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Health, Transportation, and the Built Environment: Building a Roadmap for Change with Smaller Cities

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Health, Transportation & Built Environment

Building a Roadmap for Change with Smaller Cities

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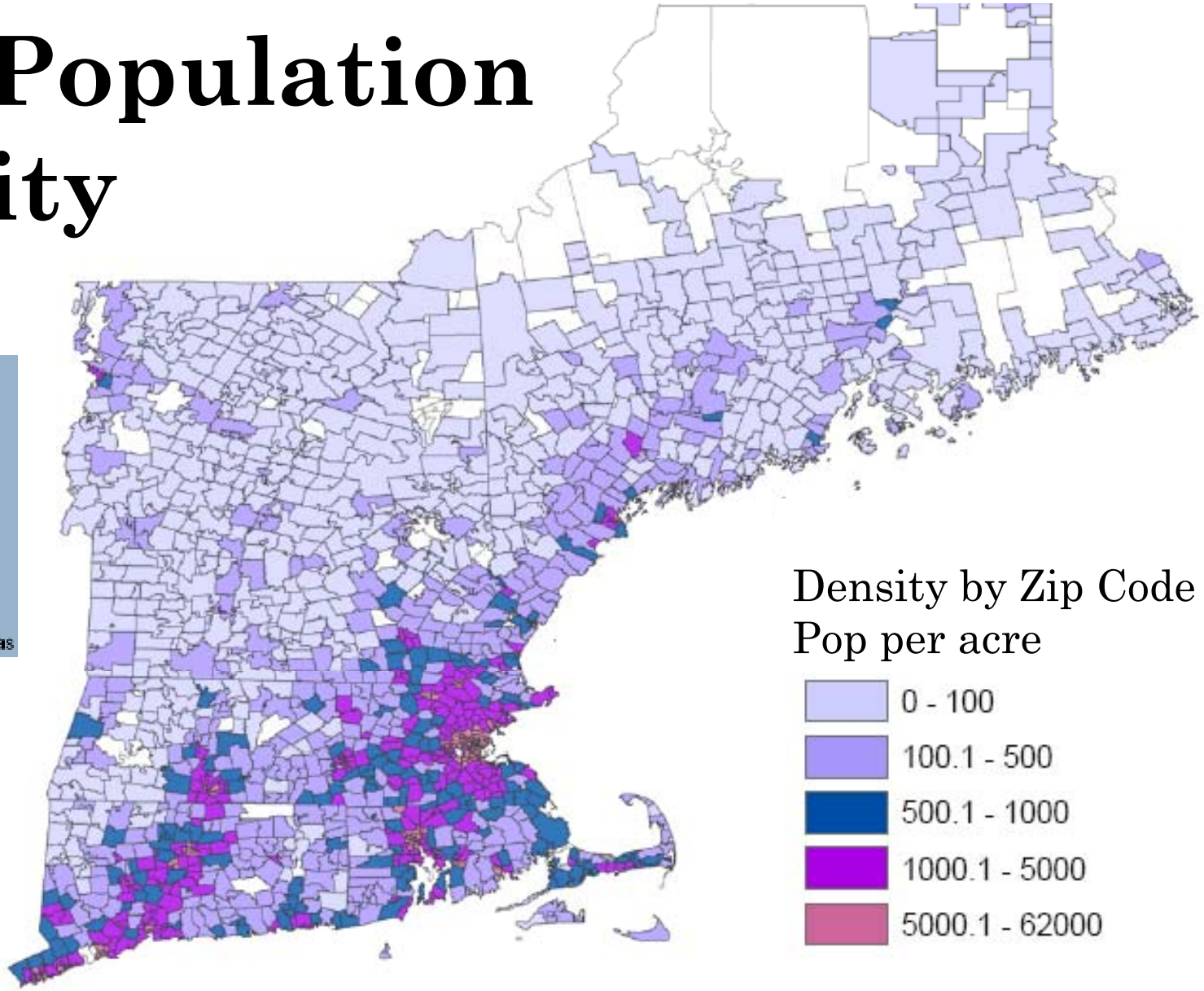
Walking in SMALL Cities and Towns?

- Important culture (i.e. New England).
- Often originally designed to be walkable – before cars
- May provide services to region.
- Lots of us live there & like it!

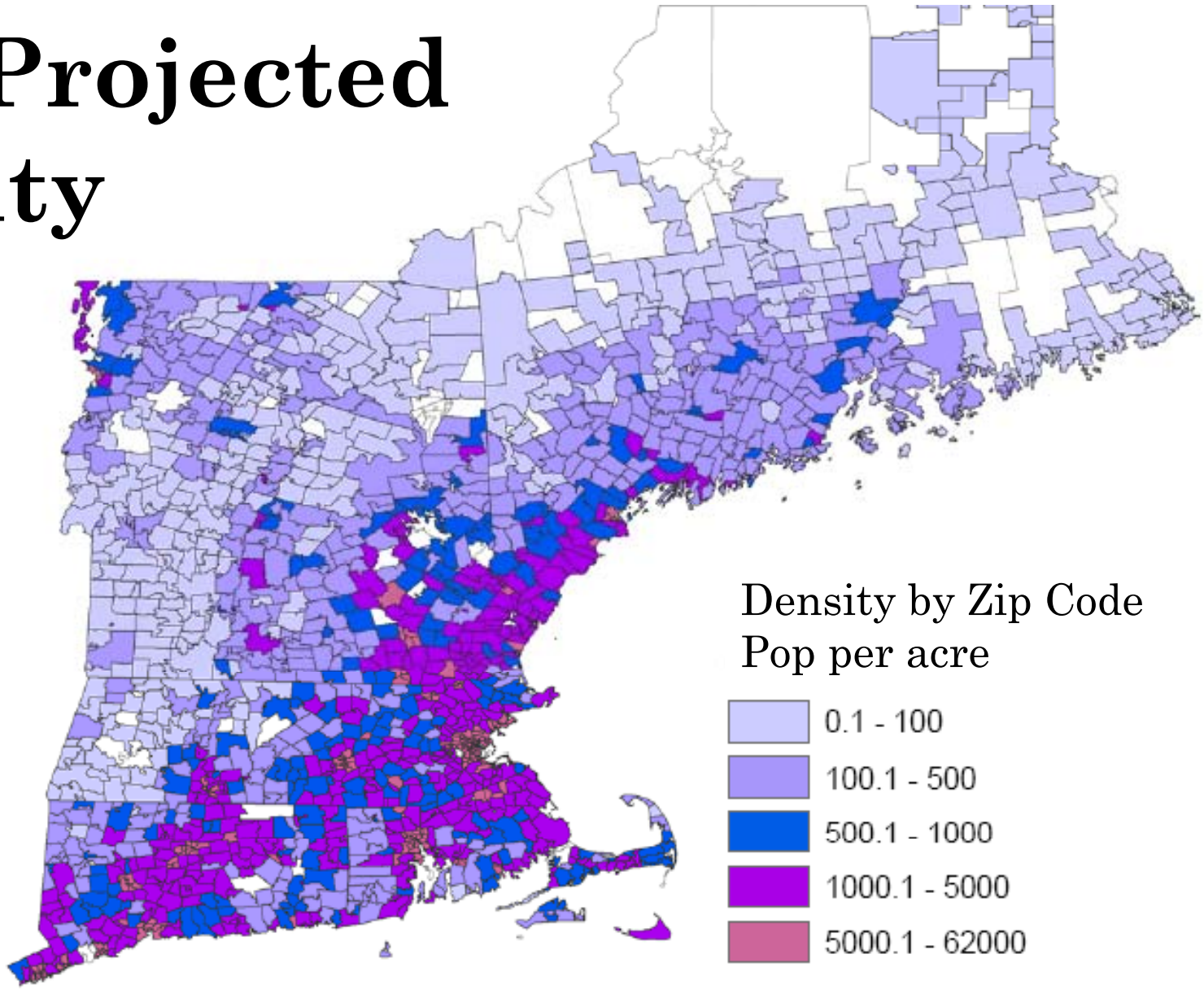
Sprawl in Small and Large Cities

2000 Population Density



Sprawl in Small and Large Cities

2050 Projected Density



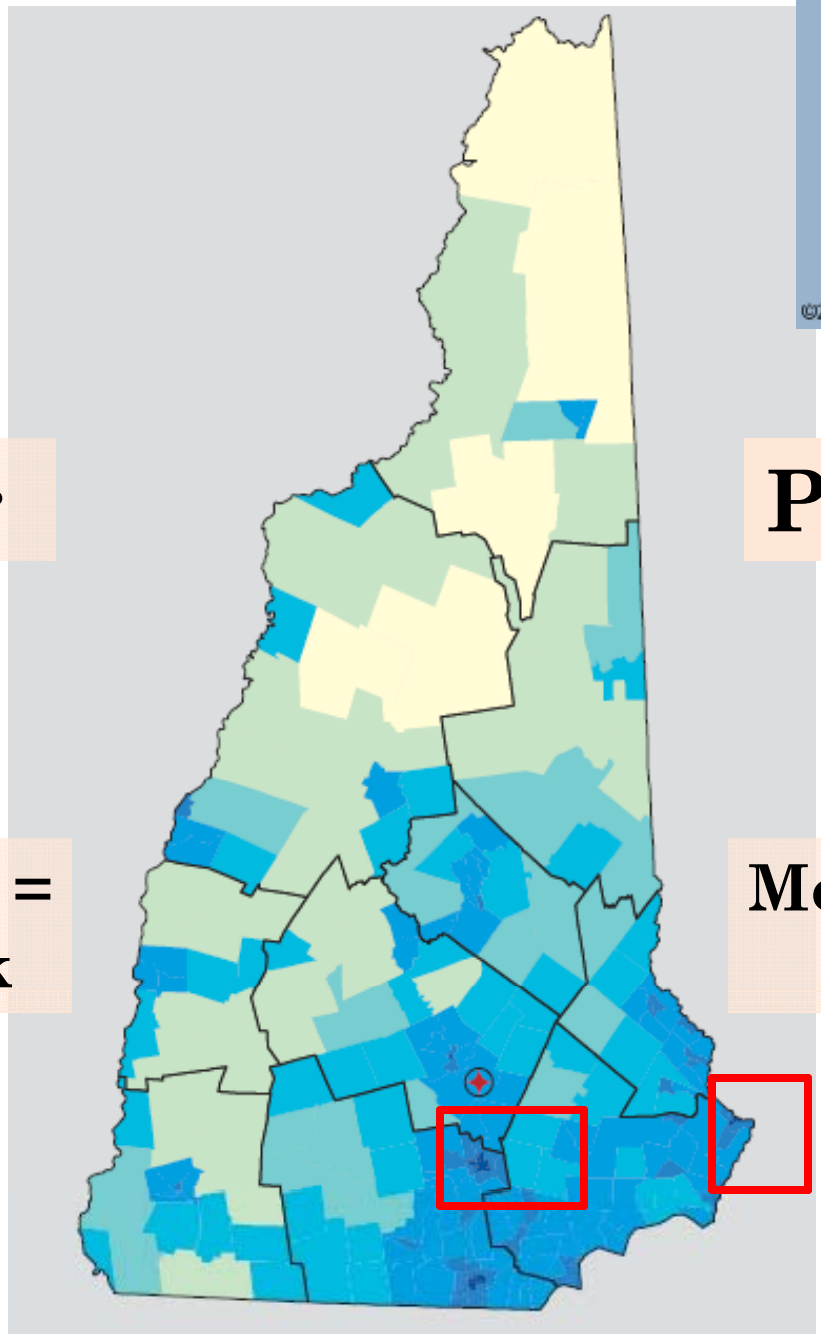
- Managing growth…
- Encouraging walkability…
- Controlling sprawl…
- Preserving communities…

…. Requires working with smaller cities and towns.

OBJECTIVES

- Examine associations between built environment and personal transportation decisions on a ***neighborhood-scale***;
- Examine whether ***socio-demographic factors*** (i.e. age, income) influence decision to walk in different neighborhood contexts;
- Examine how the built environment might be manipulated to remove ***real or perceived barriers*** to walking within neighborhoods.

Study Area



Manchester

Population = 107k

Median Income = $41k

Portsmouth

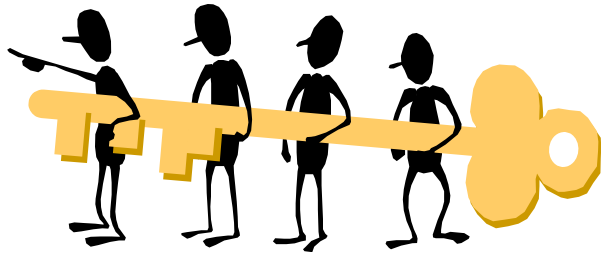
Population = 21k

Median Income = $45k

Methods

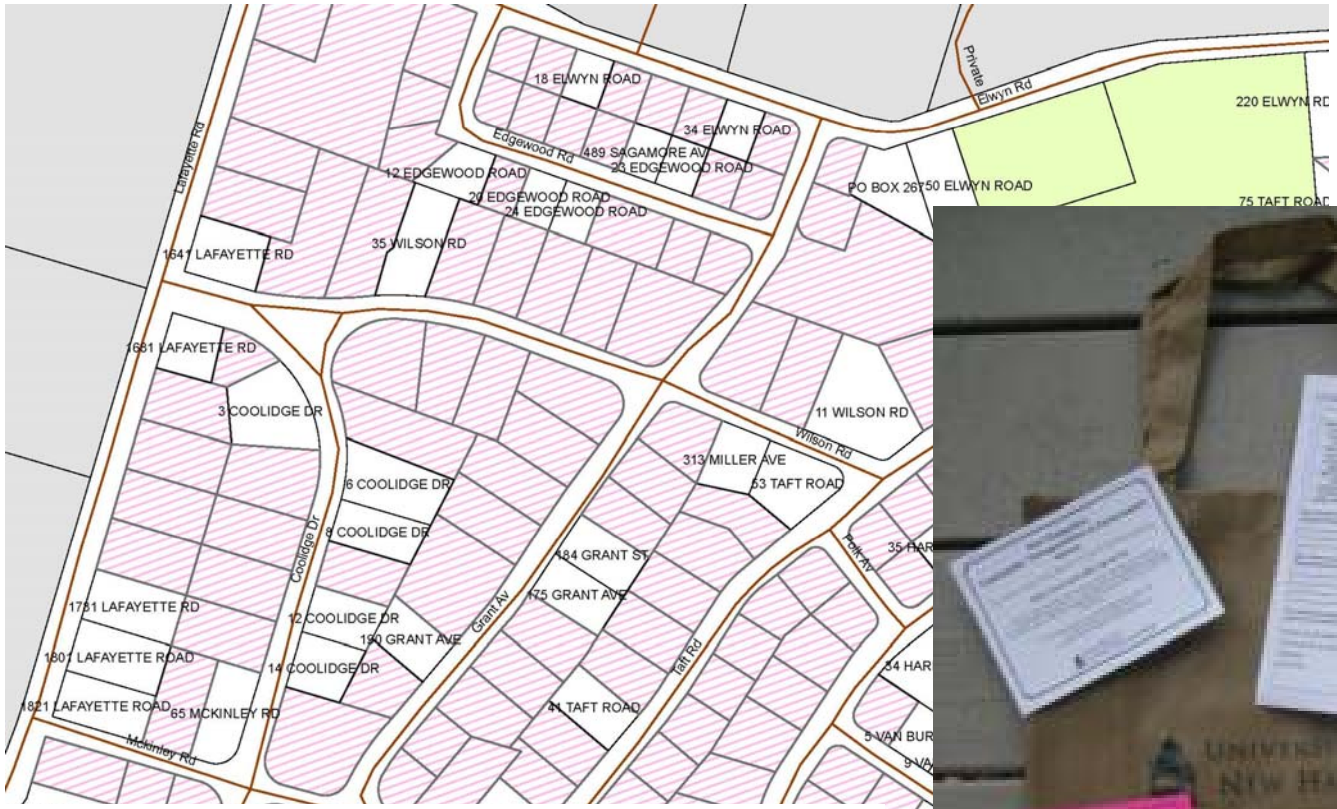
1. Interdisciplinary team,
2. Community-based research (collaborative)
3. Paper/internet survey of residents and observation,
4. Multi-level modeling.

INTERDISCIPLINARY & COLLABORATIVE



- University -
  - Civil Engineers
  - Transportation Planners
  - Public Health Specialists
- State - Dept of Environmental Services
- Regional -
  - Planning agencies: transport, economic development
- Municipal -
  - Health Dept, Planning Dept, Parks & Rec
  - Economic Development
- Local – Neighborhood watch, N'hood activists

Survey in 22 Neighborhoods



2004 surveys distributed

Overall net response rate = 33.9%

Transport Decisions Metrics

- Frequency of walking to destinations
- Sum of places respondents "can" and "do" walk

Post Office	Home of a Friend
Restaurant	Grocery Store
Coffee Shop/Café	Bar/Pub
Shopping Center	Community/Rec Center
Church	Convenience Store
School	Natural Space, Park
Library/Bookstore	Other

Built Upon Method of: Leyden (2003), AJPH 93(9):1546-1551.


28
Seneca Ln
Walnut St
Beech St
Maple St
Monadnock Ln

Outcomes and Analysis

COLLABORATION OUTCOMES::

- City depts discussed coalescing around one issue (walkability or sustainability) - to avoid duplication and silos.

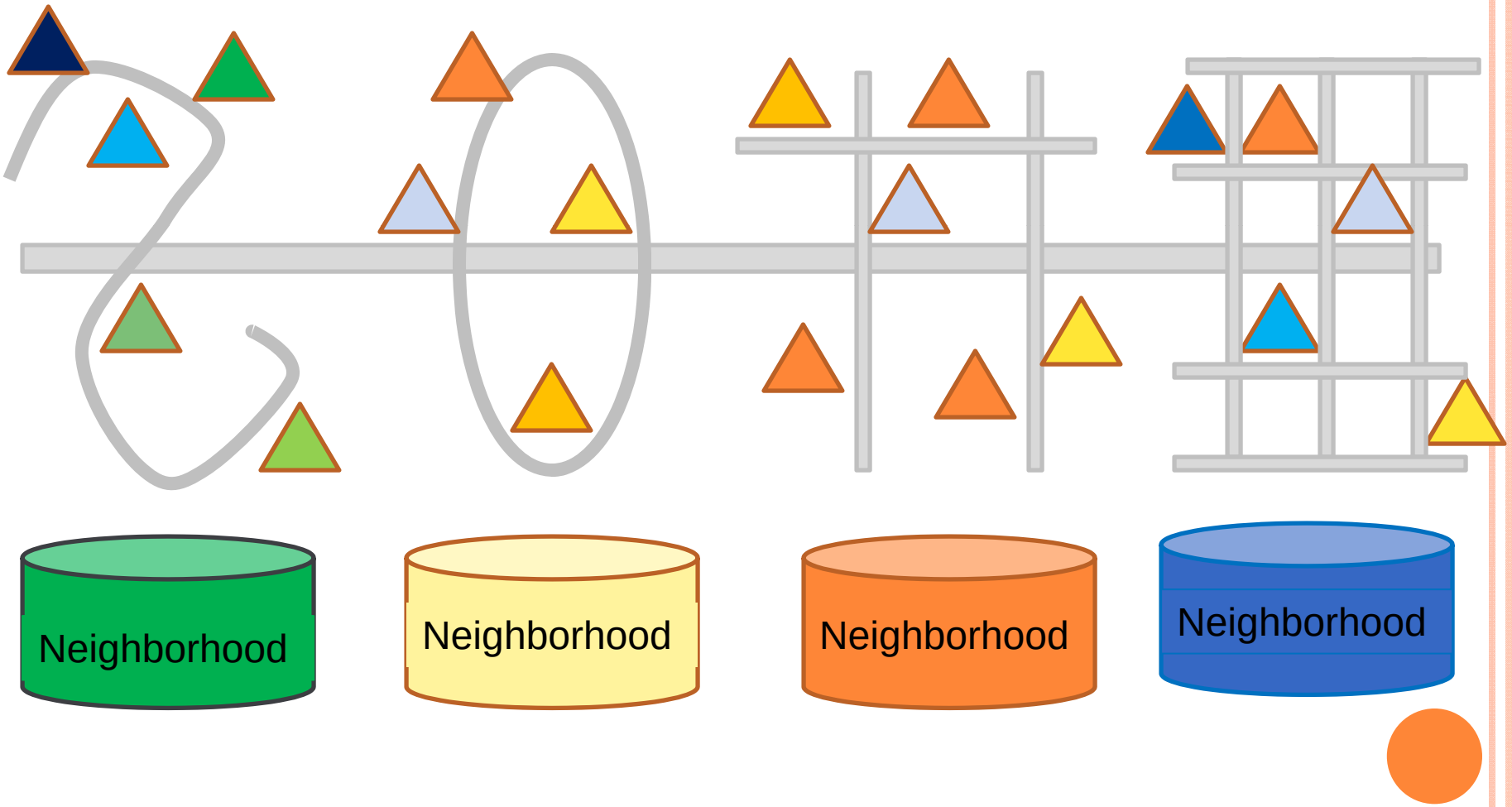
- There has been a lot of focus on downtown – pleased this study looks more broadly.

- Not all neighborhoods want a sidewalk – requires maintenance & cost.

COLLABORATION OUTCOMES::

- Want to let residents "age in place" rather than moving to Florida.
- Incentives to read with children >> why not also to WALK with children – how to build walking as a social norm.
- Want to find the best pay off for efficiency, health, etc. – not just the squeaky wheel.

Cluster Modeling, Bi-Level Modeling

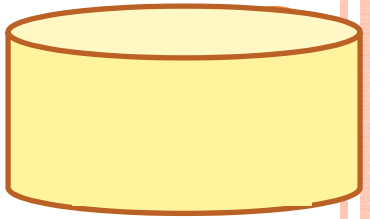


Cluster Modeling, Bi-Level Modeling
<<How many places "DO" you walk?>>

» Explanatory Variables (p<0.05)

- Age
- Body Mass Index
- Mentions distance to services
- Maximum time willing to walk
- Household Income
- Frequency you exercise for 15 min

- Sidewalks in the neighborhood
- Intersections



Cluster Modeling, Stratified
<<How many places "DO" you walk?>>

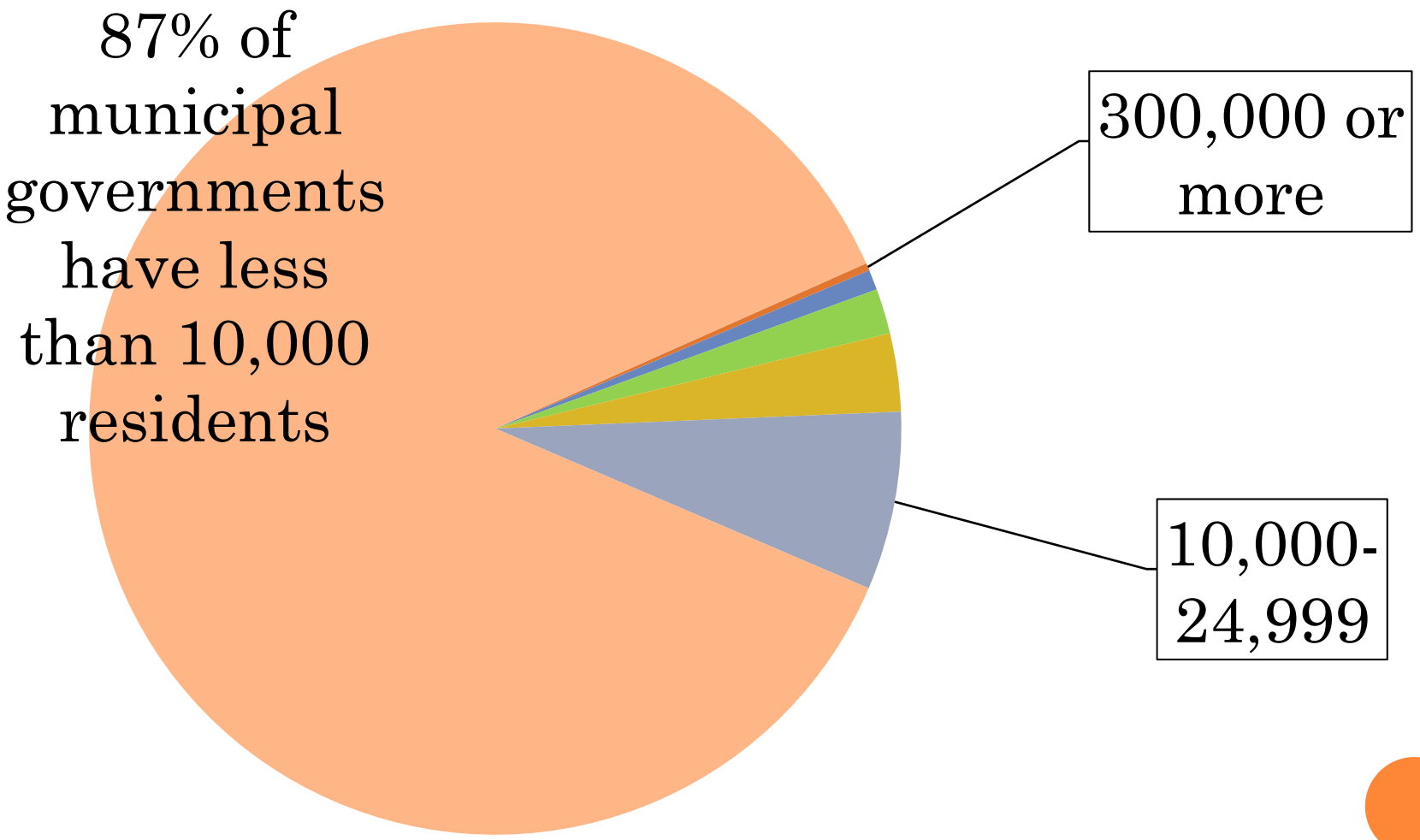
	Low Income	High Income
Age	**Neg**	**Neg**
BMI	**Neg**	**Neg**
Mention dist to services	**Neg**	**Neg**
Max time to walk	-	**Pos**
Household Income	-	**Pos**
Exercise 15 min	-	-
Sidewalks	-	**Pos**
Intersections	**Pos**	**Pos**

SUMMARY

- Small cities & towns have unique transportation and planning needs.
- Bringing decision makers together to discuss walkability was valuable for everyone.
- 'Walkable' looks different for different people and places >> no blanket solutions.

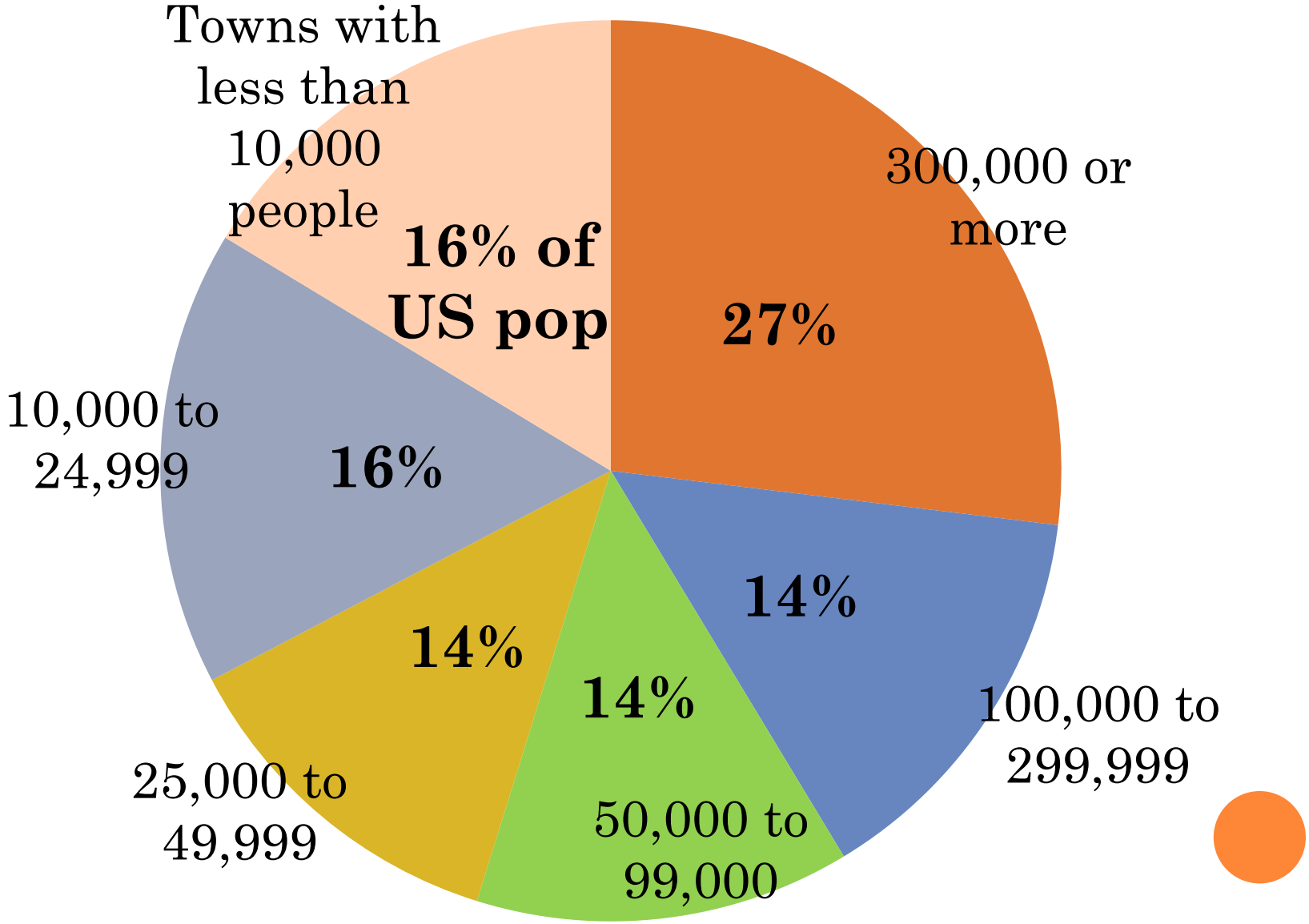

Thank you
QUESTIONS?

Number of Municipal Governments in US



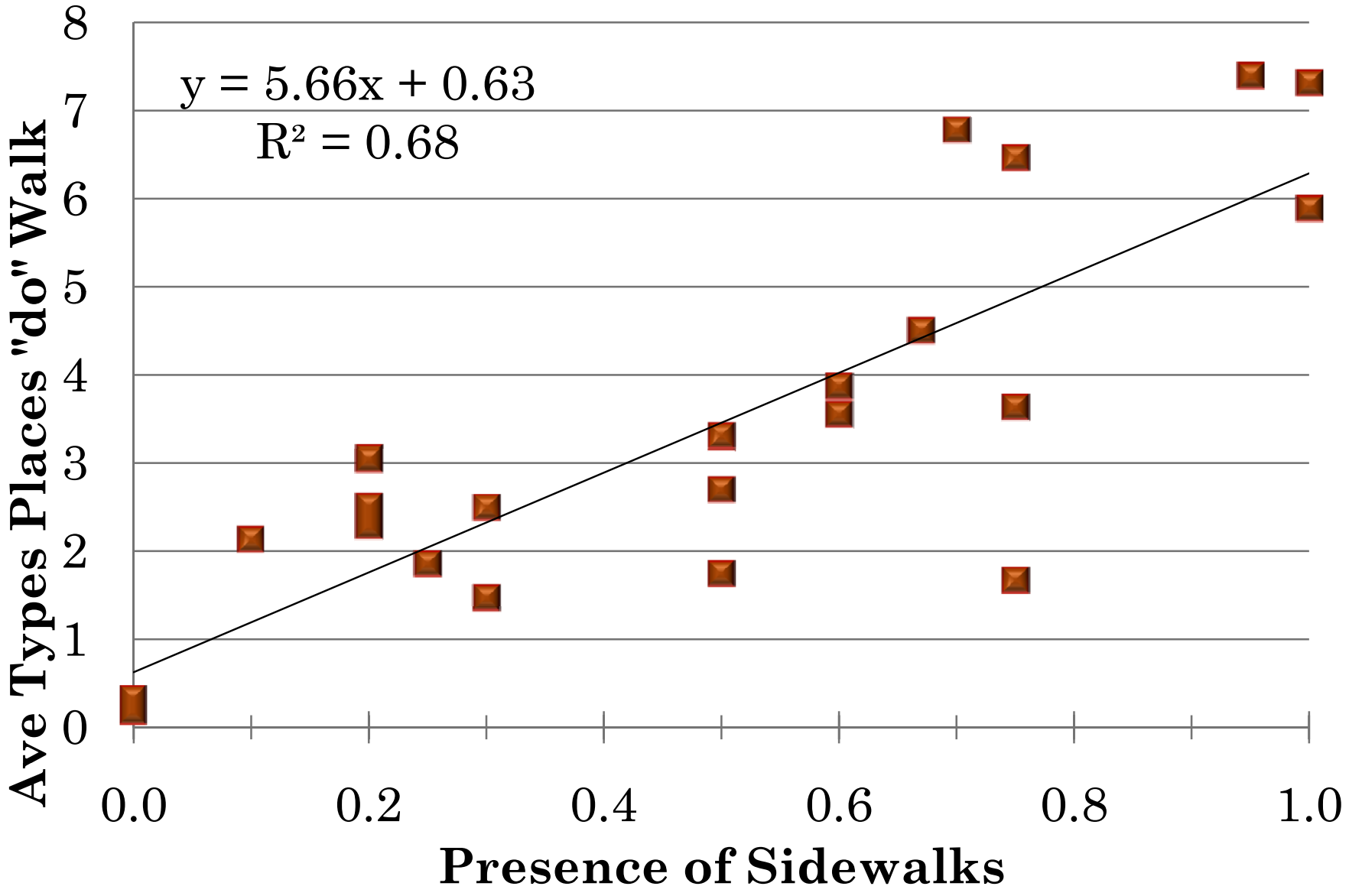
Brennan & Hoene – For National League of Cities, Research Brief 2003; 1997 Data

US Municipal Governments by Population

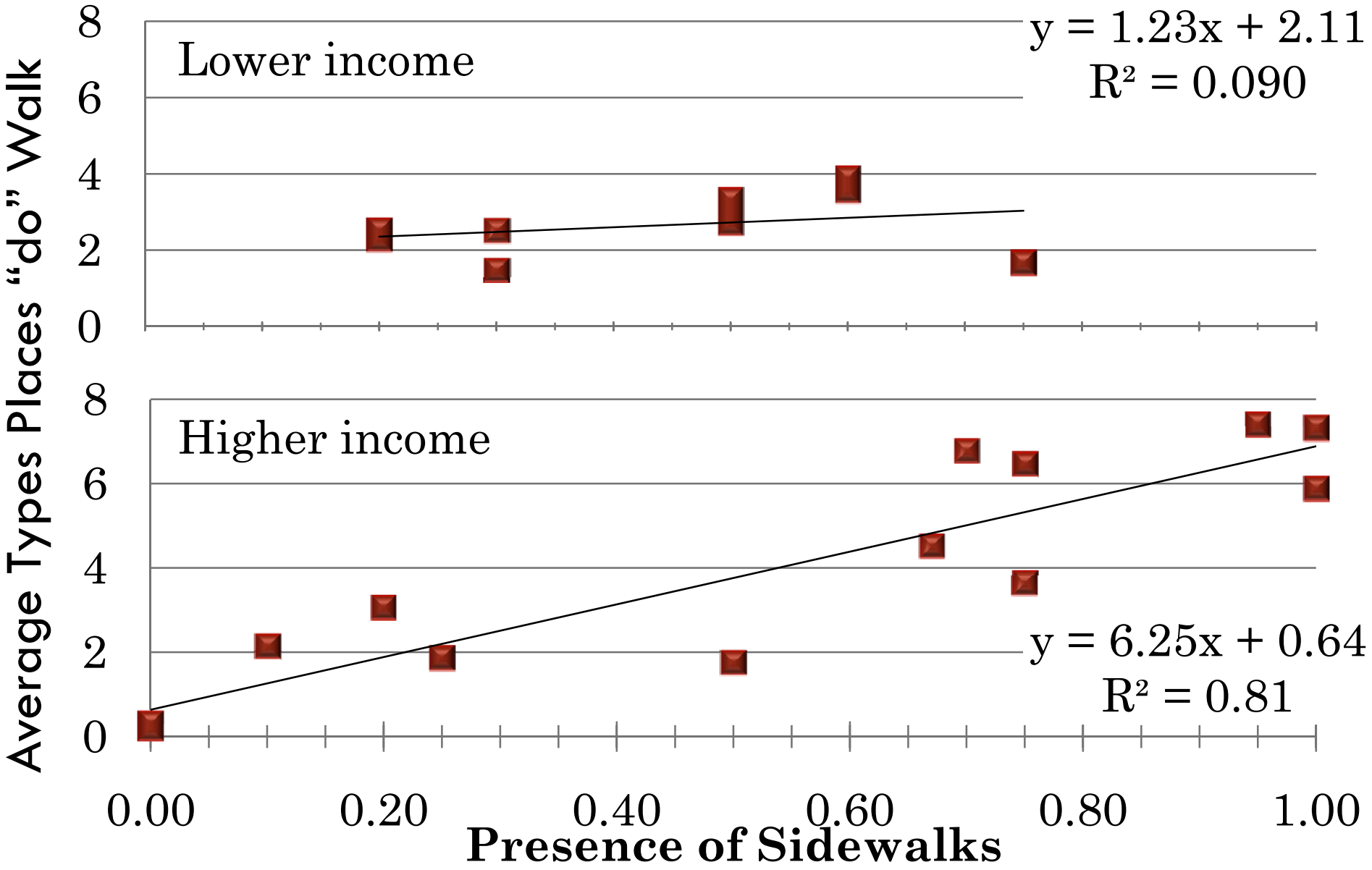


Brennan & Hoene – For National League of Cities, Research Brief 2003; 1997 Data

Walking and Sidewalks – Ave by Nhood



Walking, Sidewalks, & Income



Cluster Modeling, Stratified

<<How many places "DO" you walk?>>

	Portsmouth		Manchester	
	Low In.	High In.	Low In.	High In.
Age	**Neg**	**Neg**	**Neg**	
BMI		**Neg**	**Neg**	
Mention dist to services	**Neg**	**Neg**		**Neg**
Max time to walk				**Pos**
Household Income				**Pos**
Exercise 15 min		**Pos**		**Neg**
Sidewalks		**Pos**		**Pos**
Intersections		**Pos**		

Cluster Modeling, Stratified
<<How many places "DO" you walk?>>

	Portsmouth		Manchester	
	Low In.	High In.	Low In.	High In.
Observations	103	272	141	184
Mean	2.27	**5.34**	3.41	**2.95**
Std Deviation	2.62	3.77	2.98	2.95

Cluster Modeling, Stratified
<<How many places "DO" you walk?>>

	Portsmouth		Manchester	
	Younger	Older	Younger	Older
Observations	127	248	103	222
Mean	5.82	**3.82**	2.79	**3.32**
Std Deviation	3.80	3.54	2.90	2.99