



# Use of Big Data to Calibrate and Validate Travel to Special Travel Destinations

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# Introduction

- Special travel destinations are unique with respect to:
  - Magnitude of travel
  - Type of traveler\purpose (non-residents, recreational, health-related, etc.)
  - Spatial, temporal, modal distribution of travel to/from location
- Often under-represented in travel surveys
- Special destinations in San Diego County include
  - Beaches
  - Major shopping centers
  - Hospitals
  - Parks



# Introduction (continued)

- We used passively-collected Location-Based Services (LBS) smartphone app data to better understand travel patterns to SDs and calibrate the SANDAG activity-based model



We compare:

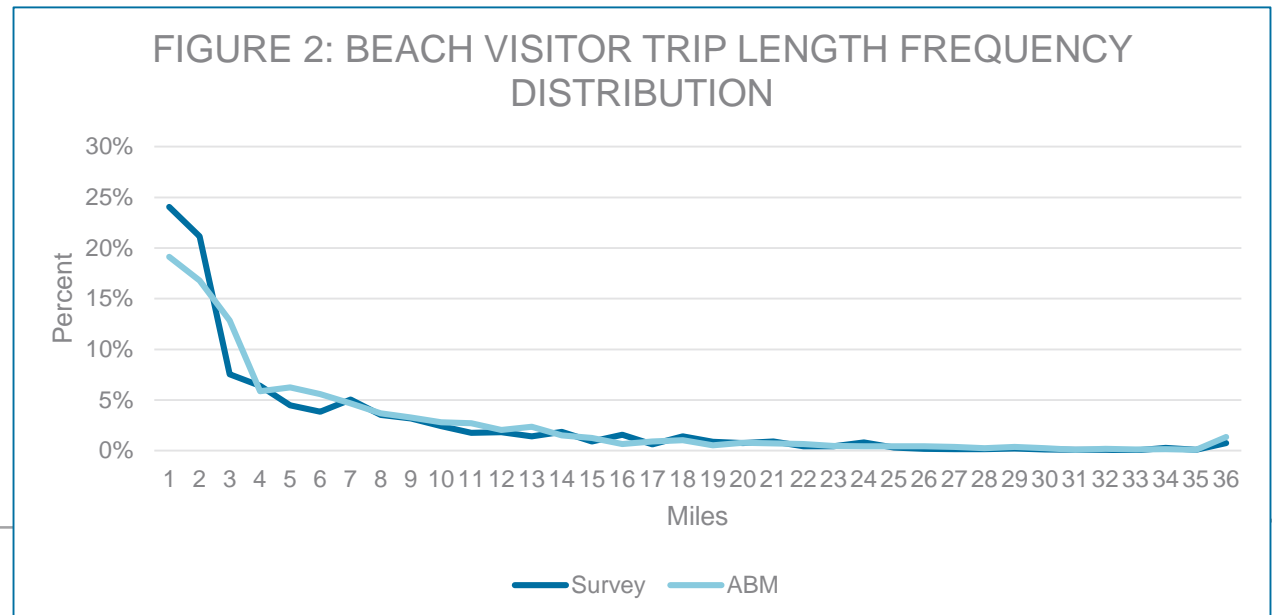
- ‘Big data’ to intercept survey data collected at beaches
- ‘Big data’ and intercept survey data to model results
- Model results to cordon traffic counts

# Beach Summaries

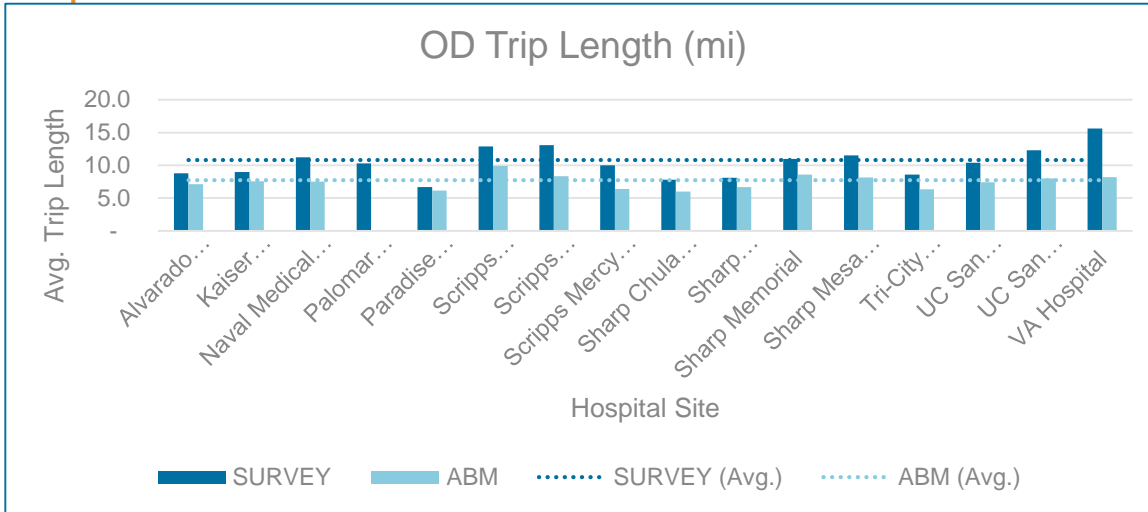
BEACH ZONE	PERCENT OF OD INDEX	PERCENT OF TOTAL BEACH VISITORS
South County	3%	2%
Coronado	11%	3%
City	23%	27%
La Jolla\Del Mar	17%	23%
North County	46%	44%
Total	100%	100%

- Overall good match between expanded headcounts and LBS data
- LBS data indicates higher share of residents than survey and shorter trip length (survey bias!) Used to correct survey!
- Coronado Beach difference could be due to bad weather, also possible LBS data picked up nearby hotel\retail traffic.

- Good match to trip length between model and LBS data
- Also good match to resident\visitor split (not shown)

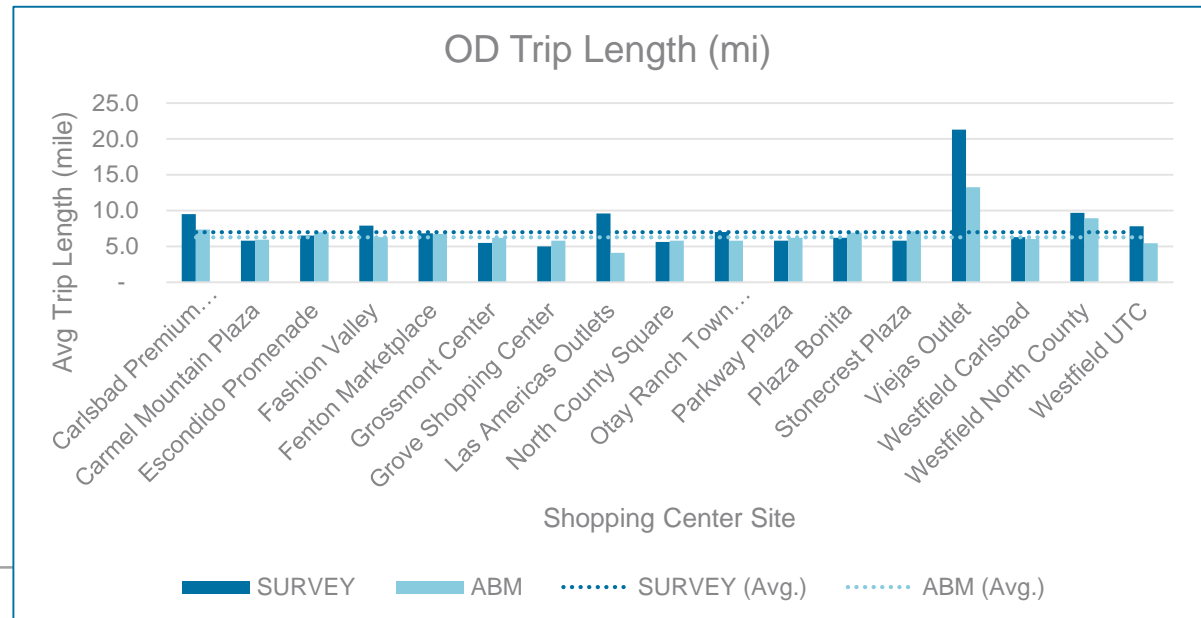


# Other LBS-Model Comparisons



- Model under-estimates trip lengths to hospitals (not as much choice as other activities in Maintenance purpose)

- Shopping center trip lengths match better. Some outlets under-estimated. Could be due to location (Rural part of county or Mexican border)



# Conclusions

- LBS data is very useful for understanding travel to special destinations
- Model comparisons to survey revealed some useful insights
  - Sites measured by ‘acres of active space’ – beaches, parks – are the most challenging to represent accurately in terms of magnitude of travel; non-resident models help
  - Major shopping centers not necessarily a ‘special market’
  - Hospital-related travel may require special treatment to match real-world constraints (less onerous accessibility terms in destination choice)
  - Be careful how your land-use data classifies employment - particularly medical (sometimes coded as university or government) and entertainment





## Contacts

[www.rsginc.com](http://www.rsginc.com)