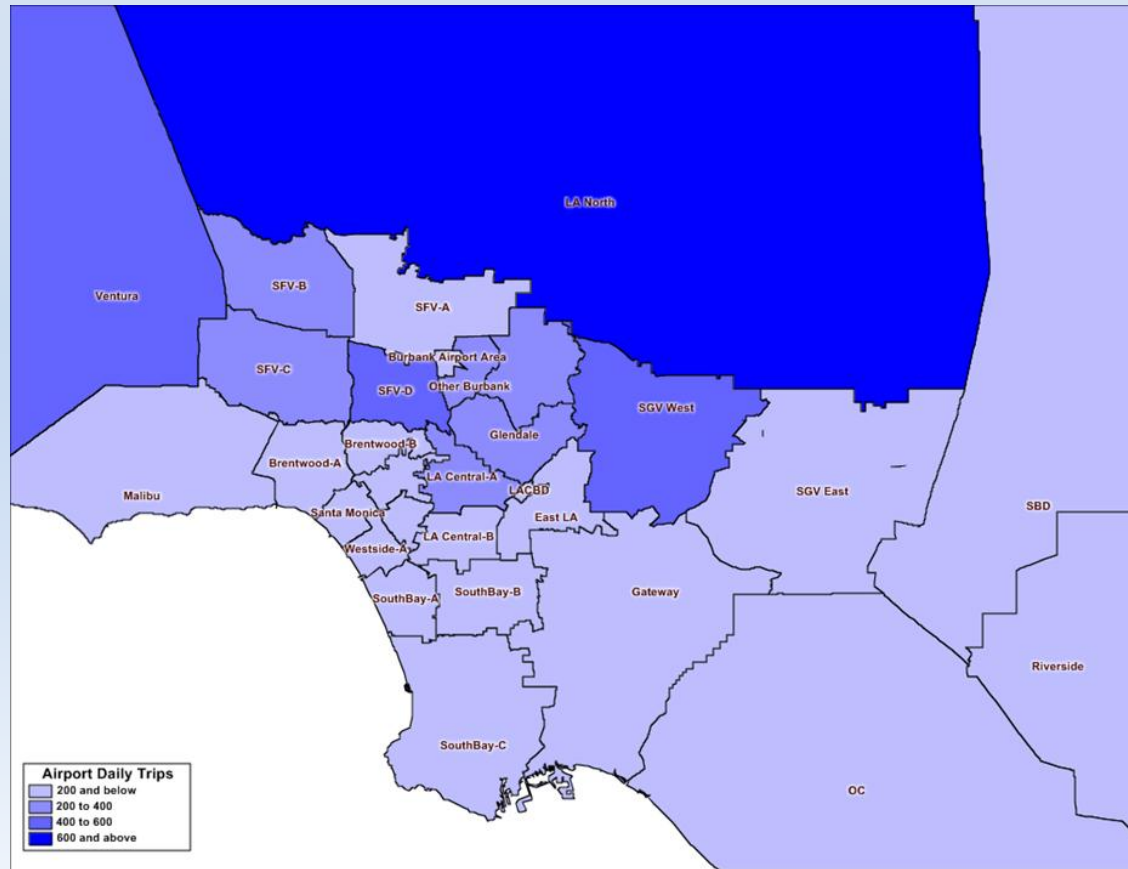


# Metro Model Validation

- Route level validation
- Metro routes 94, 165, 222, and 794
- Burbank Bus routes 2 (Empire to Downtown) and 3 (NoHo to Empire)
- Metrolink/Amtrak trains



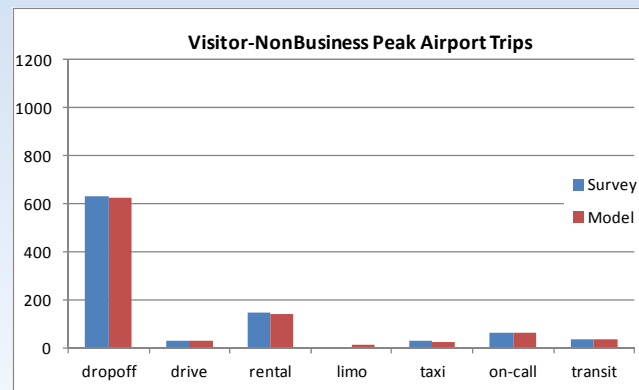
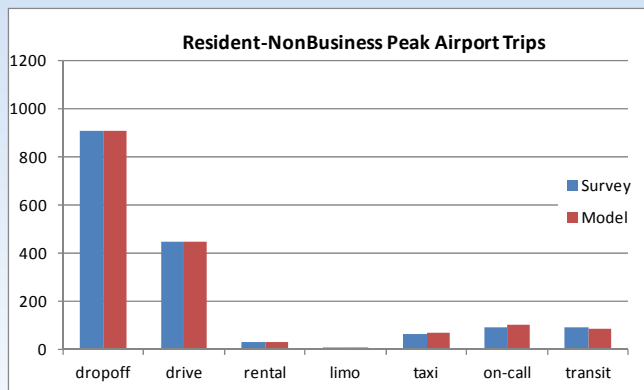
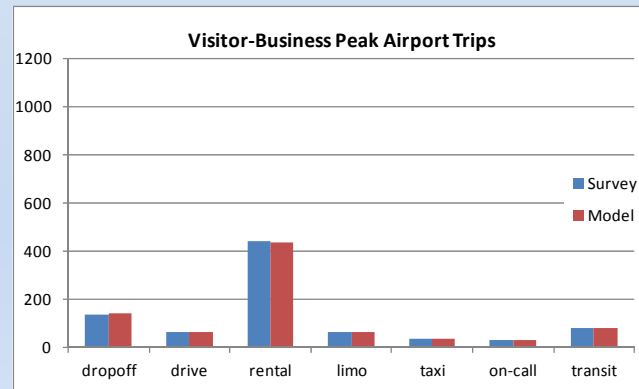
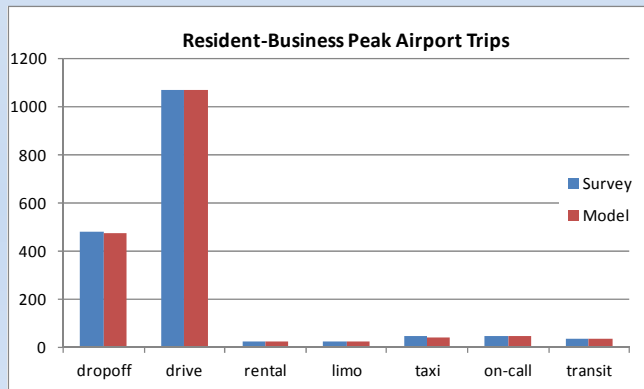
# Air Passenger Model Calibration/Validation



Trip Tables by purpose developed using 2012 air passenger survey data, applied to July 2010 air passenger volumes (peak month prior to cessation of American Airlines service)



# Air Passenger Model Calibration/Validation



Calibration target values from 2012 BUR air passenger survey





# Next Steps

- Model blending procedures complete
- APM calibration nearly complete
- Calculate updated BUR trip generation and complete highway screenline validation
- Development of No Build and test forecasts



Questions?

