

TRB Webinar: Transportation in an Aging Society—The Future is Now

**February 23, 2022
1:00 pm – 2:30 pm**

**@NASEMTRB
#TRBwebinar**

PDH Certification Information:

- 1.5 Professional Development Hour (PDH) – see follow-up email for instructions
- You must attend the entire webinar to be eligible to receive PDH credits
- Questions? Contact TRBWebinar@nas.edu

#TRBwebinar

The Transportation Research Board has met the standards and requirements of the Registered Continuing Education Providers Program. Credit earned on completion of this program will be reported to RCEP. A certificate of completion will be issued to participants that have registered and attended the entire session. As such, it does not include content that may be deemed or construed to be an approval or endorsement by RCEP.



REGISTERED CONTINUING EDUCATION PROGRAM

Learning Objectives

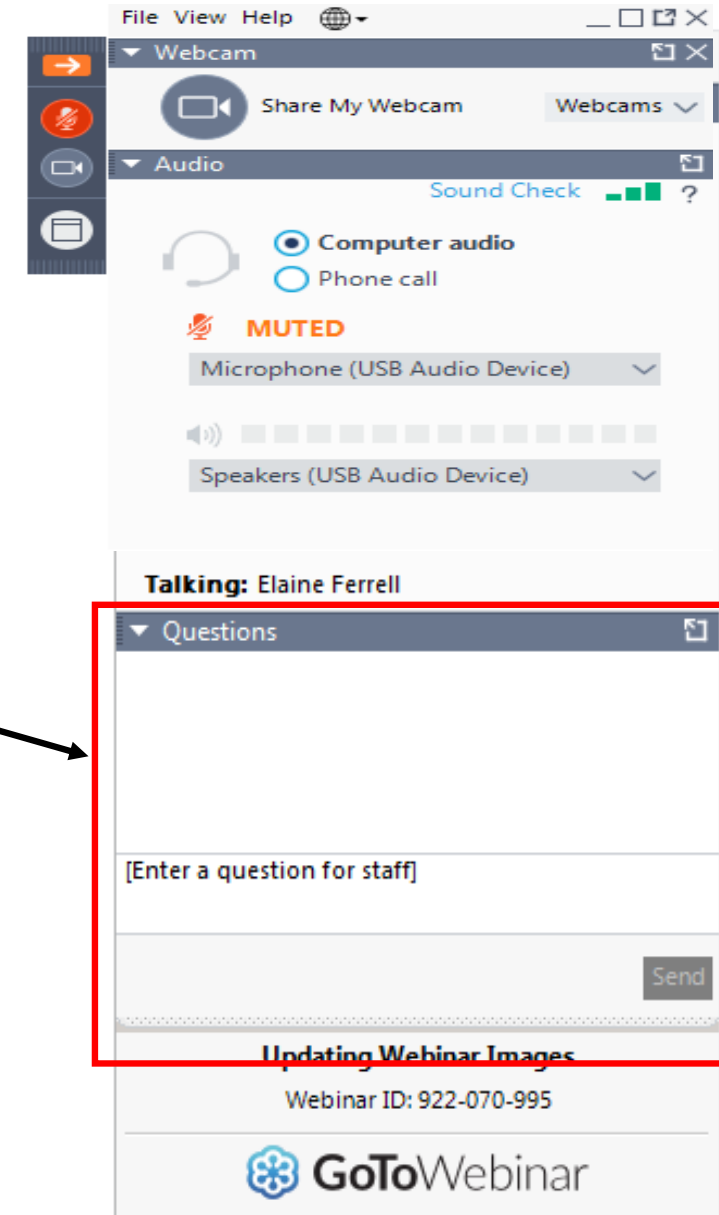
At the end of this webinar, participants will be able to:

1. Identify current research around older adult mobility
2. Discuss gaps in research and how to address these gaps



Questions and Answers

- Please type your questions into your webinar control panel
- We will read your questions out loud, and answer as many as time allows



#TRBwebinar

Today's Moderators and Panelists



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TRB Webinar: Transportation in an Aging Society—The Future is Now

February 23, 2022

1:00pm-2:30pm

Today's Focus

- Current & Innovative mobility trends for older adults
- Our context:
TRB Special Report 218,
*Transportation in an Aging Society:
Improving Mobility and Safety for
Older Persons*



Today's Panelists

- **Dr. Sandi Rosenbloom**, Research Professor, University of Texas at Austin
- **Dr. Anastasia Loukaitou-Sideris**, Professor of Urban Planning and Associate Dean, Luskin School of Public Affairs, UCLA
- **Alex Li**, Phd Candidate, University of Pennsylvania




Have We Really Come So Far When There is So Much More To Do?

Dr. Sandi Rosenbloom

The Graduate Program in Community and Regional Planning

The University of Texas at Austin

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**You got a problem with
my driving, punk?**

ALLVOICES

Overview

- **Trends since Report 218**
- **Myths and misinformation that dominate aging research and policy**
- **How planning academics address aging issues**
- **The quantity and character of published planning research on aging**
- **The role of the practitioner community**

What Has Really Changed Since Report 218?

- **Good News:**

- increasing volume of research on aging issues
- more quantitative and big data research with analytic rigour
- greater response by the private sector to aging needs

- **Not so Good News:**

- many policies are not evidence based (eg age-based license testing, urging the use of community-based transport options)
- misleading stereotypes dominate research and policy responses
- new data collection methods are missing more older people
- quantitative measures can't tell the whole story

Myths vs Reality I: Understanding the Aging Traveler

- **Older people will or do move to higher density areas as they age**
 - Few older people move; two move “out” for every one who moves “in” to a *principal city*
 - *Principal city* is a poor metrics for density and undercounts low density living
- **Evolving data collection methods capture most older people’s current and desired travel**
 - Online surveys and app-based research often pose real barriers to many seniors
 - Most surveys miss those who don’t travel and only learn what people *do* which is not necessarily what they *want* to do

Myths vs Reality II: Understanding the Aging Traveler

- **Community-based transport is a meaningful option for seniors**
 - Driving is the last thing seniors give up; it's harder to walk or use transit
 - Communities can't afford enough mobility options to replace car trips
 - Most seniors have no public transit nearby and thus have no ADA paratransit service
- **Requiring age-based license testing gets unsafe drivers off the road and decreases senior driver crashes and injuries and fatalities**
 - No studies show that age-based testing lowers older driver crashes or fatalities, even though people do lose their license
 - Removing a license substantially increases crashes among unprotected road users

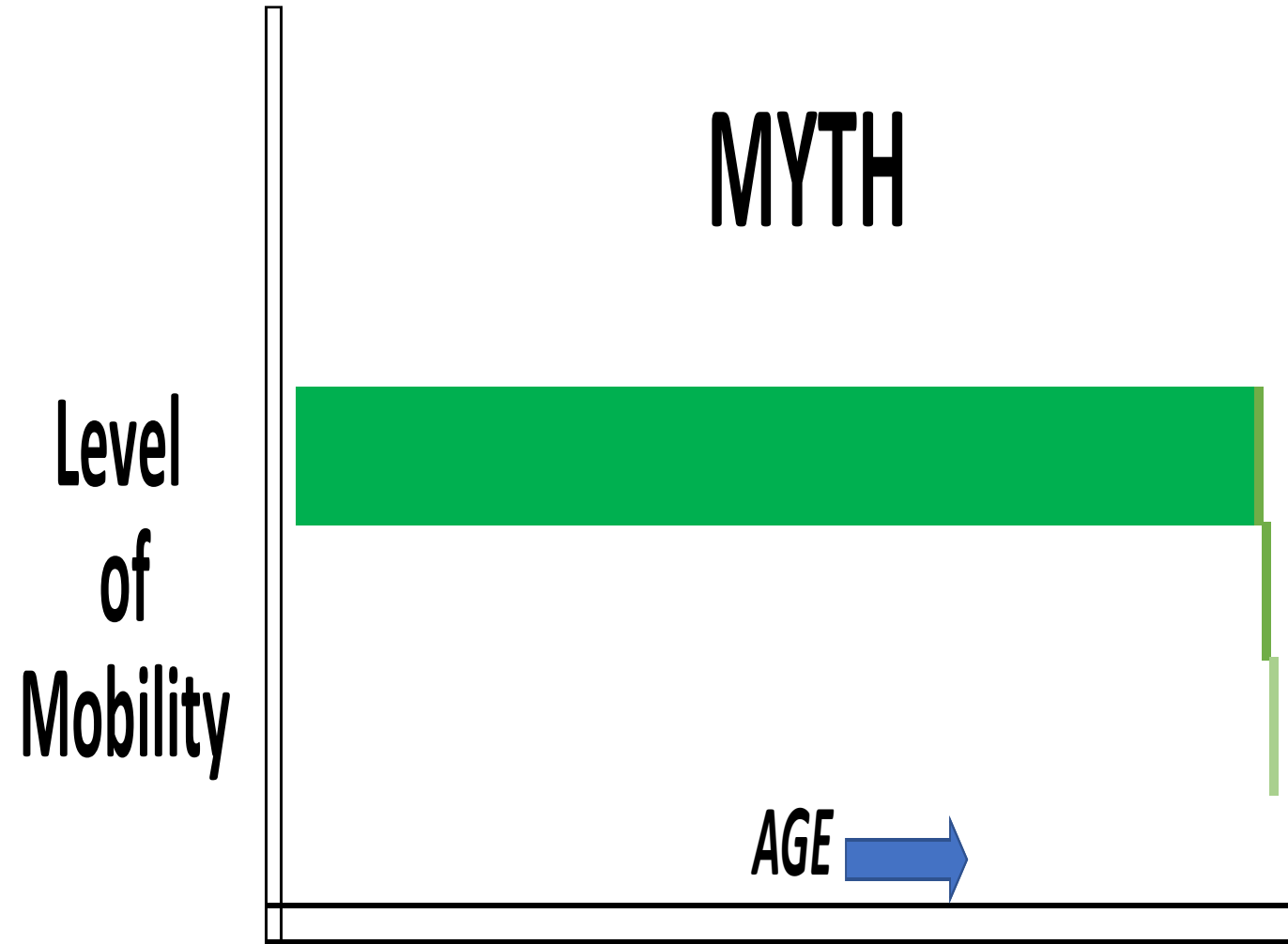
Are you sure this is a good idea?



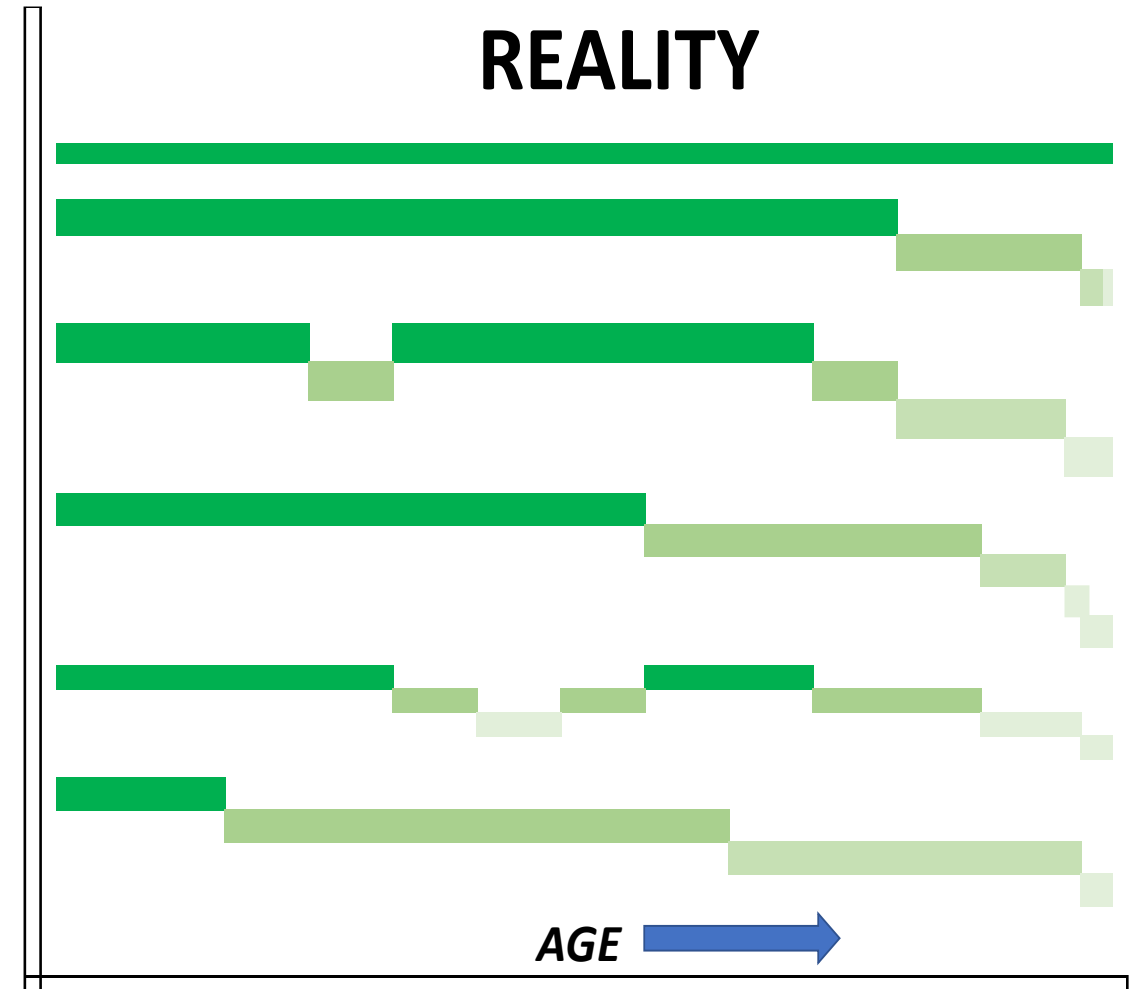
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The Biggest Myth of All Lets Everyone Off The Hook

MYTH



REALITY




How do Academia and the Planning Profession Respond to Real Problems with Realistic Solutions?

- **Scholarly research:**
 - Limited but growing number of studies on older travelers
 - More methodology; less common sense
 - Often doesn't build on existing knowledge base
- **Academic Sample (10 Accredited City Planning Departments)**
 - Only 2.7% of faculty mentioned *anything* about research, teaching, practice, or service on aging issues
 - No program had *labeled* aging concentrations, courses, or activities
 - 7 of 10 websites made no mention of aging projects or issues at all

Scholarly Emphasis on Aging Issues in Planning; From Journal Inception to July 2021

	Journal of the American Planning Association <i>JAPA</i> 1937	Journal of Planning Education & Research <i>JPER</i> 1981	Journal of Planning Literature <i>JPL</i> 1985
<i>Total Articles</i>	2,292	998	311
<i>Articles on Aging Issues</i>	19	14	9
<i>Percent of Total Articles on Aging Issues</i>	0.84%	1.40%	2.36%

Scholarly Emphasis on Aging Issues in Planning; 1990 - 2018

	Journal of the American Planning Association <i>JAPA</i>	Journal of Planning Education & Research <i>JPER</i>	Journal of Planning Literature <i>JPL</i>
Total Articles <i>1990 - 2018</i>	607	764	171
Articles on Aging Issues <i>1990 - 2018</i>	7	6	7
Percent of Total Articles 1990 - 2018 on Aging Issues	1.15%	1.40% 	4.09%

Articles on Aging Issues under Three Most Common Themes, 1990 - 2018

Three Most Common Themes of All Articles Published 1990 - 2018 (each roughly 6.9%) (Fang & Ewing, 2020)	Articles on Aging Issues within Each Theme as a Percent of All Articles on the Theme			
	Journal of the American Planning Association <i>JAPA</i>	Journal of Planning Education & Research <i>JPER</i>	Journal of Planning Literature <i>JPL</i>	TOTAL ALL THREE JOURNALS
<i>Urban Design & Built Environment</i> 140 total articles	3 2.14%	2 1.43%	3 2.14%	8 5.71%
<i>Housing</i> 136 total articles	4 2.94%	2 1.43%	2 1.43%	8 5.71%
<i>Transportation</i> 101 total articles	0 0%	2 1.40%	3 4.09%	5 4.49%

Professional Practice and Aging Issues: The American Planning Association

- **Twenty-one Divisions; no division on aging issues**
 - *Substantive*: eg hazard mitigation, planning law, housing & comm. development
 - *Affinity groups*: Latinos, LGBTQ, Women, the Black Community
- **Seven Interest Groups: no interest group on aging issues**
 - *Substantive*: eg arts, healthy communities
 - *Affinity groups*: Tribal & Indigenous Peoples, Underserved Populations
- **No mention of aging issues at all in:**
 - Mission statements
 - Current or previous organized activities
 - Planned or projected conference sessions, webinars, tasks

Deeply Personal Conclusions

- **Scholars must undertake more focused, grounded aging research in multiple domains to better inform policy debates and provide elevation on crucial aging issues**
- **Planning and policy educators must instruct and train planners and analysts with the knowledge to help an aging world**
- **Practitioners must focus more effort on understanding the aging issues in the diverse communities they serve, developing and sharing appropriate tools and techniques**
- **All stakeholders must work together to ensure that education, training, and practice create synergetic processes that support effective and impactful community aging policies**

Older Adult Mobility

The Importance of the Built Environment



Anastasia Loukaitou-Sideris

Distinguished Professor

UCLA Department of Urban Planning

Why Examine Older Adult Walking?

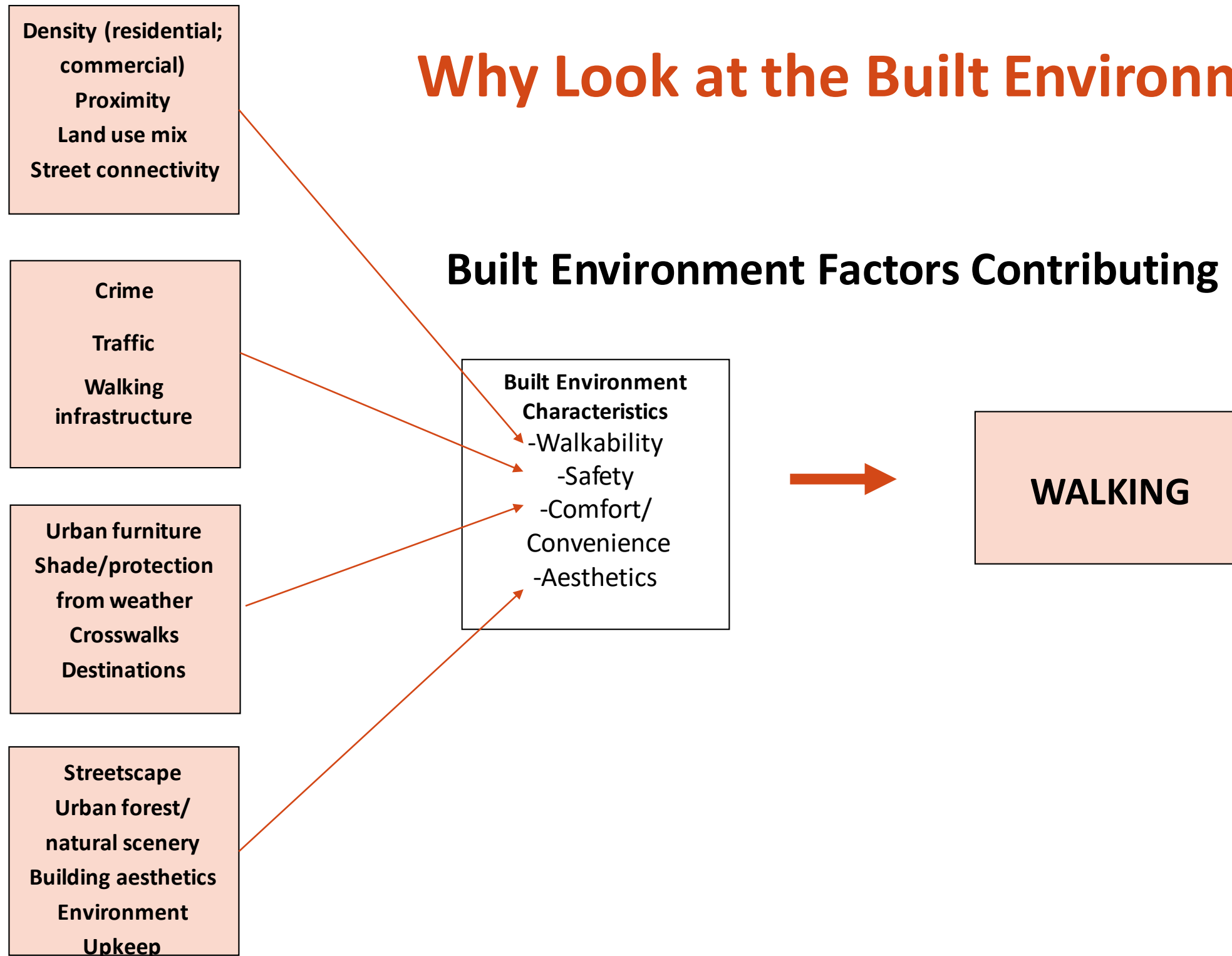
- Overall, walking is the second most common mode of transportation for older adults (after the private car).
- For a particular group of older adults – those of low-incomes, living in inner cities -- walking represents the most common transportation mode.
- Despite, the importance of the built environment we have seen little progress in developing environments supportive of older adult walking.

Why Look at Inner-City Living Older Adults?

- A rather understudied group
- With less resources than more affluent groups
- According to pre-pandemic projections by the Administration for Community Living, by 2030 the numbers of non-white older adults in the US are likely to increase by 89%, while the numbers of white older adults are likely to increase by 39%
- Inner-cities are typically higher density than suburban areas with more destinations within walking distance from residents' homes.

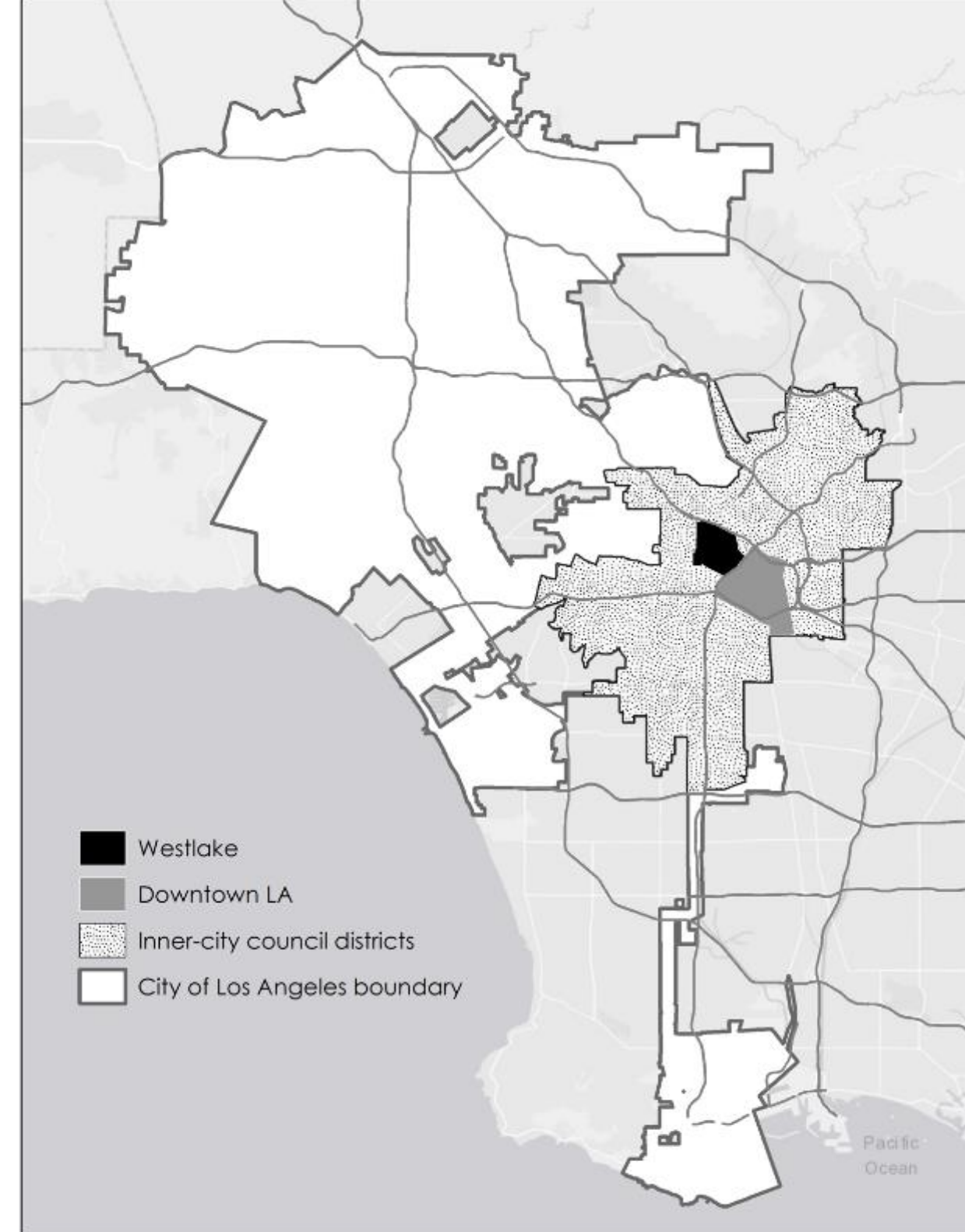
Why Look at the Built Environment?

Built Environment Factors Contributing to Walking



Examination of the travel patterns of older residents (65+) in the **Westlake** inner-city neighborhood of Los Angeles through:

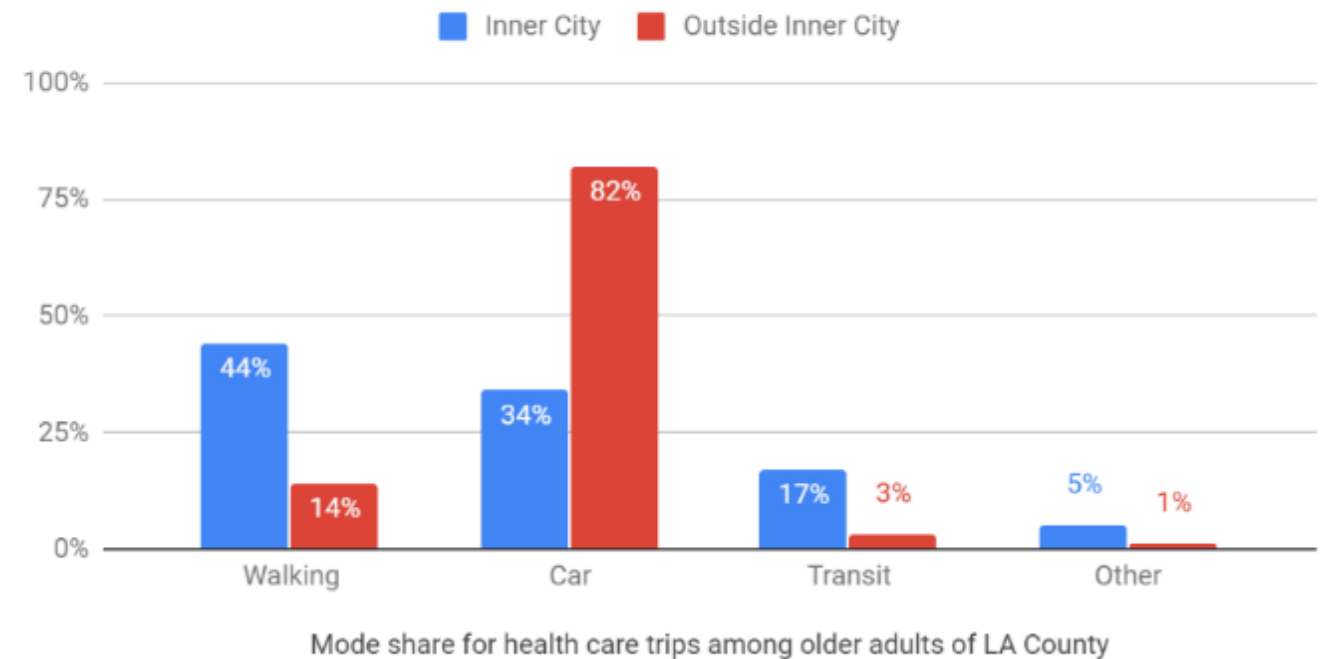
- Census data and the California Household Travel Survey (CHTS).
- Focus groups and interviews with 81 older adults.
- Walking audit (a walk around the block) with older adults



Findings

- Significantly heavier reliance on walking and transit than suburban older adults
- 43% of the trips made by low-income elders living in the inner-city were by car compared to 82% of the trips made by low-income elders living in the suburban parts of LA County.
- Higher reliance on walking because of:
 - Lower automobile ownership
 - Mixed-use urban form (higher density of stores and services)

Mode Share for Health Care Trips Among Old Residents of L.A. County



Walking Audit

*“We are about to take a short walk.
Please don’t look for anything in
particular, but tell me about the
things you see, hear, or smell;
everything and anything you
notice.”*



-  UNION TOWER - WALK START
-  WALK ROUTE
-  NOTABLE BUILDINGS
 - 1. 99 Cent Store
 - 2. Food 4 Less
 - 3. China Bowl
-  BROKEN PHONE BOOTH
-  BUS STOP
-  SURFACE PARKING
-  TREES

Walking Audit



4. Cracked/Uneven Sidewalks



6. Outdoor Seating



5. Trash + Litter



1. Union Tower



2. Broken Phone Booth



3. 99 Cent Store



7. Bus Stop



8. Solicitation



9. Street Vendors

“Describe the street and sidewalk. How does it make you feel?”

“What about this walking environment do you enjoy or you don't like?”

“What things stood out from the walk?”

“How comfortable did you feel during the walk?”

“Do you usually take precautions to walk in your neighborhood?”

“What would you change if you could?”

Findings

Environmental impediment	Type of nuisance
Trash	setting aggravation
Lack of shade/trees	setting deprivation
Cracked, uneven, high-curb sidewalks	setting aggravation
Barbed wire fences	setting aggravation
Lack of benches	setting deprivation
Lack of trash cans	setting deprivation
Puddle of dirty water	Setting aggravation
Bad smells	setting aggravation
Ugly buildings	setting aggravation
Broken public phone box	setting aggravation
Graffiti	setting aggravation
Shop signs blocking sidewalk	setting aggravation
Overhead electrical wires	setting aggravation
Lack of birds	setting deprivation
Traffic noise	setting aggravation
Dirty restaurants	setting aggravation
Security bars on windows	setting aggravation

TRASH



“There is so much trash all over the street and sidewalk.”

“The sidewalk is sticky with trash. It has even dog crap that people don’t clean”

“Sometimes it is hard to make a step because of the trash.”

“The street is full of trash and food waste. I have even witnessed a driver dumping his trash on the street at the stop sign.”





NO TREES

“There are no more trees! There used to be trees. A business owner can say that the tree is impacting his business and call the city to remove it.”



“There are now holes on the sidewalk where trees used to be, and they get filled up with trash.”



CRACKED SIDEWAKS

“The sidewalks are deteriorated and very uneven. The cracks make it difficult for me to walk”



I have to be always looking down and find a path that's even, so my cart doesn't get stuck.”



GRAFFITI AND BARBED-WIRE FENCES

“There is nothing nice to look at along the street—only graffiti and barb-wired fences”





NO BENCHES

“I want to take a rest break on this little wall. You see there is nowhere for me to sit and take a rest.”

“I often have to walk a shorter route because of lack of places to rest. Having some benches, would have been useful!”



Social Impediment	Frequency of responses
Drunk people	8
People experiencing homelessness	6
Drug dealers	3
Rowdy teenagers	2
People peeing on sidewalk	2
Gangs	1



“There are lots of people drinking and doing drugs in the streets. Being here makes me nervous.”

“I feel unsafe waiting for the bus with all these drunk people around.”



Traffic Impediment	Frequency of responses
Wide streets/intersections	7
Short traffic signal “walk” cycle	6
Fast-moving traffic	5
Reckless drivers	3
Impatient drivers	2

“I need to hustle across the street because there isn’t enough time to cross before the light turns red. I don’t feel safe crossing at either crosswalk.”

“I walk slowly and the light changes so quickly, when I am in the middle of the street.”



cracked
shade
Ugly buildings
Trash
sidewalk bars
sidewalks
Uneven
smells
benches
Obstructed
Bad
phone
Security
Dirty
Graffiti
cans
trash
Broken
Traffic
noise
Lack
birds
restaurants

SUMMARY FINDINGS

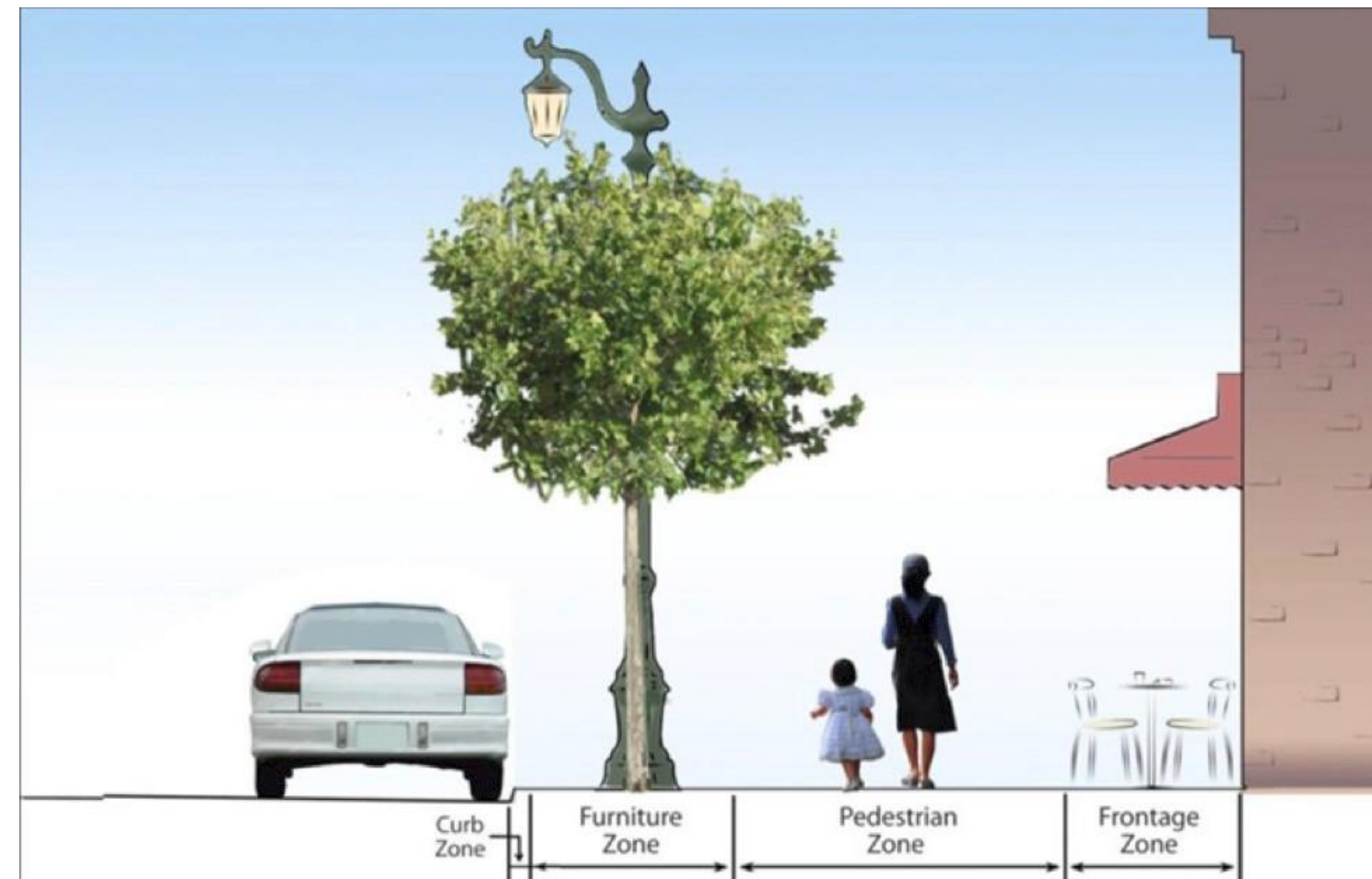
- Walking is a very important mode of transportation for inner-city older adults
- They live in neighborhoods with high **accessibility** of stores and services, and high “walkability scores”; yet their **mobility** is impeded because of environmental, social, and traffic impediments
- Many cities, states, and transportation agencies have started developing plans focusing on the mobility needs of older travelers. They often rely on standard census data, regional travel surveys, or even neighborhood walkability scores, which do not always reveal critical information about the mobility challenges facing an aging population

RECOMMENDATIONS

- To plan effectively for this age group, municipal planners and policy makers should complement standard indicators of travel and neighborhood characteristics with qualitative data on the ground
- They should also tackle the physical impediments that make walking in the neighborhood a challenge for older adults

Age-Friendly Streets

- Sidewalk maintenance and upkeep
- Unobstructed thruway zone for pedestrian movement



Age-Friendly Streets

- Shading structures/building awnings
- Bus shelters
- Urban forest
- Pedestrian lighting
- Curb ramps
- Street and bus stop benches
- Parklets



Age-Friendly Streets

Traffic calming

- Medians
- Chicanes
- Raised pedestrian crossings
- Curb extensions
- Speed humps
- Increased traffic signal length



Age-Friendly Streets

New Developments

- Open/Slow streets
- Cool pavements



Anastasia Loukaitou-Sideris, Martin Wachs & Miriam Pinski (2019).
“Toward a Richer Picture of the Mobility Needs of Older Americans,”
Journal of the American Planning Association, 85 (4): 482-500.

Anastasia Loukaitou-Sideris and Martin Wachs (2018). *Transportation for an Aging Population*. San Jose: Mineta Transportation Institute, Report 18-10.

<https://transweb.sjsu.edu/sites/default/files/1704-Sideris-Transportation-Aging-Population-Equity-Mobility.pdf>

Thank you!

Transportation planning for older adults in a digital era

Shengxiao (Alex) Li

PhD Candidate in City and Regional Planning, University of Pennsylvania

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Framework

Part I. Background

Part II. Framework

Part III. Research findings

Part IV. Policy implications

Part I. Background

Part II. Framework

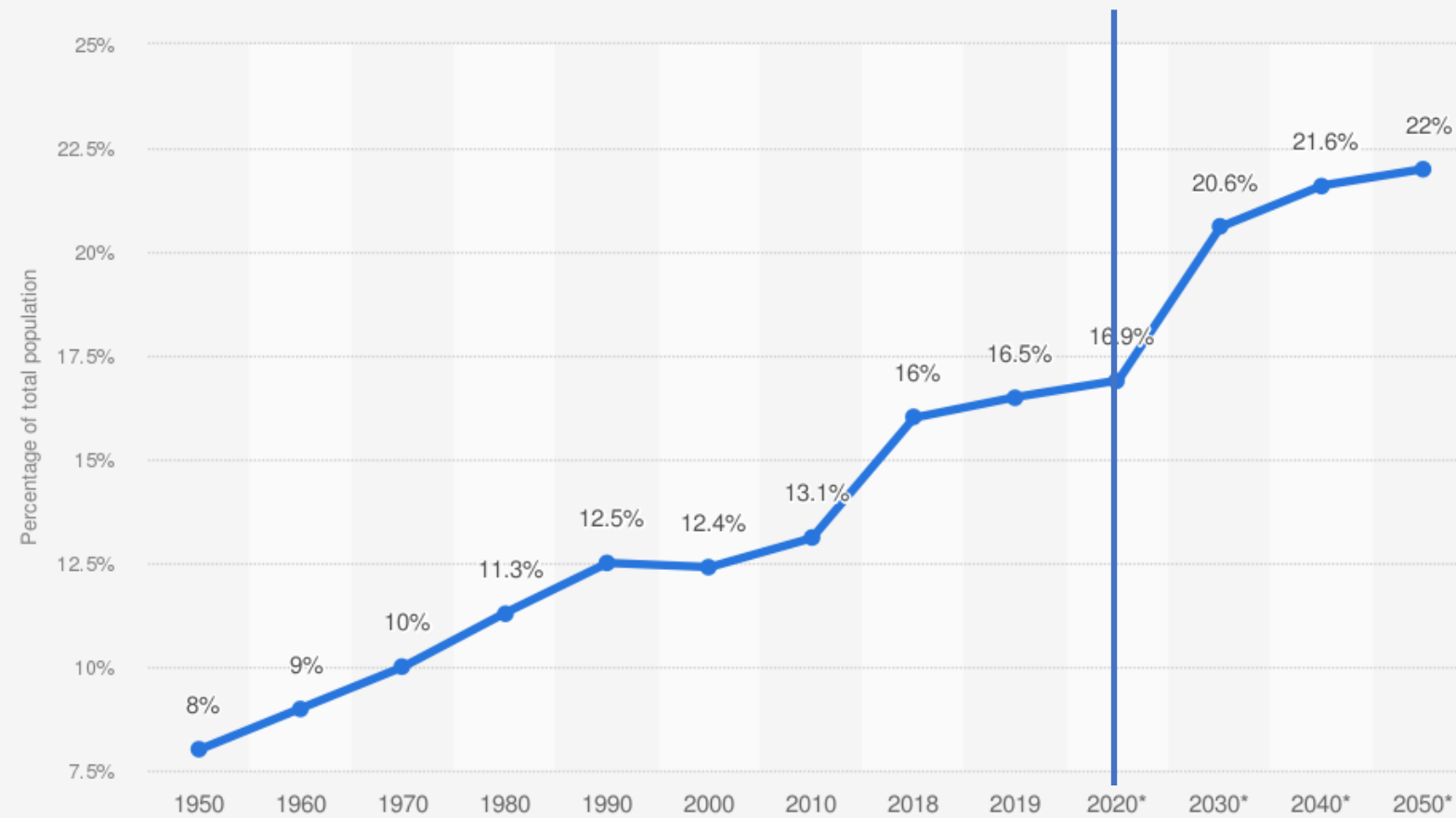
Part III. Research findings

Part IV. Policy implications

Setting the context

Rapidly increasing older adults

Share of old age population (65 years and older) in the total U.S. population from 1950 to 2050



Sources

ChildStats.gov; US Census Bureau
© Statista 2021

Additional Information:

United States; ChildStats.gov; US Census Bureau; 1950 to 2019; 65 years and older

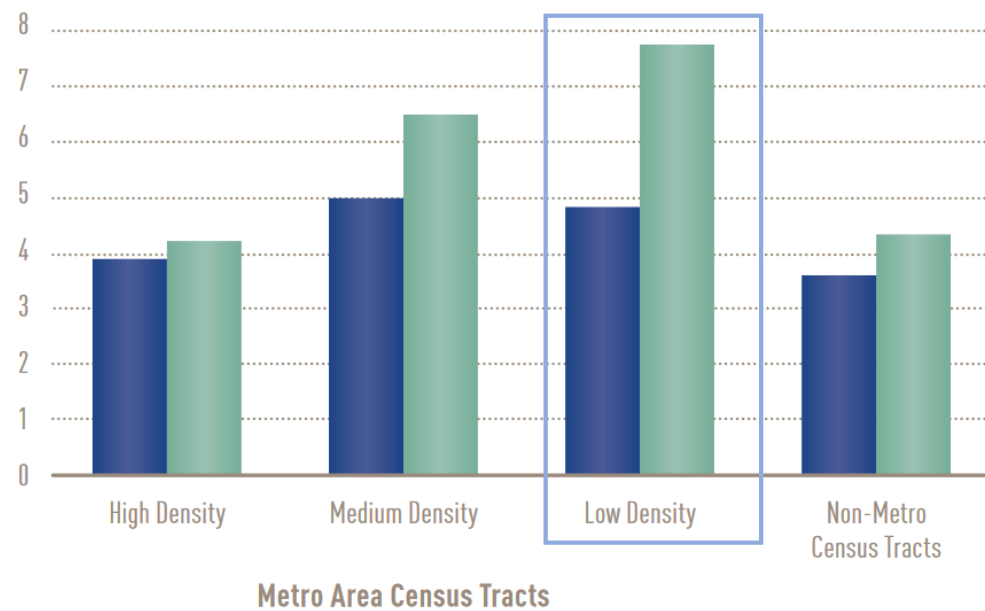
Setting the context

Increasing older people living in low-density areas

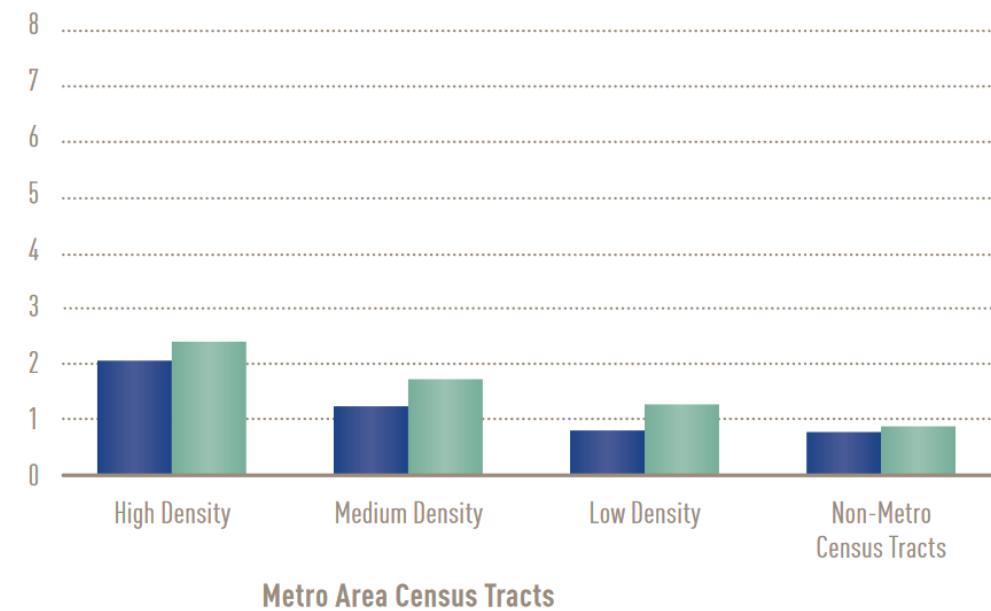
FIGURE 3

Households of Retirement Age Increasingly Live in Low-Density Locations

Homeowner Households Age 65 and Over (Millions)



Renter Households Age 65 and Over (Millions)



● 2000 ● 2017

Note: Neighborhood densities in metro areas are measured by the number of housing units per square mile in every metro census tract and divided into equal thirds.
Source: JCHS tabulations of JCHS Neighborhood Change Database.

Setting the context

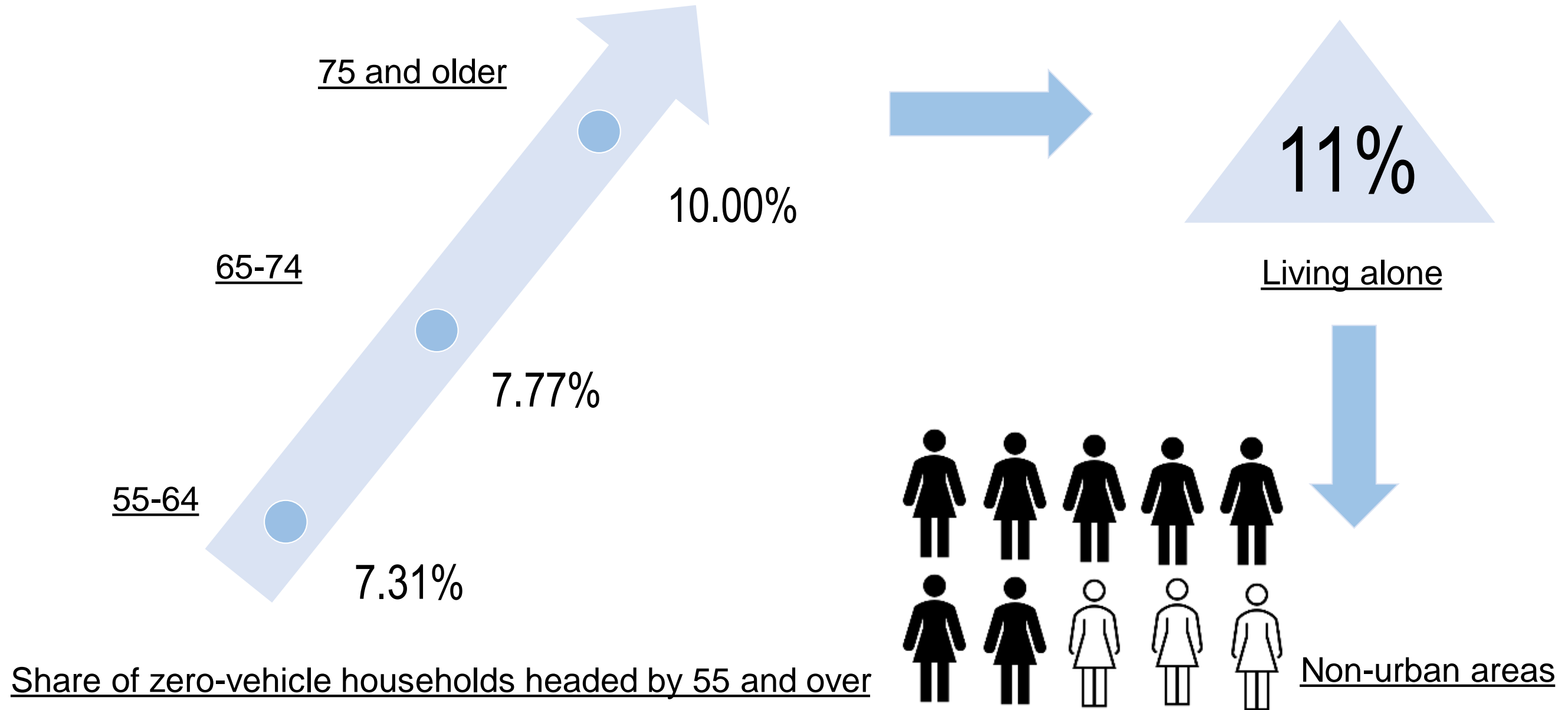
Increasing number of older adults who need transportation support

- Wealthier, healthier, and more educated
- On average, in the labor market longer

BUT

- Increasing people living alone
- Increasing people of color and females
- Increasing people with economic insecurity to retire
- Increasing people with medical conditions

Pay attention to older adults who are “stuck in place”



Setting the context

Increasing usage of technology VS “digital divide”

Today’s older adults are more:

- Exposed to modern technology

BUT “gray digital divide” exists:

- Older adults at higher ages are less likely to use technology.
- Low-income, Low-educated older adults use even less.

Setting the context

Summarizing the “unknowns”

- **How do baby boomers travel differently from people of the same age two decades ago?**
- **Which social groups are living in low-density areas but do not have cars?**
- **What is the interaction of technology usage and travel among older adults?**

Framework

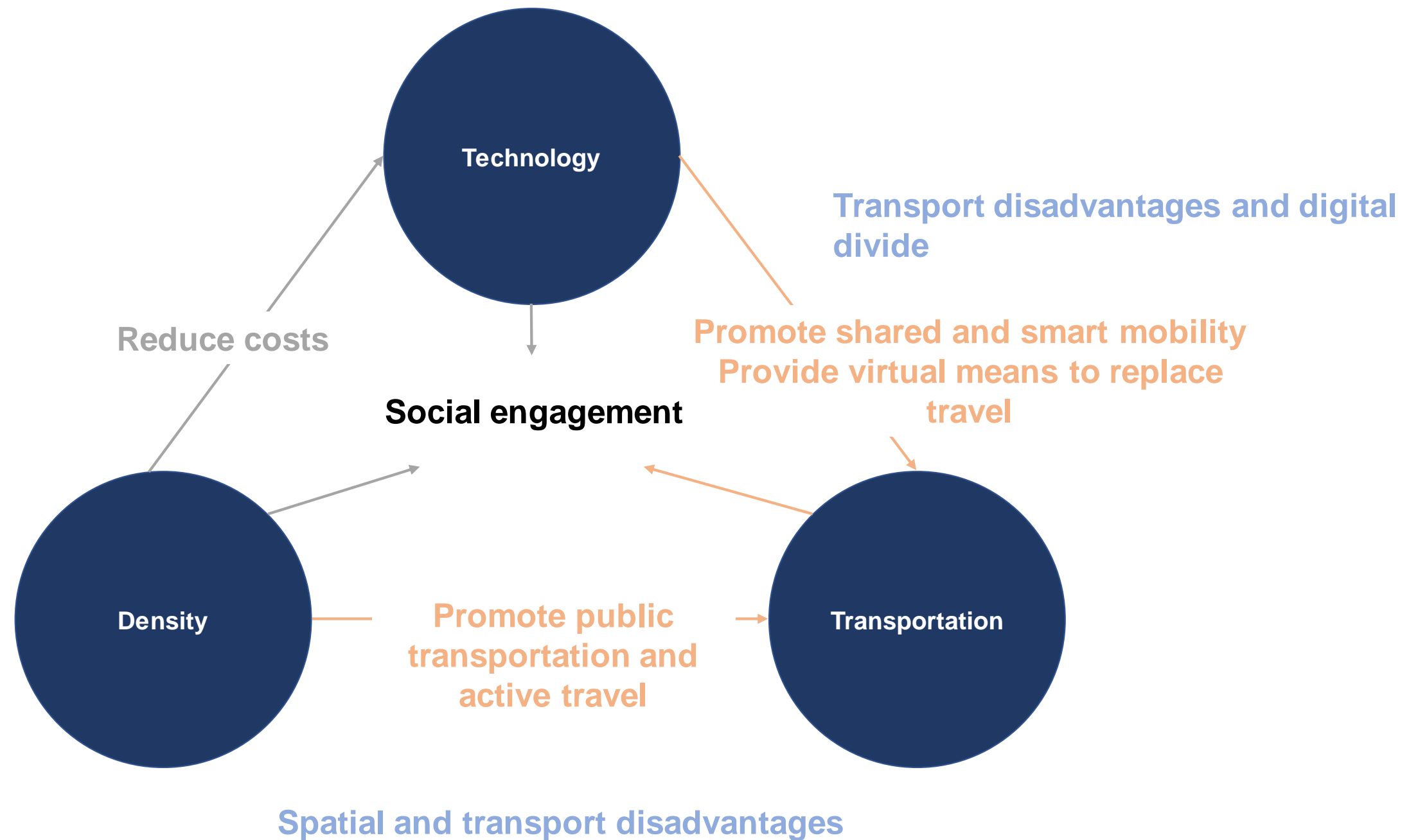
Part I. Background

Part II. Framework

Part III. Research findings

Part IV. Policy implications

Accessibility trade-offs for older adults



Framework

Part I. Background

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Study 1. Baby boomer travel pattern

A quasi-panel design

- National Household Travel Survey 2001 and 2017
- Those aged 56-71: boomers in 2017 and silent generation in 2001 (Pew Research Center)

Independent variables

- Demographic and socioeconomic factors
- Employment status
- Living arrangement
- Residential built environment

All else being equal for those aged 56-71...

Controlling for differences across and within generations and relative to the silent generation, boomers (samples in 2017) made...

- 28.1% fewer personal VMT
- 0.2 fewer vehicle trips

However, compared to those aged 65-71 among the silent generation, older boomers aged 65-71 (samples in 2017) made...

- 8.3% more personal VMT
- 28.9% fewer non-work VMT

Study 2. Vehicle ownership and residential location

Data sources

National Household Travel Survey 2017 households headed by 55 and older: 27,675 (living alone), 46,388 (not living alone)

The outcome variable

The combined alternatives:

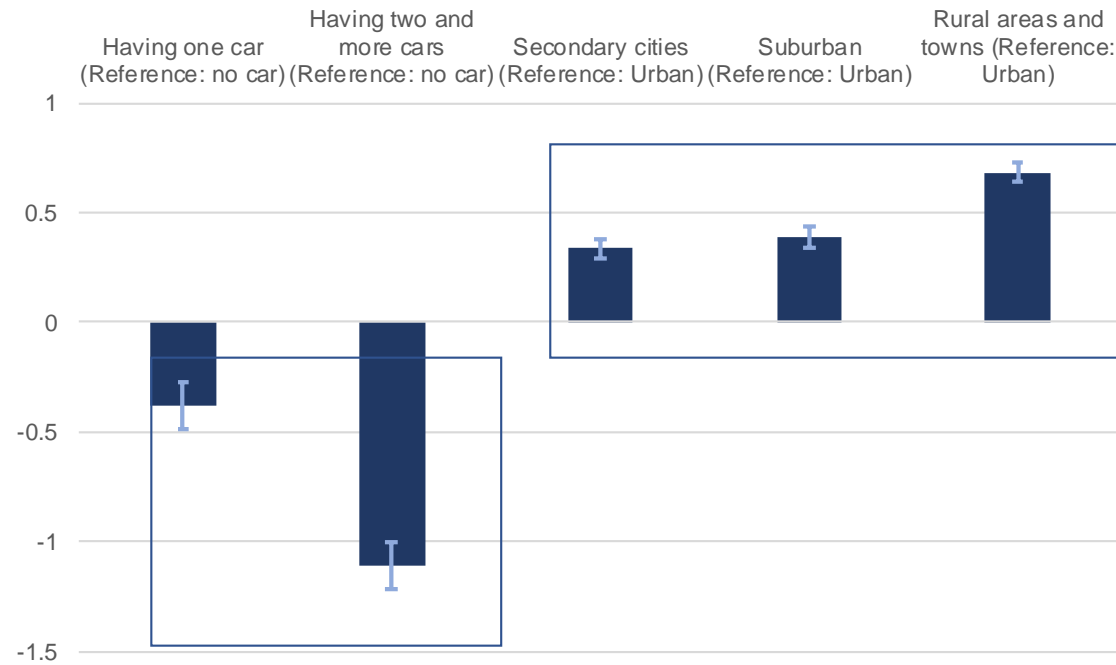
- Vehicle ownership level
- Residential location (Urban, Suburban, Secondary city, Rural & Towns)

Independent variables

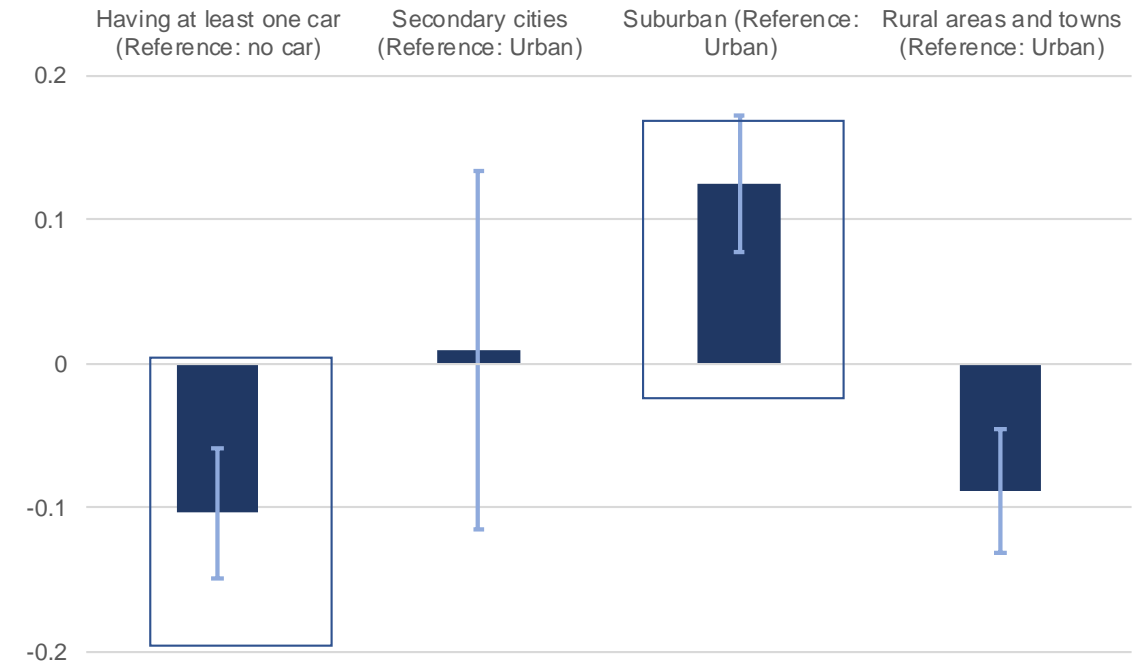
- Race and ethnicity
- Annual household income
- Employment status
- Living-alone households only: sex
- Not-living-alone households only: marital status, the number of drivers, living with children under/over 16
- **But no observed preference variables!**

Employment and gender are related to vehicle ownership disadvantages.

Fully-retired families (compared to working families, not-living-alone model)



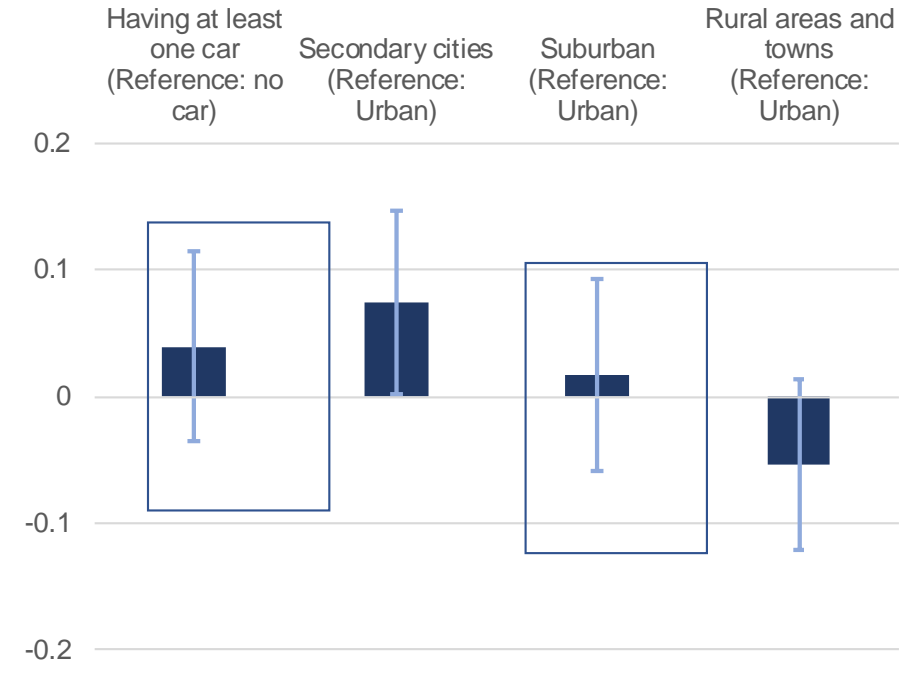
Female-headed (compared to male-headed, living-alone model)



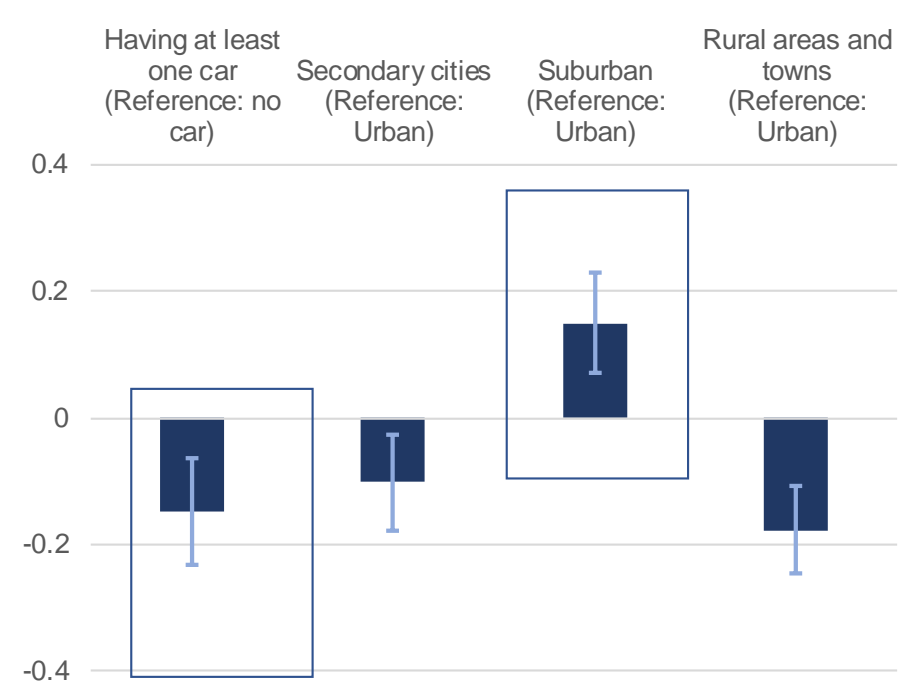
...are more likely to have no cars but live in non-urban areas

The disadvantages of vehicle ownership increases with age for vulnerable groups!

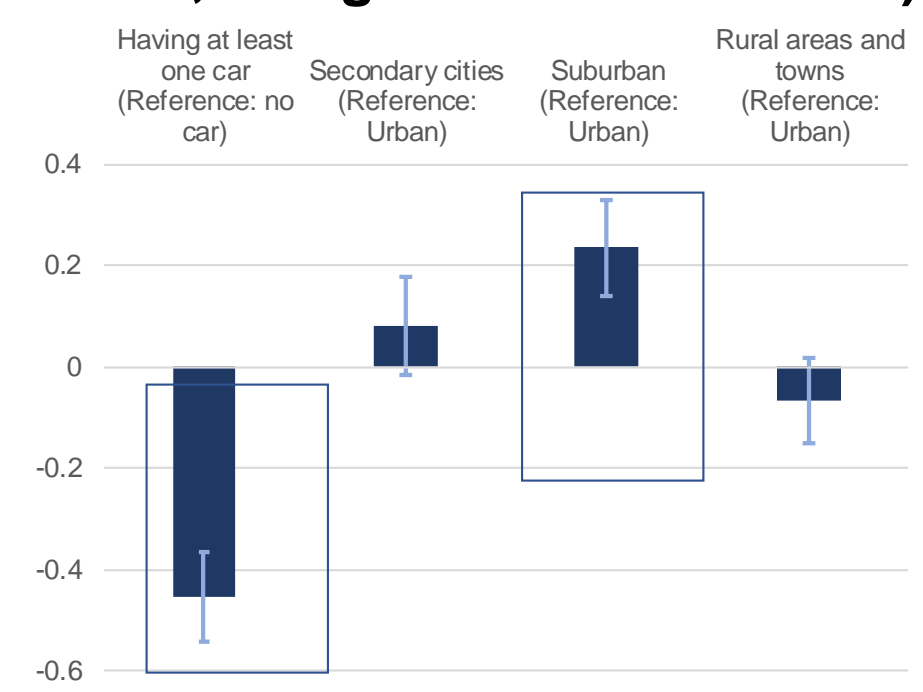
Female-headed (compared to male-headed, living-alone 55-64)



Female-headed (compared to male-headed, living-alone 65-74)



Female-headed (compared to male-headed, living-alone 75 and older)



The tendency of living in the suburb without car shows up in the highest age group.

Study 3. ICT and travel

- **Data source:** 2,510 representative samples aged 60 and older in the US
- **Measurements:**
 - Activities: **11 ICT activities and offline equivalents** (Likert scales 1-5)
 - Recall survey: **activities in Feb. 2020**
- **Models:**
 - Overall and different activities
 - Structural Equation Models/Heckman Selection Models

Study 3. ICT and travel

- Among older adults, who travel more also tend to use ICT more.
- “Digital divide” and “transport disadvantages” meet for most activities: without college degrees, live alone, African Americans

However,

- The relationship between ICT and travel vary across activities (e.g. shopping: supplementary, social: substitutional)
- E-health and social activities can help people with medical conditions and people of color who face “travel disadvantages”.

Framework

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Policy implications

In the short run...

- Increasing vehicle ownership and usage for wealthy older adults living in urban areas
- Vehicle subsidies for older adults living in low-density areas
- Technology education and support for vulnerable older adults

In the long run...

- Sustainable transportation for baby boomers (community design, job accessibility...)

Thank you!
Questions?

Email: lsx@design.upenn.edu

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