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NHTS Data Sets and Neighborhood-Level Effects: Lessons from Research on Immigrants' Travel Patterns

*Presented at the
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for Transportation Decision Making Conference
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1. The Context: Immigrants and Travel
2. Research Questions
3. Data and Methodology
4. Findings
5. Conclusion

The Context: Immigrants and Travel

- Travel behavior as a window into lives of subpopulations
 - Example: travel research on women has shed light on competing demands of household-related and work-related activities
- Only recently have transportation scholars examined immigrants, despite...

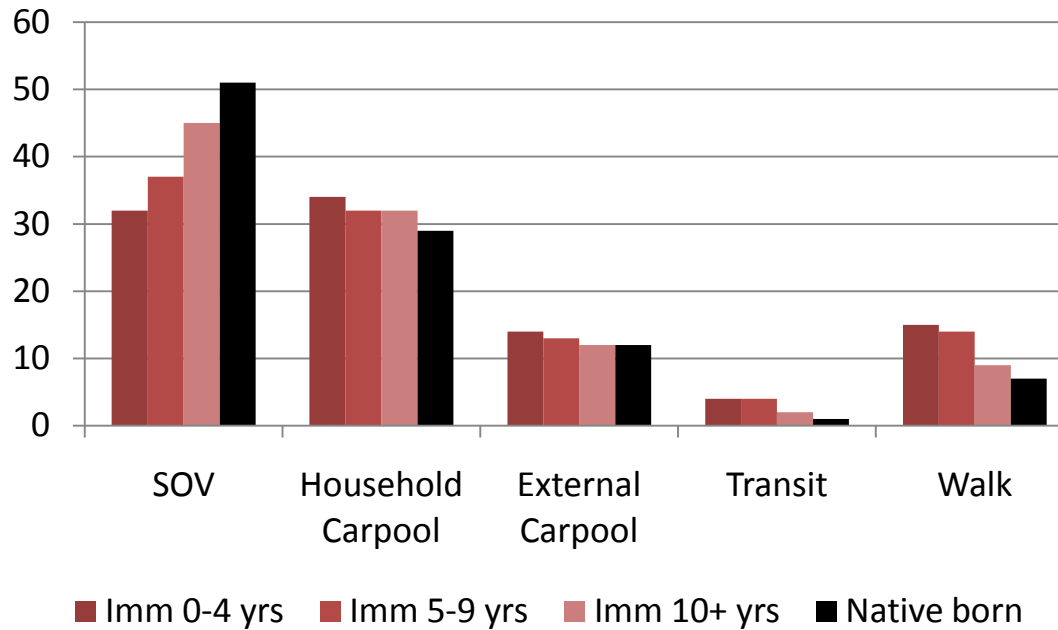
The Context: Immigrants and Travel

- More than 39 million immigrants in U.S.
- Over 12% of population
- Until recently, about 1 million new permanent residents per year
- Roughly the same number of undocumented
- Foreign-born population did not grow in 2008-09, but will likely resume growth with economic recovery

The Context: Immigrants and Travel

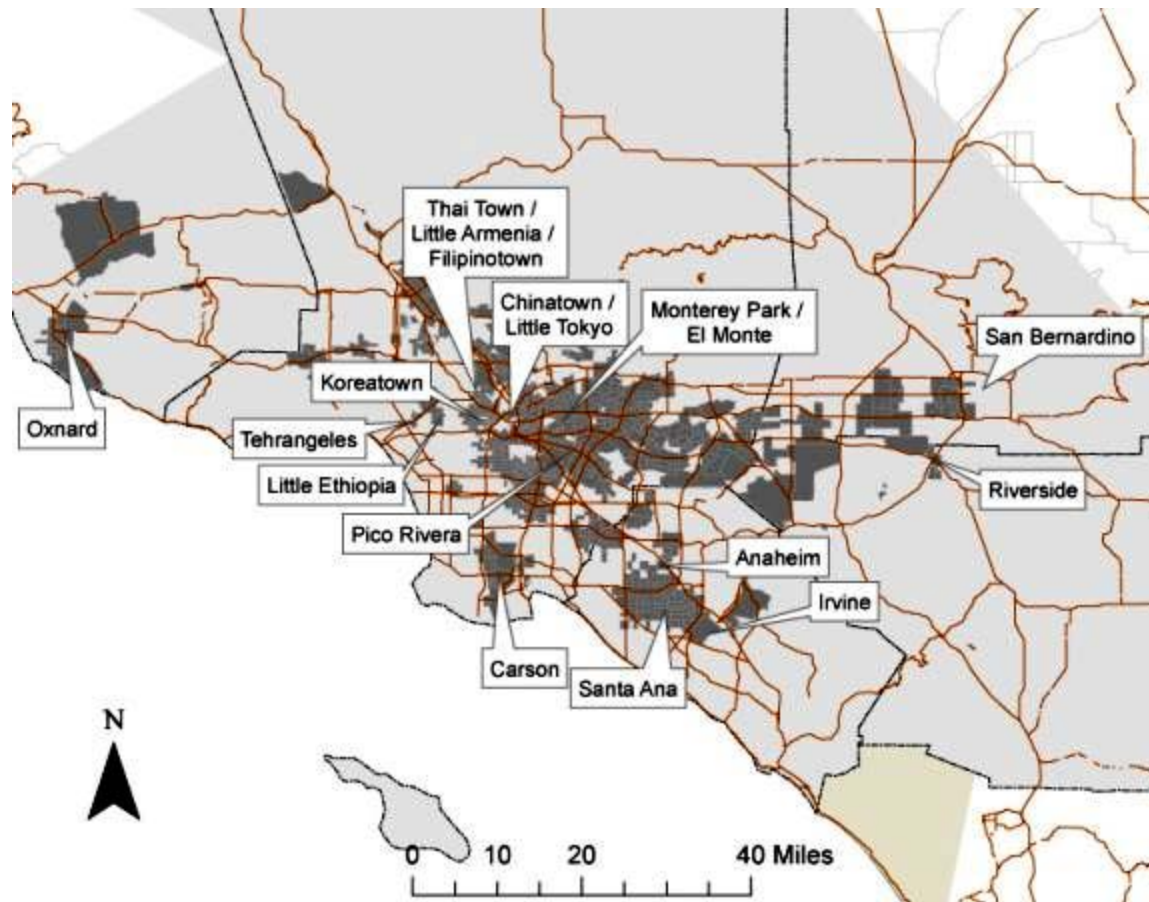
- Researchers have focused on mode choice:

**Travel Mode Choice by Immigrant Status,
All Trips, U.S. Adults 2001 (Source: NHTS)**



The Context: Immigrants and Travel

- Our previous research has looked at clustered residential patterns among immigrants in Southern California



The Context: Immigrants and Travel

- In previous papers, we have found that, net of other factors, residence in an ethnic neighborhood is associated with:
 - ***More transit patronage***
 - ***More within-household carpooling***
 - ***More across-household carpooling***
 - ***More non-motorized (walking, biking)***

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Only for immigrants?

The Context: Immigrants and Travel

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- Many interested because: many ethnic neighborhoods share characteristics with “mixed-use neighborhoods”
 - *Agglomeration of diverse uses*
 - *Medium- to high-density*
- Additionally, there is reason to believe that ethnic enclaves should be more self-contained than other mixed-use neighborhoods (*city within a city*)
 - *Ethnic-specific services (ethnic groceries, churches, schools, legal services, etc.)*
 - *Co-ethnic preference (hiring, socializing, networking)*

The Context: Immigrants and Travel

- Mixed-use neighborhoods lionized in planning literature:
 - *Widely-theorized: proximity of diverse activity sites, given appropriate transportation alternatives:*
 - *Fewer auto trips*
 - *More non-motorized trips*
 - *More transit trips*

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- Interest in “green” travel in immigrant neighborhoods – “can we learn from them”?

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Research Questions

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2. Does the *degree* of immigrant population concentration in the immigrant neighborhood influence the use of these modes?
3. Does it matter if the individual is an immigrant?

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- Data needs:
 - trip records, individual records , household records, must be geo-coded (Confidential NHTS 2001 & 2009)
 - neighborhood records, including percent immigrant in the tract (Census)

- Model mode choice, given characteristics of the:
 - Trip
 - Person
 - Household
 - Neighborhood

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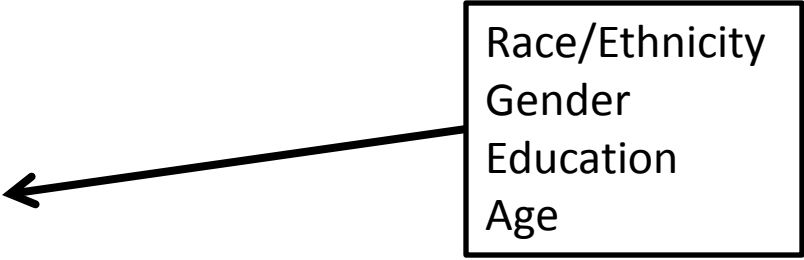
- Trip

- Person

- Household

- Neighborhood

Distance
Purpose
Time of day

- Model mode choice, given characteristics of the:
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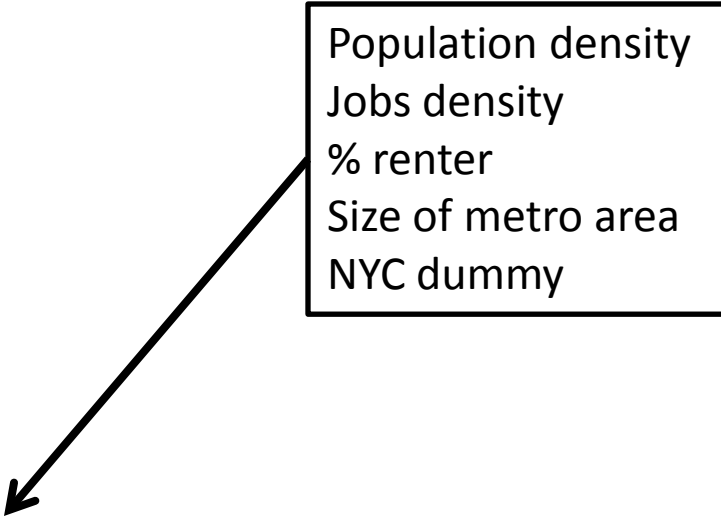
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Population density
Jobs density
% renter
Size of metro area
NYC dummy

- Variables of interest
 - % foreign-born in tract
 - Immigrant (binary variable)
 - Years in the United States (and squared term)
 - Immigrant \times % foreign-born in tract (interaction)

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Showing results from multinomial logistic regression

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- Control variables carry the expected sign
 - Example: more transit, walk and bike:
 - Dense areas
 - Large regions
 - NYC
 - Low-income

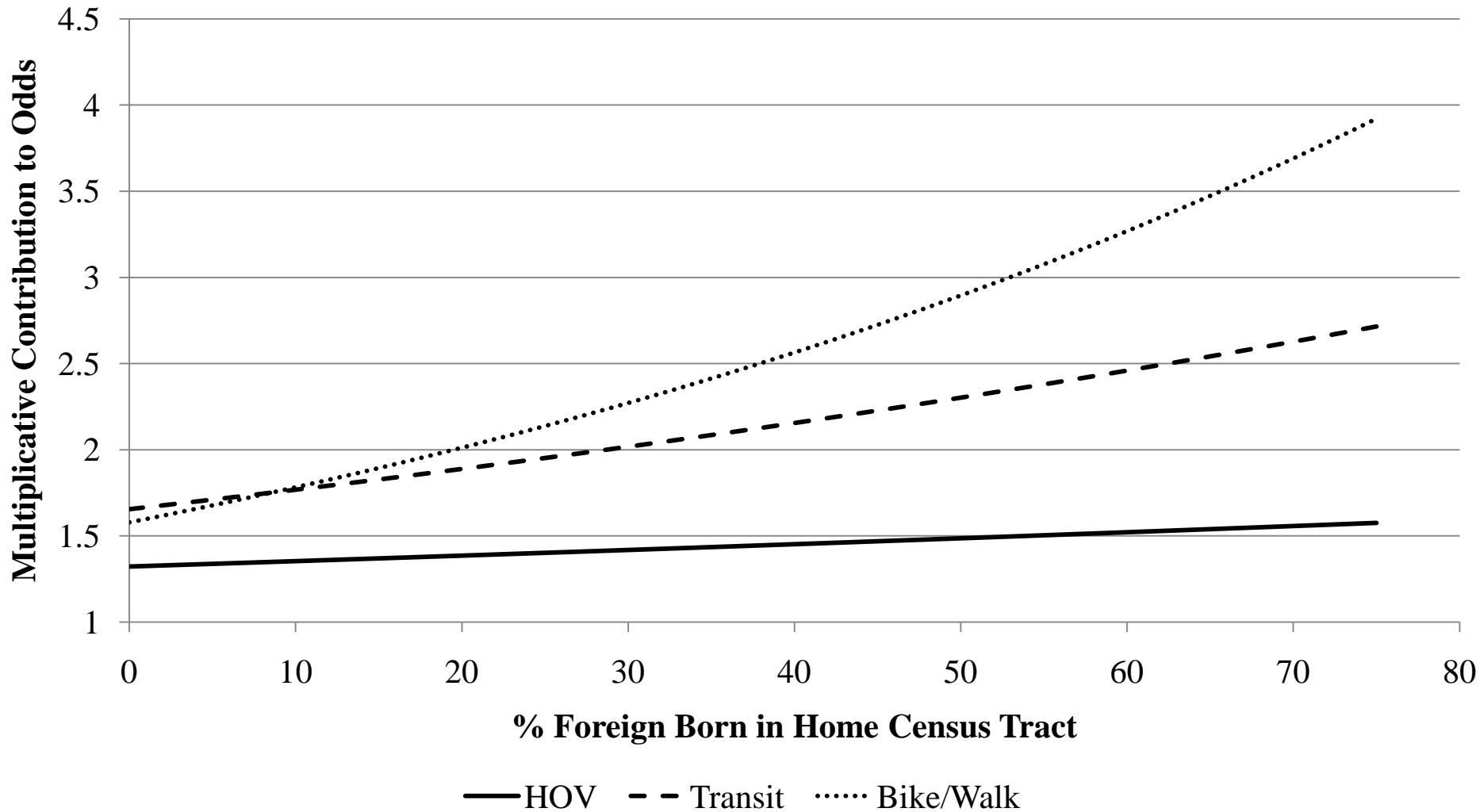
Findings

- Control variables carry the expected sign
 - Example: more transit, walk and bike:
 - Dense areas
 - Large regions
 - NYC
 - Low-income
- Variables of interest show stronger effect for immigrants than for non-immigrants

Findings

2009 Dataset

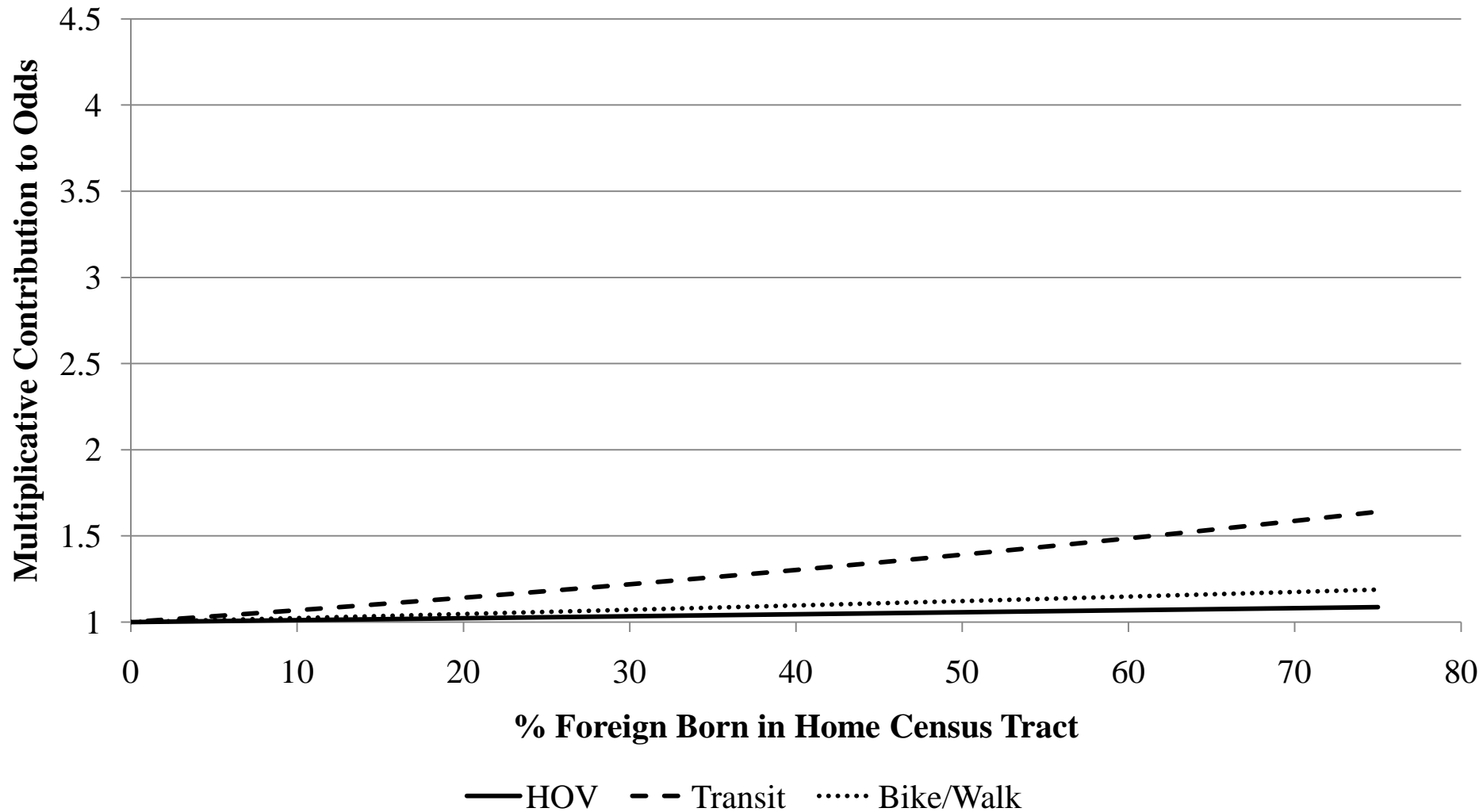
**Foreign Born Mode Choice
(Bases: SOV and U.S. Born)**



Findings

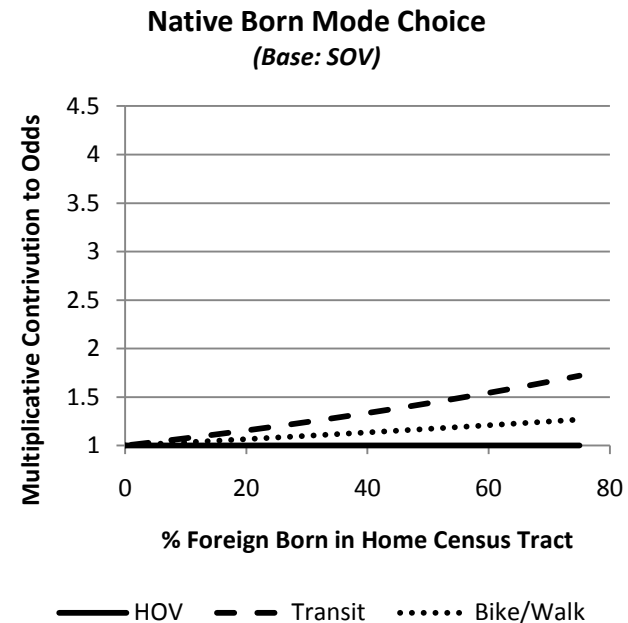
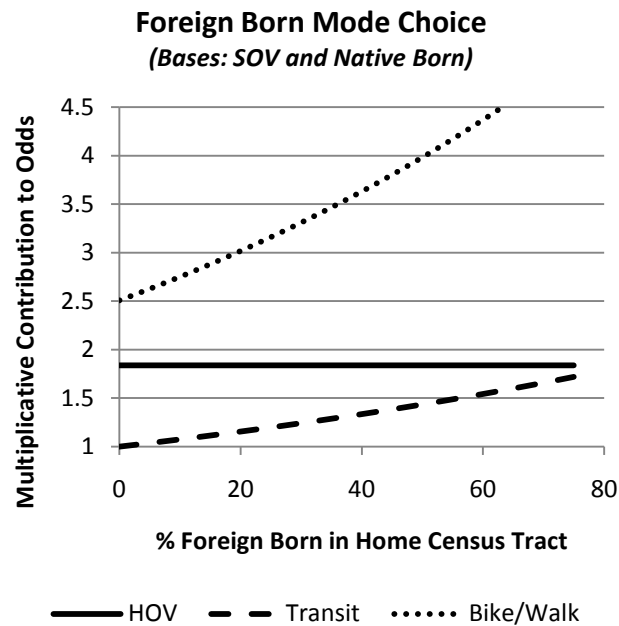
2009 Dataset

**U.S. Born Mode Choice
(Base: SOV)**



Findings

- Same models using the 2001 dataset show similar results
 - Stronger bike/walk effect for both groups
 - Stronger HOV effect for foreign-born, but flat slope



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Conclusion

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- they have not been able to test for different effects on immigrant and non-immigrant individuals living in those neighborhoods.
- *Immigrants* within immigrant neighborhoods are far more likely to walk, bicycle, use transit, and carpool than are *non-immigrants* living in immigrant neighborhoods...
- though both groups are more likely to use these modes than are individuals living in non-immigrant neighborhoods.

Conclusion

- There are yet-unexplored hypotheses for this strong neighborhood effect for immigrants
 - Cultural / social?
 - Labor market?
 - Others?
- But US-born living in immigrant neighborhoods exhibit some of the same behavior
 - Self-selection?
 - Acculturation / social learning?
 - Others?

- Data needs:
 - 2001 NHTS contained some information on the place of origin; 2009 does not
 - Place of origin helps contextualize the neighborhood/person “match” – is this an immigrant living in a neighborhood with people from the same place of origin?

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Thanks!

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Table 3. Selected Attributes of Households by Income Quintiles^(a) and Foreign-Born Status^(b)

Income Quintiles	HH Tract Res. Density (Pers/Sqmi)		% of HH Tract Foreign-Born		% of HH Trips by SOV	
	<i>U.S.-Born</i>	<i>Foreign-Born</i>	<i>U.S.-Born</i>	<i>Foreign-Born</i>	<i>U.S.-Born</i>	<i>Foreign-Born</i>
< \$22.5 k	926	4,044	6	22	47	27
\$22.5k - 37.5k	792	3,058	6	20	53	38
\$37.5k - 57.5k	774	2,863	6	17	53	41
\$57.5k - 90.0k	829	2,303	6	15	53	47
> \$90.0 k	1,019	2,407	7	15	51	43

Notes: (a) Quintiles are approximate due to the categorical nature of the variable; (b) a household is considered "foreign-born" if one or more household members is foreign-born

Source: 2001 NHTS and 2000 Census