The Walking Renaissance:
Insights from the Greater Los Angeles Area

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Case Study of Walking Travel in Los Angeles

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- The Greater Los Angeles Area, traditionally an auto-centric metropolitan region, is transforming into a multi-modal metropolis

- Increased public transit investment, downtown revitalization projects, and interest in alternative transportation have helped accelerate this trend

Case Study of Walking Travel in Los Angeles

- Given the recent trend towards active transportation, has there been an increase in walking activity during the first decade of the 2000s?

- How has walking changed within different parts of the Greater Los Angeles Area?

Study Area

- Study area is the six-county Southern California Association of Governments (SCAG) region

- Largest MPO in US (Population: 18 million; Area: 38,000 square miles (98,400 square km)

- Divided into 55 regional statistical areas (RSAs), corresponding to different geographic sections of the region

- RSA is the unit of analysis in the study

Study Area
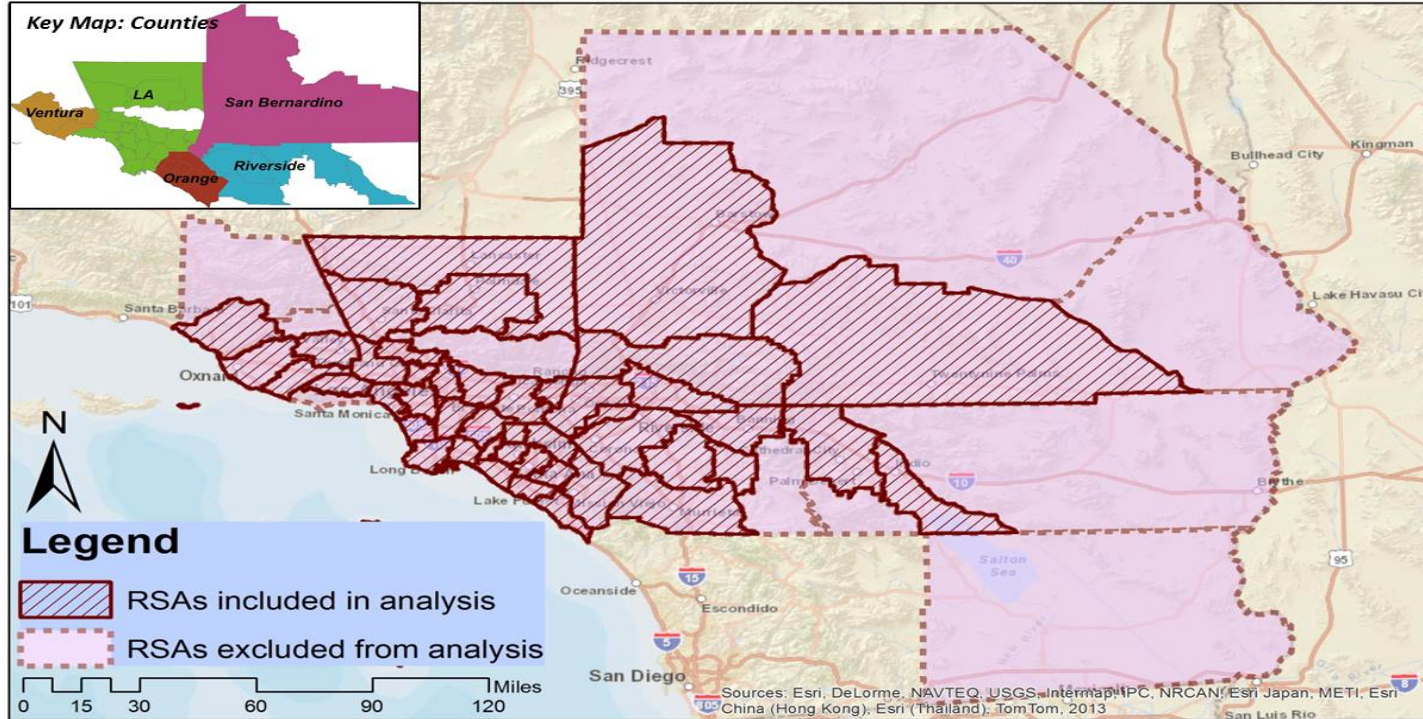
Source: Southern California Association of Governments

Data Sources

- SCAG 2001 Post-Census Regional Travel Survey

  - Conducted in Spring 2001, Fall 2001, and Spring 2002

  - Recorded details of specific trips made by individuals on a specific travel day in a travel diary

  - 16,939 households analyzed with 129,786 travel day trips

  - Walking mode share and access/egress to transit were primary questions of interest in the study

Data Sources

- National Household Travel Survey (NHTS) 2009
  - Conducted from March 2008 to May 2009
  - Recorded person-level trips made by individuals on a given travel day in the form of a travel diary
  - 150,147 households surveyed nationwide; 6,111 households in the SCAG region, with 54,528 travel day trips
  - Walking mode share and access/egress to transit were primary questions of interest in the study

Data Sources

- Other data sources
  - 2000 and 2010 U.S. Census data at the census tract level
  - Public transit data obtained from SCAG

Methods

- Descriptive Analysis
  - Trend analysis of walking trips are analyzed for 2001 and 2009
  - Change in the proportion of walking trips across RSAs in the SCAG region
  - Two types of walking trips:
    - Without access/egress trips to transit
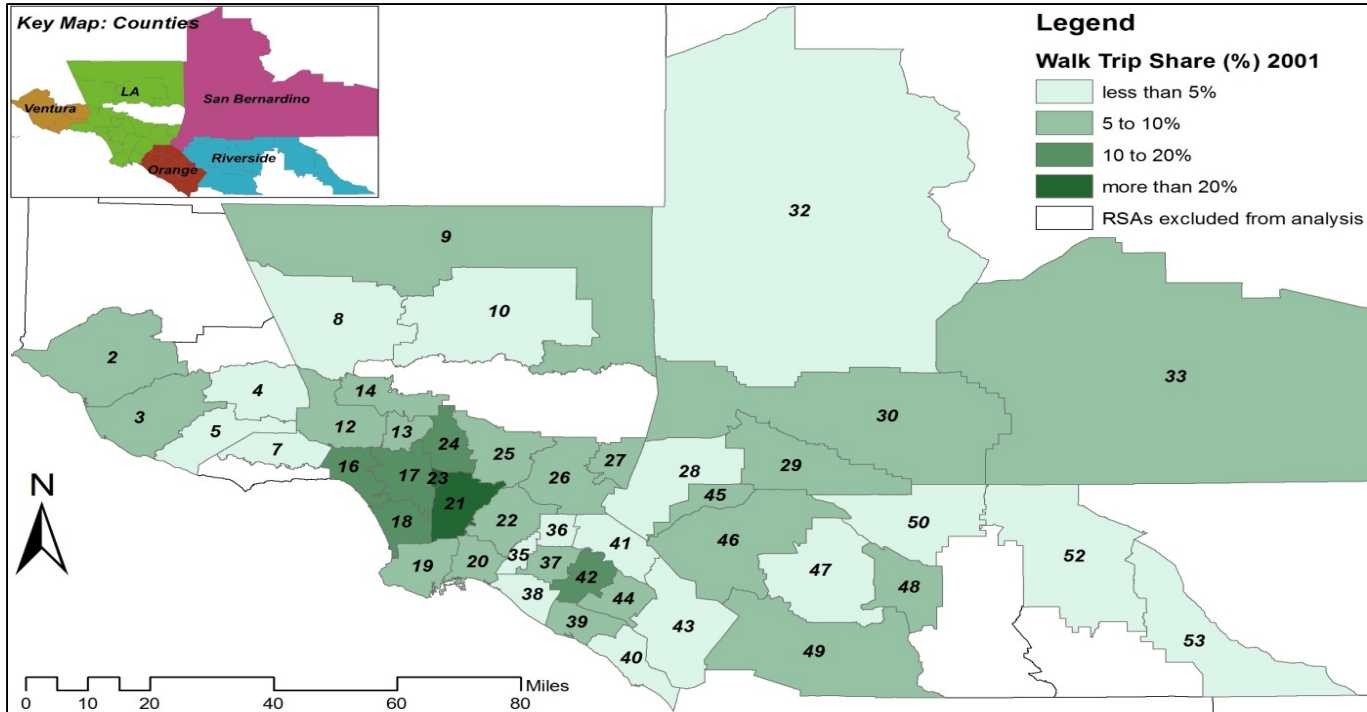   - With access/egress trips to transit

Methods

- Regression Analysis
  - Fixed effects regressions used to analyze factors that account for differences in the proportion and rate of walking trips from 2001-2009
  - Dependent variables:
    - Percentage points change in walking trips from 2001-2009
    - Change in walking trip rates from 2001-2009
  - Independent variables: changes in sociodemographic factors and transit availability

Methods

- Predictor variables
  - Population density
  - Employment density
  - Transit stop density*
  - Proportion of households with children
  - Median household income
- Census and transit data were aggregated at the RSA level for analysis
- Analyzed 46 (out of 55) RSAs for 2001 and 2009
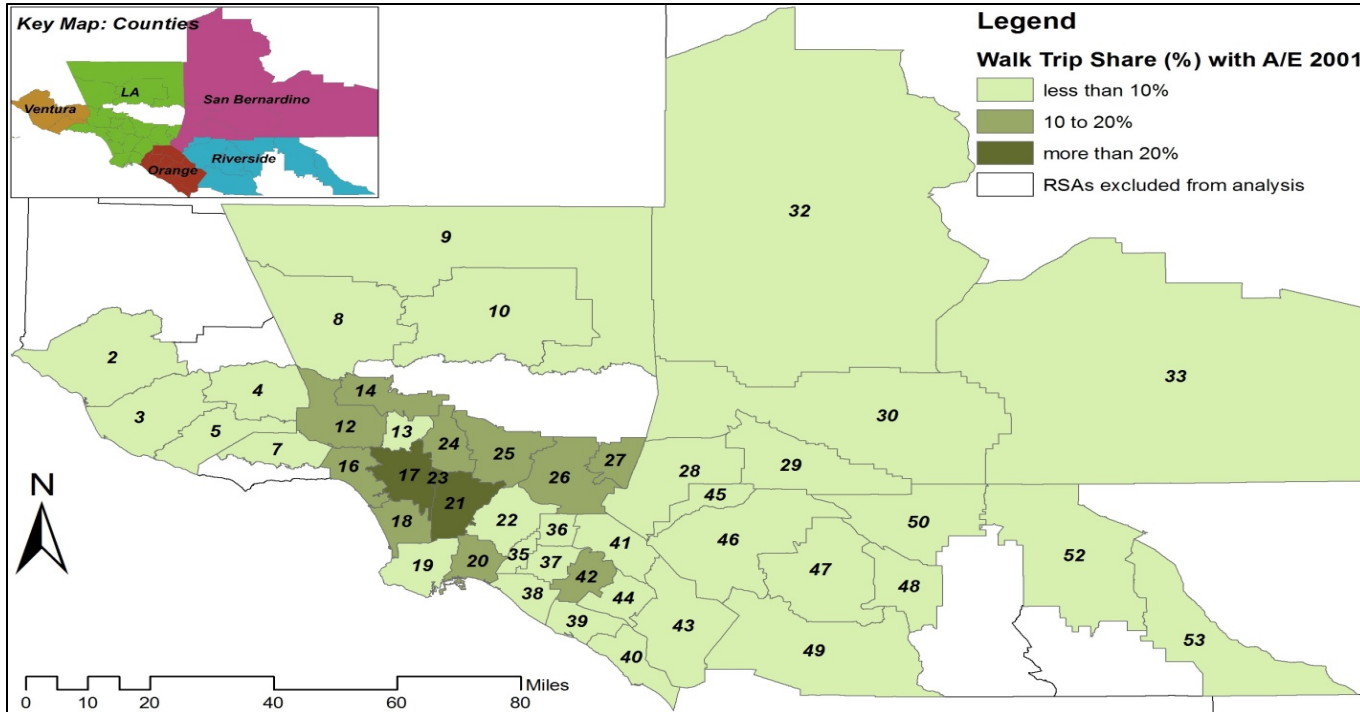- * Transit stop density: Defined as scheduled stop, not physical stop

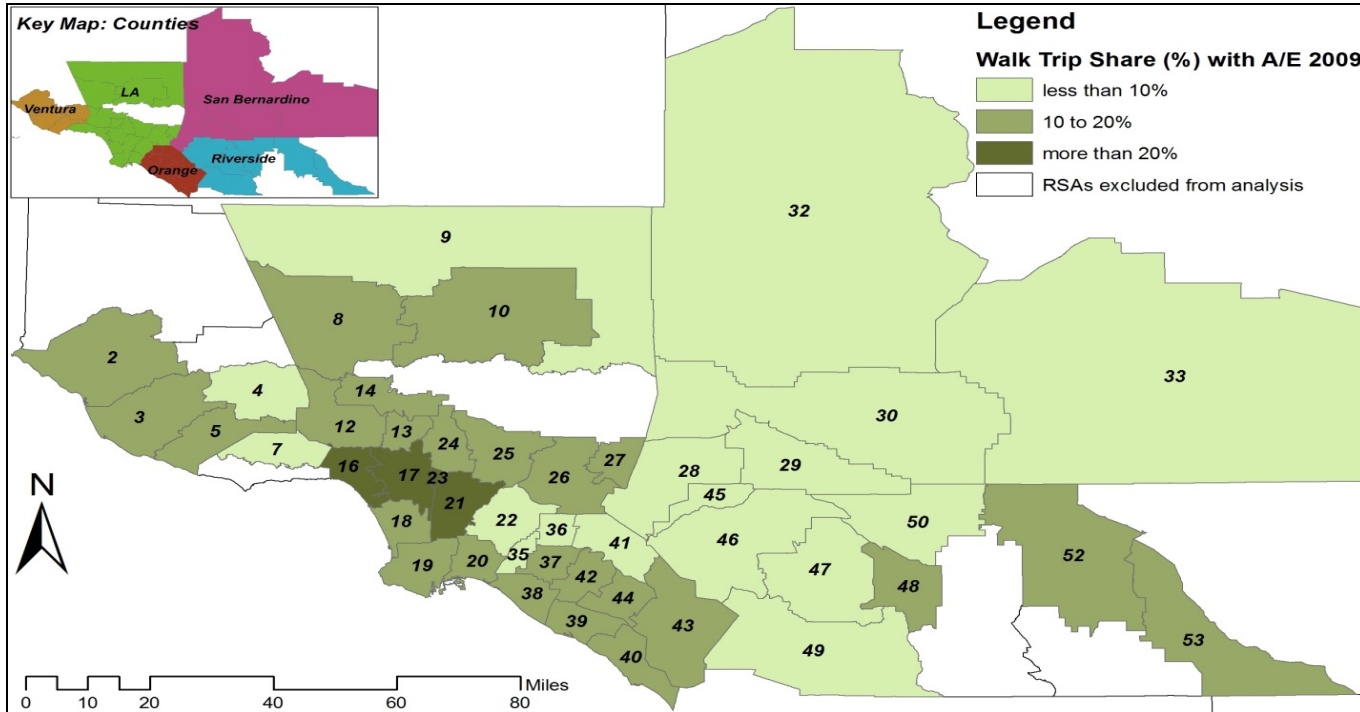# Walking Trip Shares in 2001
(without access/egress trips)

Walking Trip Shares in 2009
(without access/egress trips)

Walking Trip Shares in 2001
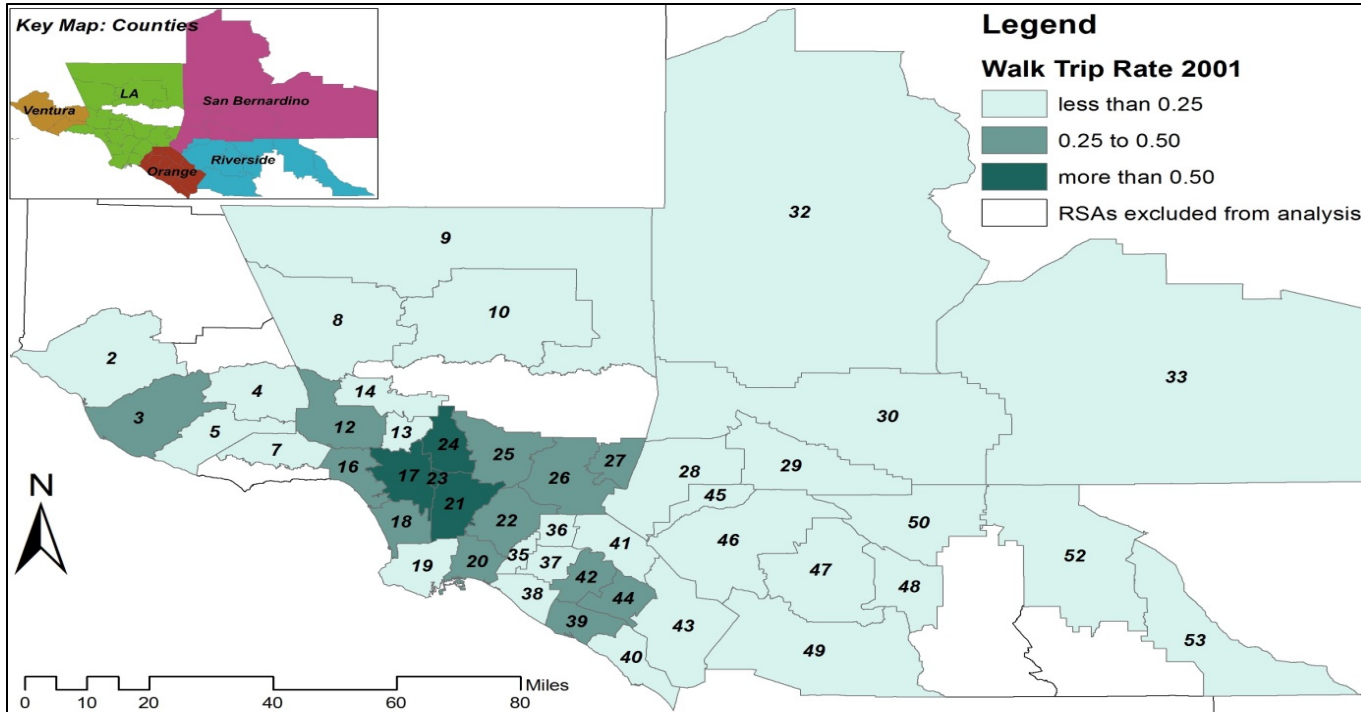## (with access/egress trips)

Walking Trip Shares in 2009
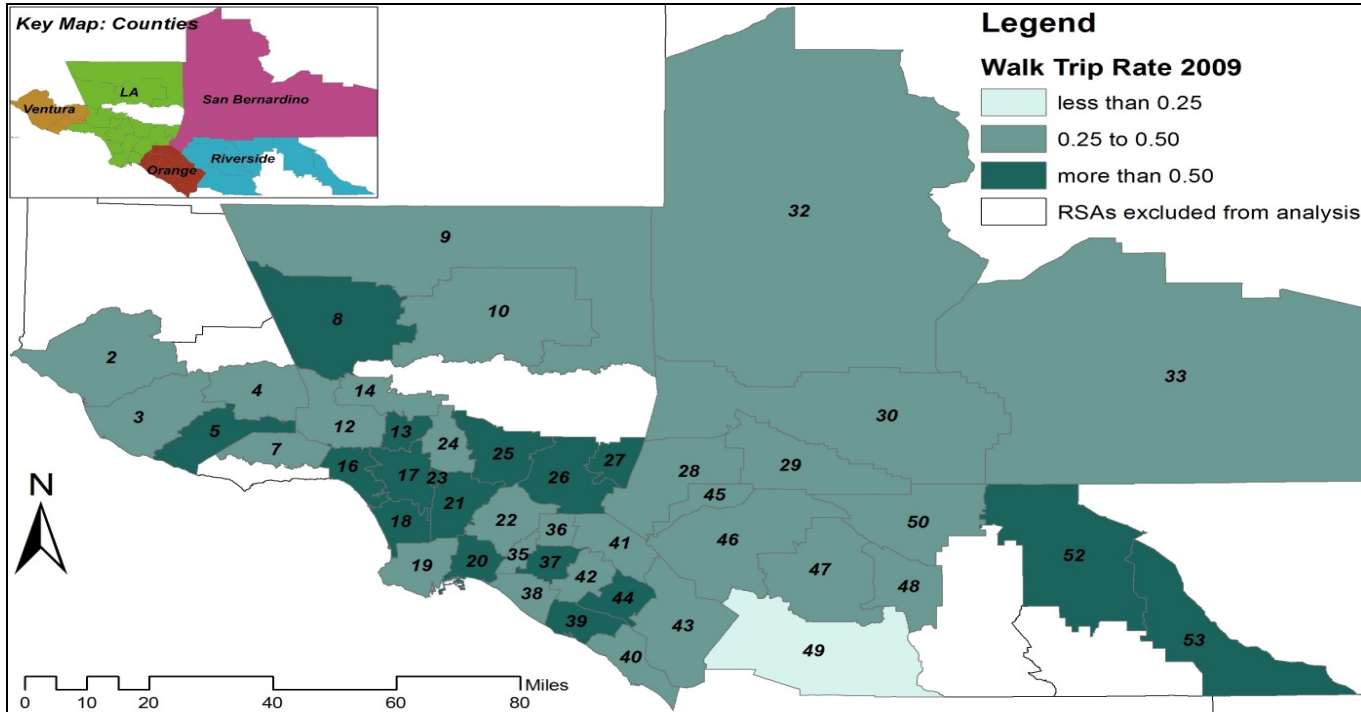## (with access/egress trips)

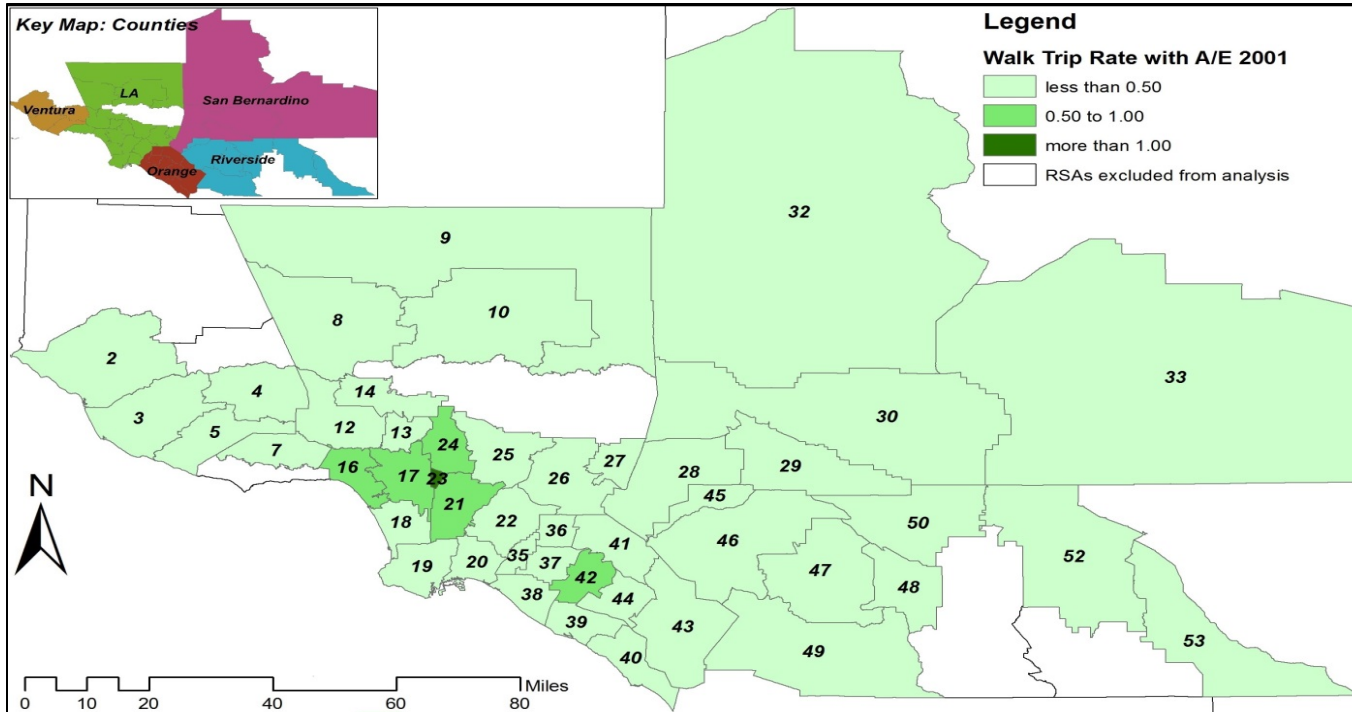# Walking Trip Rates in 2001
(without access/egress trips)

Walking Trip Rates in 2009
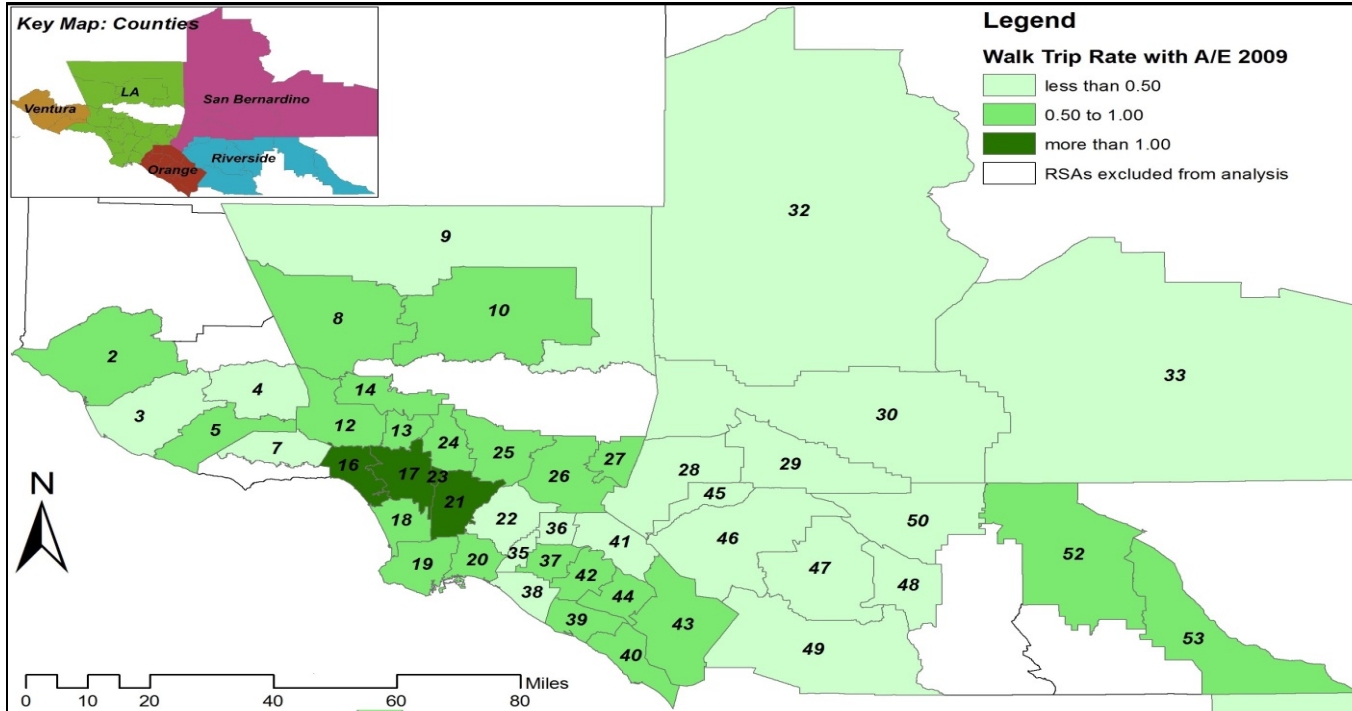## (without access/egress trips)

Walking Trip Rates in 2001
(with access/egress trips)

Walking Trip Rates in 2009
(with access/egress trips)

Descriptive Results - Summary

- Walking trip shares and rates increased across the vast majority of the Greater Los Angeles Area (about 90% of sampled RSAs)

- Highest rates of walking reported in the downtown L.A. area (over 50% in 2009)

Regression Results

DV: Walking trips	Model 1 (Walk Trip Share): Fixed Effects (w/o AE)		Model 2 (Walk Trip Share): Fixed Effects (w/ AE)		Model 3 (Walk Trip Rate): Fixed Effects (w/o AE)		Model 4 (Walk Trip Rate): Fixed Effects (w/ AE)	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Population Density	**0.0046466**	**2.25**	*0.0040176*	*1.84*	**0.0001934**	**2.18**	0.0001549	1.55
Employment Density	-0.0010813	-0.20	0.0017347	0.31	0.0000840	0.37	0.0002351	0.91
Transit Stop Density	**-0.0171826**	**-2.39**	-0.0073042	-0.96	-0.0002828	-0.92	**0.0011814**	**3.40**
Household Income	-0.0000739	-0.55	-0.0000946	-0.66	-0.0000011	-0.19	-0.0000017	-0.26
% Population under 18	**-0.9502224**	**-3.91**	**-0.8756339**	**-3.41**	**-0.0553600**	**-5.31**	**-0.0527154**	**-4.50**
No. of Observations	92	-	92	-	92	-	92	-
Adj. R-squared	0.4926	-	0.7630	-	0.5657	-	0.7483	-

Note: Coefficients that are statistically significant at the 5 percent level (two-tailed test) are indicated in bold type; and coefficients that are statistically significant at the 10 percent level are shown in italics.

Regression Results - Summary

- Increase in population density correlated with increased walking trips

- Increase in transit density was positively associated with increases in transit-related walking trips

- Households with children were negatively associated with walking trips

Summary and Conclusions

- These results appear to show a recent trend towards increased walking in the Greater Los Angeles region

- Population density is an important predictor for walking trips, as well as the availability of transit

- These results offer some hope that efforts to promote active transportation and sustainable communities are translating into increased walking trips in the U.S.

Acknowledgements