

**App-based ride hailing  
by immigrants and  
people with disabilities**

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**Findings from the 2017 NHTS**

**Daniel G. Chatman<sup>\*</sup>, Nicholas Klein<sup>+</sup>, Abigail Cochran<sup>\*</sup>**

**<sup>\*</sup>Department of City & Regional Planning, UC Berkeley**

**<sup>+</sup>Department of City & Regional Planning, Cornell University**

# Introduction

- In the US Census about **12.8%** of residents reported one or more disabilities
- About **13.5%** were born outside the US
- Both populations are important submarkets for transportation agencies
- Transportation network companies (TNCs) providing ride-hailing services, such as Uber and Lyft, are an increasingly important mode for both groups

# Research questions regarding people with disabilities

- Are TNCs used to help overcome transport barriers that people with disabilities face?
  - Is TNC use higher for people with disabilities?
  - What factors, like low income and location within urban areas, affect TNC use?
- Note: “Disability” is a problematic term
  - And it refers to a wide range of conditions (e.g., blindness, motor limitations, developmental delays)

# Research questions regarding residents born outside the US

- How are TNCs used by immigrants, who have historically been highly intermodal particularly soon after arrival?
  - Are TNCs used at a greater or lower rate than people who are born in the US? How does this change over time?
- Note that the word “immigrant” refers to widely varying individuals with highly different travel patterns

# Data

- **Relatively limited data available in NHTS on disability and immigrant status**
- **No data on disability as such, but instead on whether a personal condition limits travel**
  - **Medical device question in 2017, not 2009**
- **Immigrants: No data on country of origin, only whether born in the US and how long in the country**

# Methods

- Primarily descriptive approach taken here, using person file data with trip data summarized to the person level and joined
- Using 2017 NHTS data only
- Multivariate regressions to confirm whether immigrant status or presence of a medical condition seems to have a separate correlation with TNC use / intermodality

# **BASIC RIDE HAILING AND TAXI STATISTICS FROM THE 2017 NHTS**

## RIDESHARE

Range: 0 - 99

ProgrammerNote: Asked if subject is at least 16 years of age

In the past 30 days, how many times [SHAVE\_YOU] purchased a ride with a smartphone rideshare app (e.g. Uber, Lyft, Sidecar)?

WEB ATEXT	CATI ATEXT	AVALUE
ENTER NUMBER	ENTER NUMBER	
I don't know	DON'T KNOW	-8
I prefer not to answer	REFUSED	-7



[DISPLAY CURRENT PLACE NUMBER, PREVIOUS PLACE NAME, CURRENT PLACE NAME, ARRIVAL TIME, MODE and DEPARTURE TIME]

[\$MODE\_RECALL]

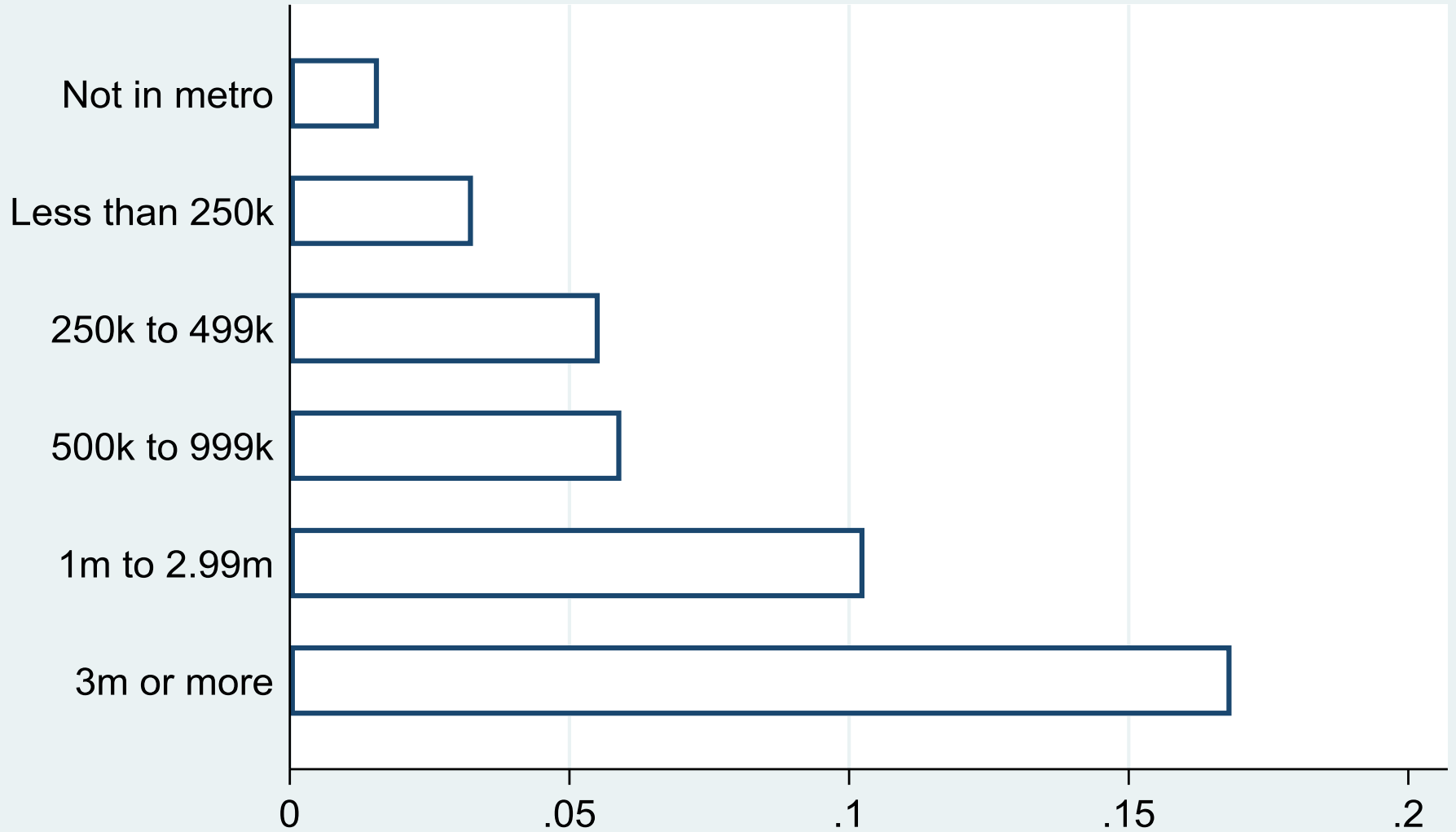
WEB ATEXT	CATI ATEXT	AVALUE
Walk	WALK	1
Bicycle	BICYCLE	2
Car	CAR	3
SUV	SUV	4
Van	VAN / MINIVAN	5
Pickup truck	PICKUP TRUCK	6
Taxi / Limo (including Uber / Lyft)	TAXI / LIMO (INCLUDING UBER / LYFT)	17
Rental car (including Zipcar / Car2Go)	RENTAL CAR (INCLUDING ZIPCAR / CAR2GO)	18
Golf cart / Segway	GOLF CART / SEGWAY	7
Motorcycle / Moped	MOTORCYCLE / MOPED	8
RV (motor home, ATV, snowmobile)	RV (MOTOR HOME, ATV, SNOWMOBILE)	9
School bus	SCHOOL BUS	10
Public or commuter bus	PUBLIC OR COMMUTER BUS	11
Paratransit / Dial-a-ride	PARATRANSIT / DIAL-A-RIDE	12
Private / Charter / Tour / Shuttle bus	PRIVATE / CHARTER / TOUR / SHUTTLE BUS	13
City-to-city bus (Greyhound, Megabus)	CITY-TO-CITY BUS (GREYHOUND, MEGABUS)	14
Amtrak / Commuter rail	AMTRAK / COMMUTER RAIL	15
Subway / Elevated / Light rail / Street car	SUBWAY / ELEVATED / LIGHT RAIL / STREET CAR	16
Airplane	AIRPLANE	19
Boat / Ferry / Water taxi	BOAT / FERRY / WATER TAXI	20
Something else	SOMETHING ELSE	97
I don't know	DON'T KNOW	-8

# **Nationwide ride sharing and taxi use from NHTS 2017**

- **Nationwide, about 10 percent of respondents reported using TNCs at least *once* during the previous month**
- **About 0.5 percent of daily trips were in the taxi/TNC category**
- **Looking at this by city size is important because the bigger cities where TNCs are most established may be the wave of the future**

# Share of population using TNCs monthly

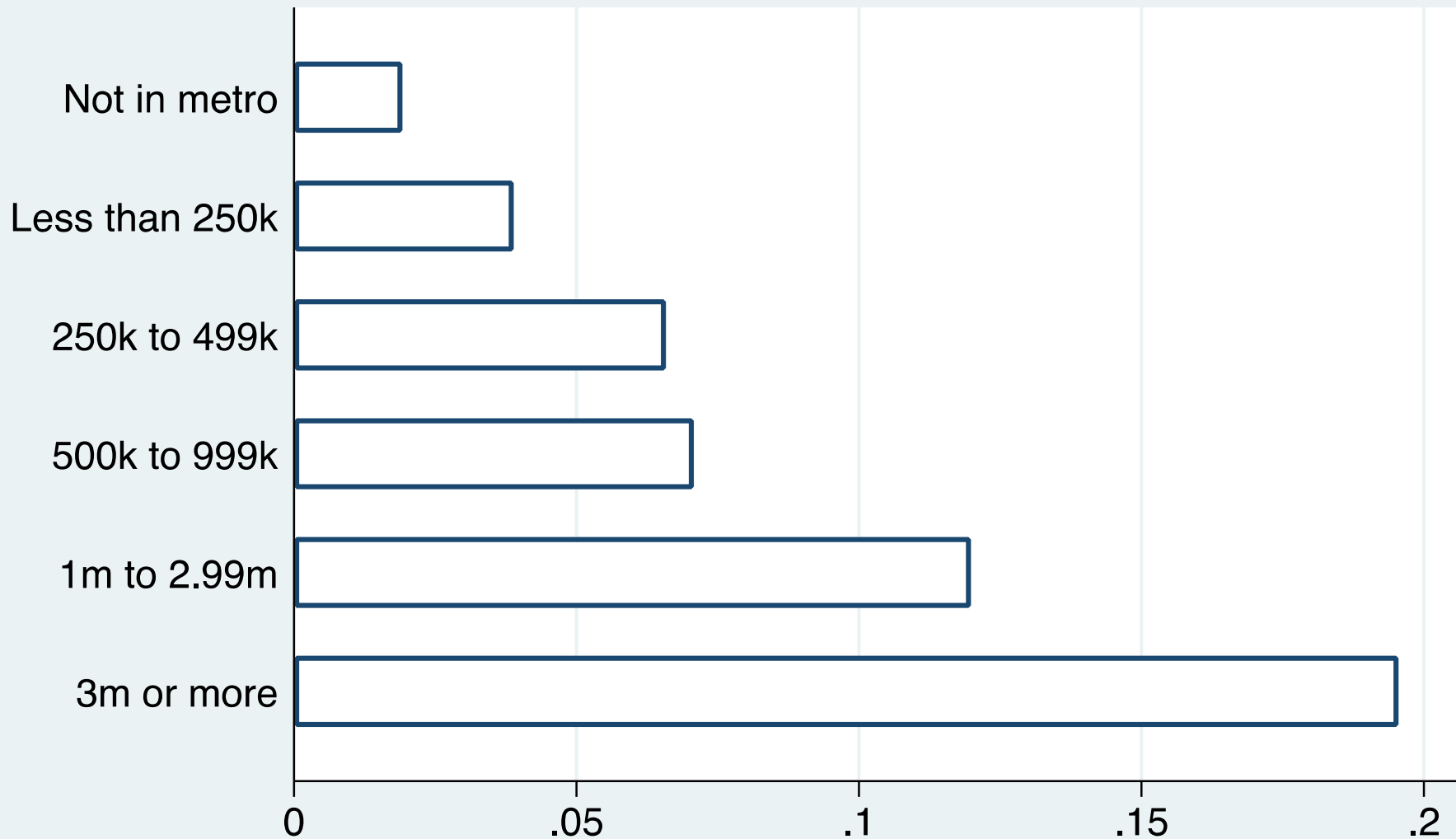
By population of metropolitan area



Source: NHTS 2017, complete sample, with person weights

# Share using TNC monthly, age 16-64

By population of metropolitan area



NHTS 2017 (weighted)

# **STATISTICS ON PEOPLE WITH DISABILITIES IN THE NHTS**

## MEDCOND

**ProgrammerNote: Always asked**

[\$DO\_YOU\_CAP] have a condition or handicap that makes it difficult to travel outside of the home?

WEB ATEXT	CATI ATEXT	AVALUE
Yes	YES	1
No	NO	2
I don't know	DON'T KNOW	-8
I prefer not to answer	REFUSED	-7

## MEDCOND6 (MEDCOND\_HOWLONG)

**ProgrammerNote: Asked if subject has a medical condition**

How long [\$HAVE\_YOU] had this condition?

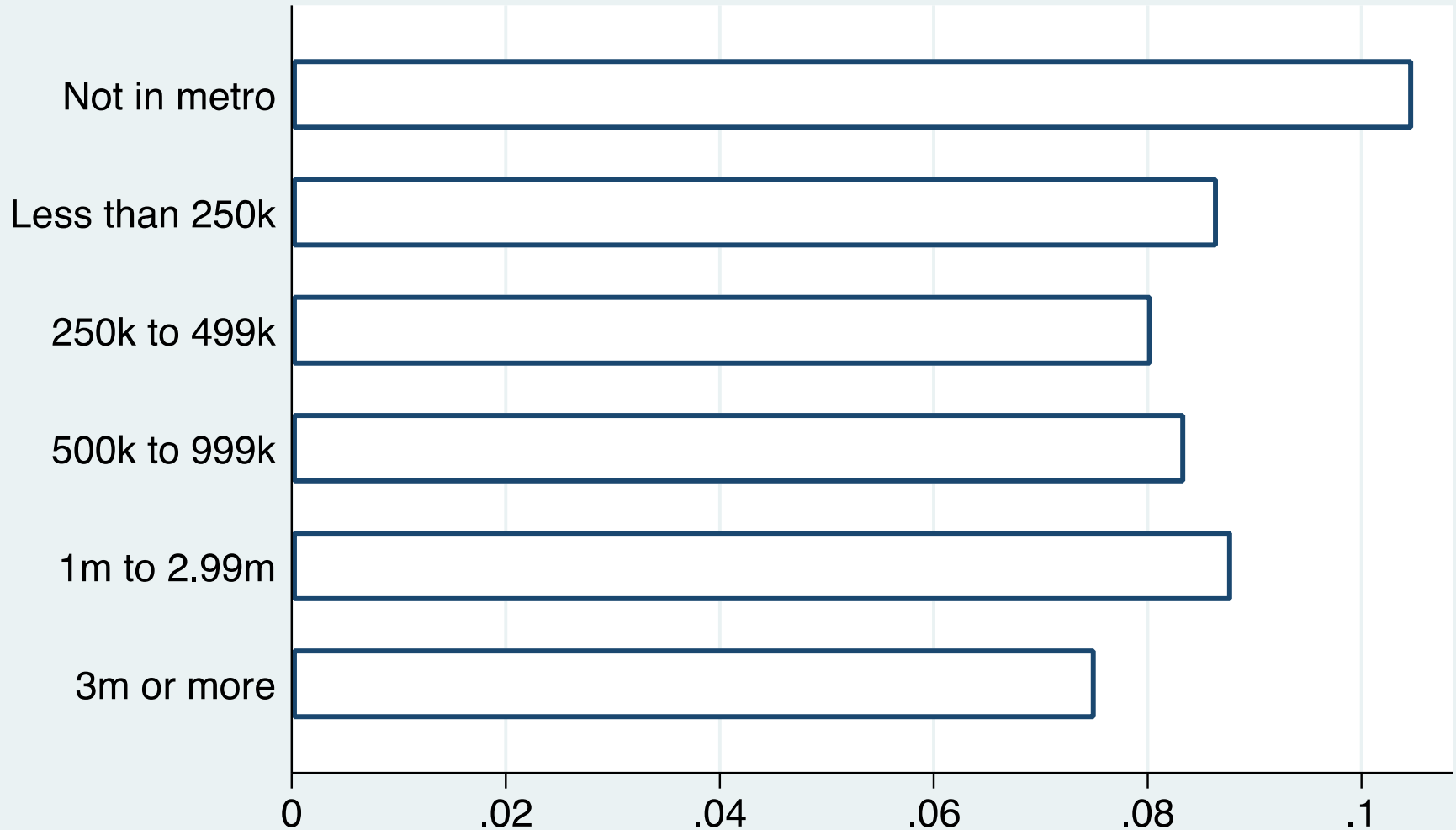
WEB ATEXT	CATI ATEXT	AVALUE
6 months or less	6 months or less,	1
More than 6 months	More than 6 months, or	2
All [\$YOUR_THEIR] life	All [\$YOUR_THEIR] life?	3
I don't know	DON'T KNOW	-8
I prefer not to answer	REFUSED	-7

# **People reporting medical conditions that limit their travel**

- **About 9.5 percent of NHTS respondents report a medical condition limiting their travel (8.5 percent weighted)**
- **They travel much less: 2.6 trips/day versus 3.6 for other working age respondents**
- **This group is on average older, of lower income, much less likely to be employed, and lives in smaller households**

# Share of population with a medical condition

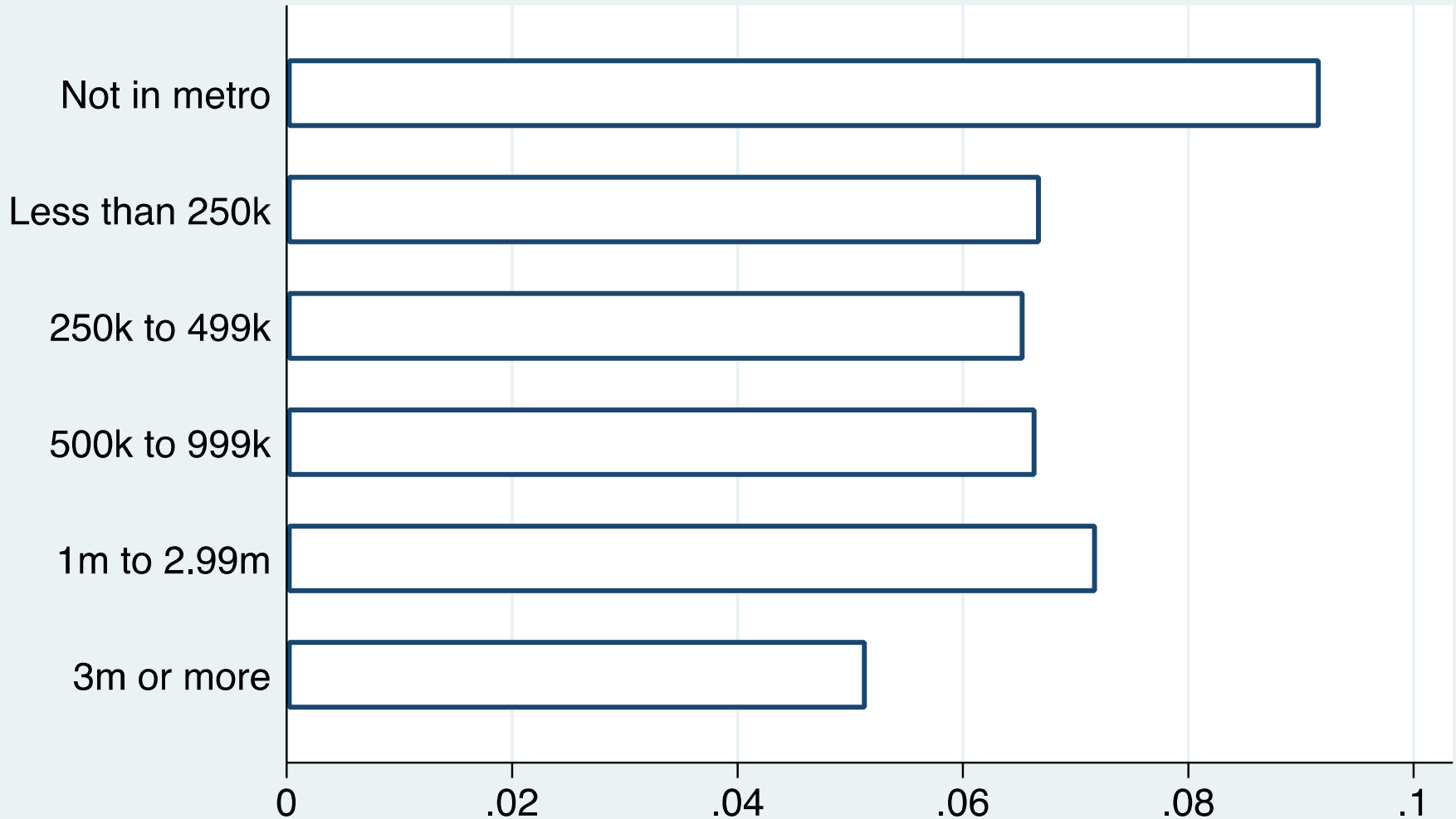
## By size of MSA



Source: NHTS 2017, complete sample, with person weights



# Share of working-age population with med. cond. By size of MSA



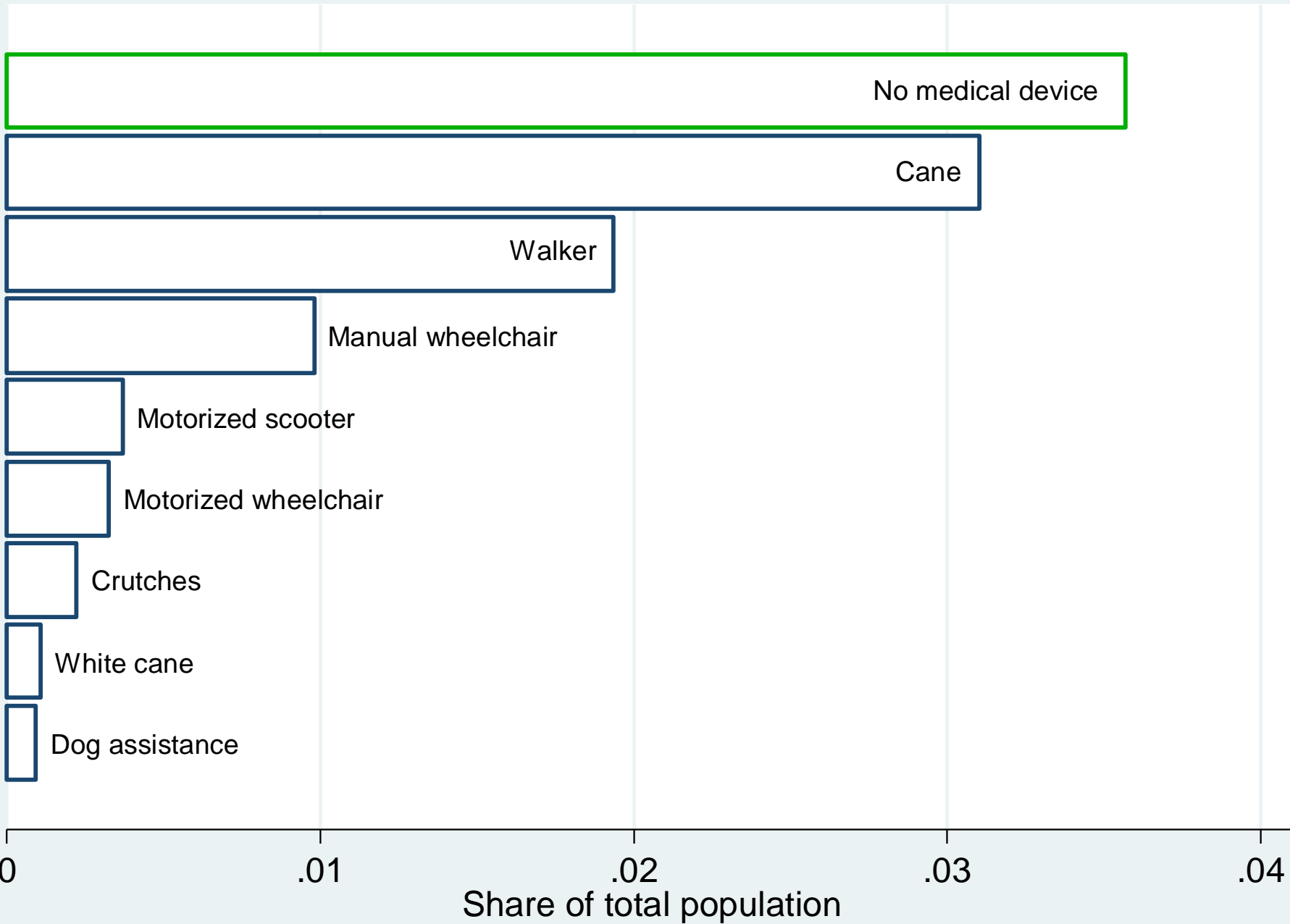
Source: NHTS 2017, age 16-64 only, with person weights

**MCA8 (MEDDEVICE)****ProgrammerNote: Asked if subject has a medical condition**

[\$DO\_YOU\_CAP] use any of the following?

Please SELECT ALL that apply.

VARIABLE	WEB ATEXT	CATI ATEXT	AVALUE
W_CANE	Cane	Cane,	1
W_WLKR	Walker	Walker,	2
W_WHCANE	White cane	White cane,	3
W_DOG	Seeing-eye dog or other K-9 assistance	Seeing-eye dog or other K-9 assistance,	4
W_CRUTCH	Crutches	Crutches,	5
W_SCOOTR	Motorized scooter	Motorized scooter,	6
W_CHAIR	Manual wheelchair	Manual wheelchair, or	7
W_MTRCHR	Motorized wheelchair	Motorized wheelchair?	8
MCA8_OS	Something else	SOMETHING ELSE	97
W_NONE	None of the above	NONE OF THE ABOVE	0
W_DK	I don't know	I DON'T KNOW	-8
W_RF	I prefer not to answer	I PREFER NOT TO ANSWER	-7



# **STATISTICS ON IMMIGRANTS FROM THE NHTS**

## BORNINUS

**ProgrammerNote:** Always asked

[\$WERE\_YOU\_CAP] born in the United States?

WEB ATEXT	CATI ATEXT	AVALUE
Yes	YES	1
No	NO	2
I don't know	DON'T KNOW	-8
I prefer not to answer	REFUSED	-7

## BORNINUS\_TEXT

**ProgrammerNote:** Always displayed

We are asking this because immigrants often have different travel experiences.

## YRTOUS (WHENTOUS)

**Range:** 1900 - 2017

**ProgrammerNote:** Asked if subject wasn't born in the US

In what year did [\$YOU1] come to the United States?

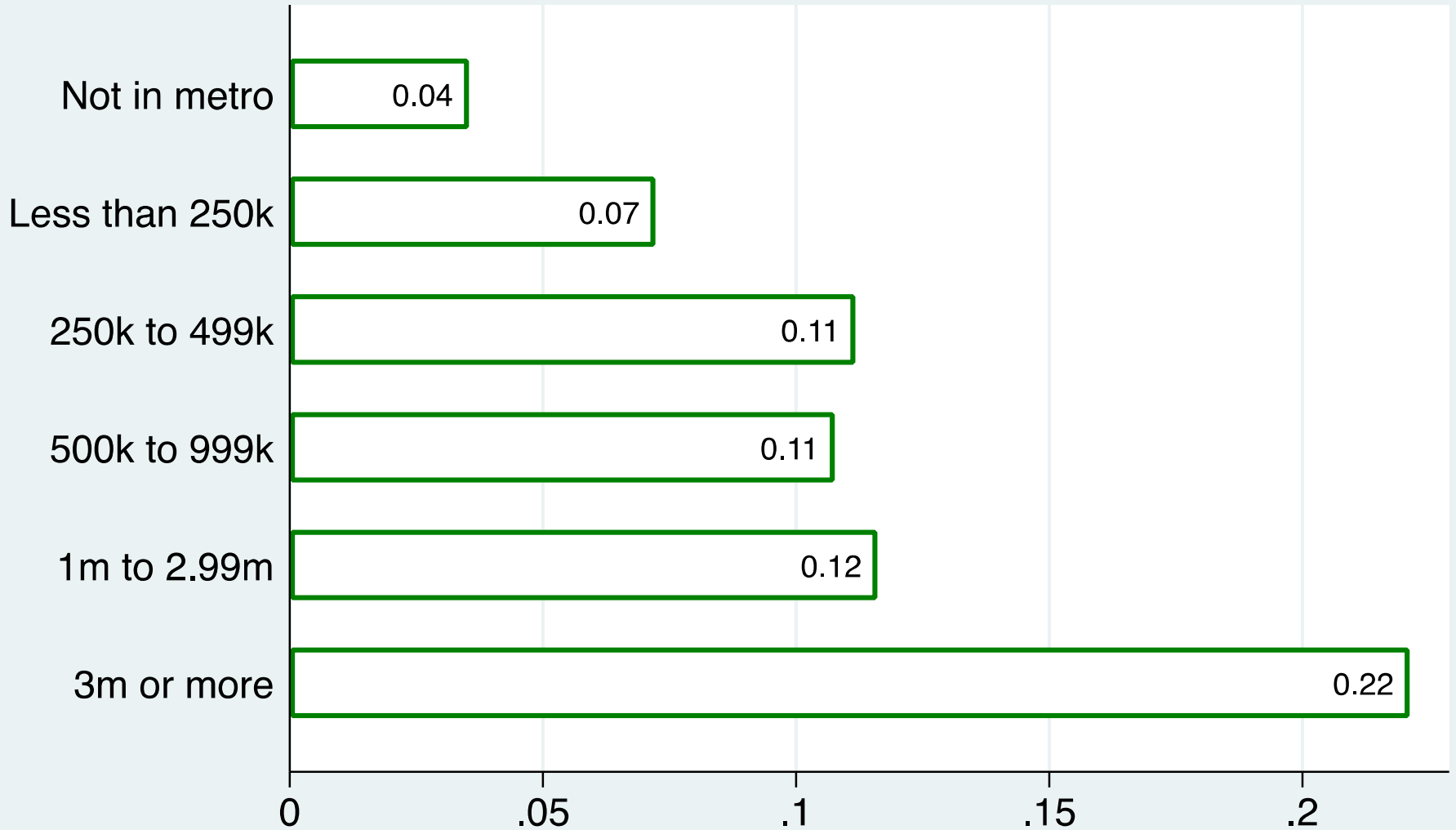
WEB ATEXT	CATI ATEXT	AVALUE
ENTER YEAR	ENTER YEAR	
I don't know	DON'T KNOW	-8
I prefer not to answer	REFUSED	-7

# Overview stats for immigrants

- About 9.7 percent of respondents were born outside the United States (13.6% weighted)
- In comparison to the US-born cohort, immigrants are on average younger, lower-income, and more likely to be employed
- Immigrants make slightly fewer trips (recent immigrants, 10% fewer) and travel shorter distances

# Share of population born outside the US

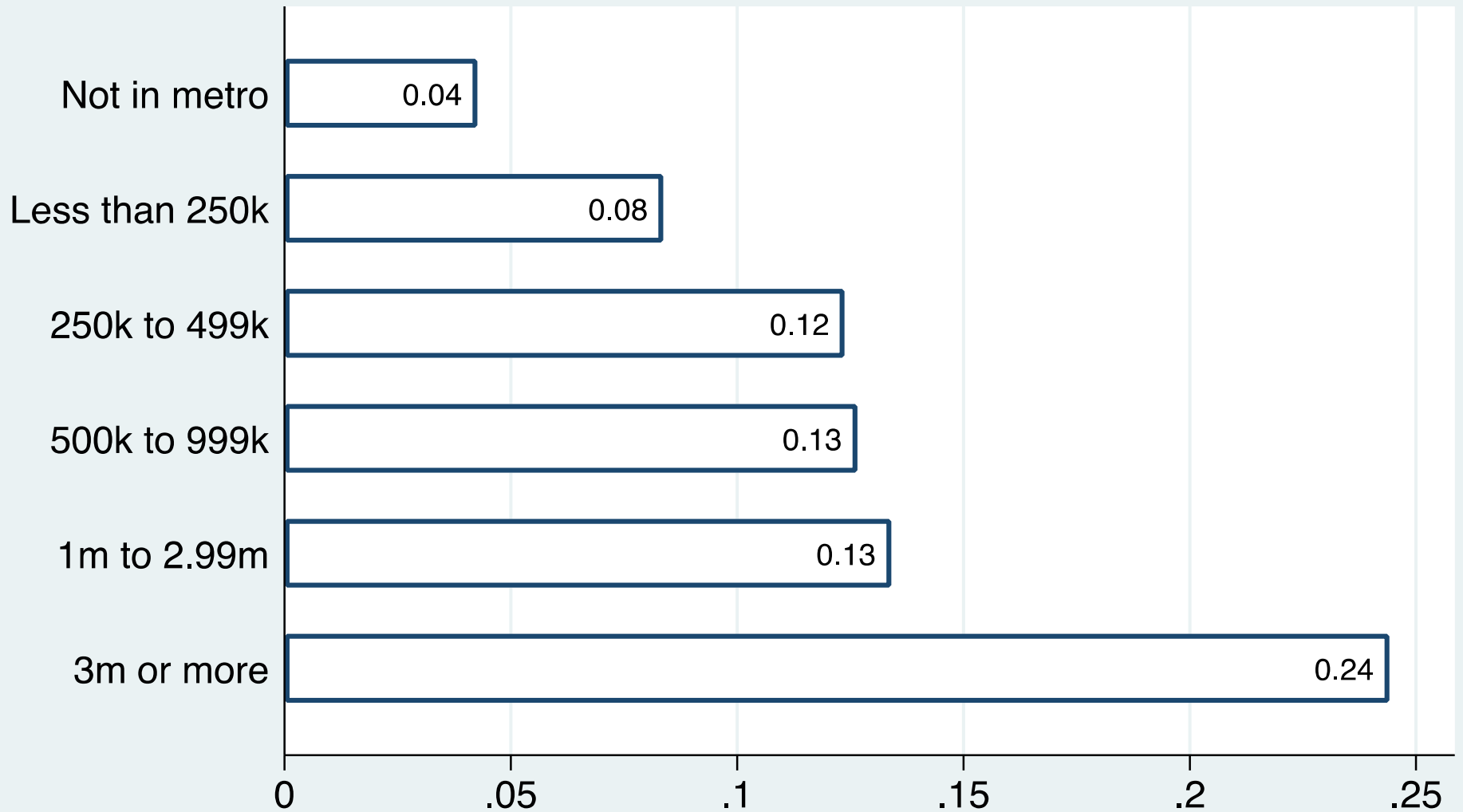
## By metropolitan area size



NHTS 2017 (weighted), total population

# Share of working age population born outside the US

## By metropolitan area size



NHTS 2017 (weighted), population aged 16-64 only



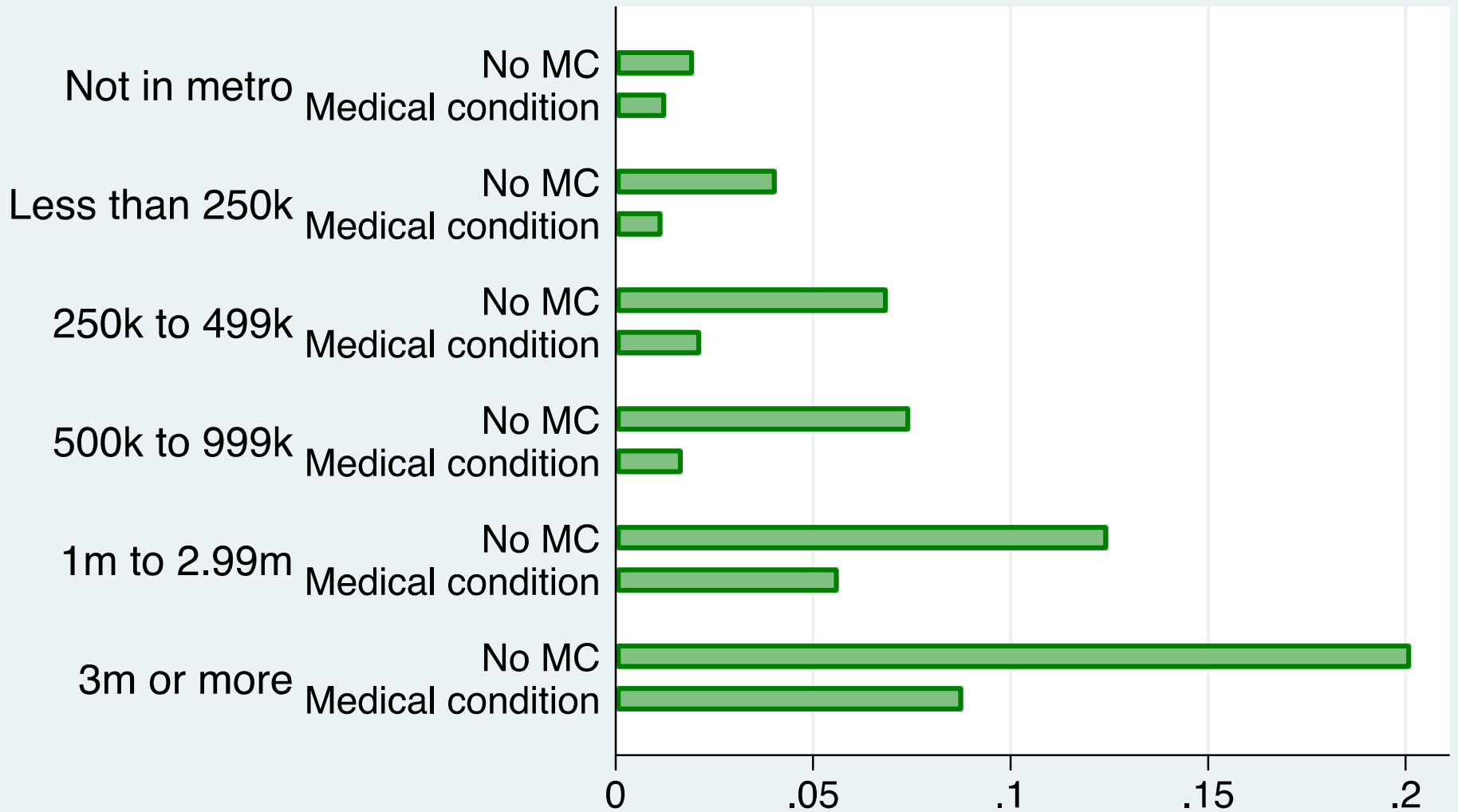
# **TNC USE & TRAVEL PATTERNS BY PEOPLE WITH DISABILITIES**

# **TNC use and travel patterns among people with disabilities**

- **Only 3 percent of people with a medical condition used a TNC at least 1x/month**
  - **Particularly low use for those relying on manual or motorized wheelchairs or scooters, and people with sight problems who use white canes or seeing-eye dogs.**
- **Public transportation use is much higher (along with paratransit use).**
- ***Daily* taxi /TNC use is higher among those with disabilities**

# Share using TNC monthly, age 16-64

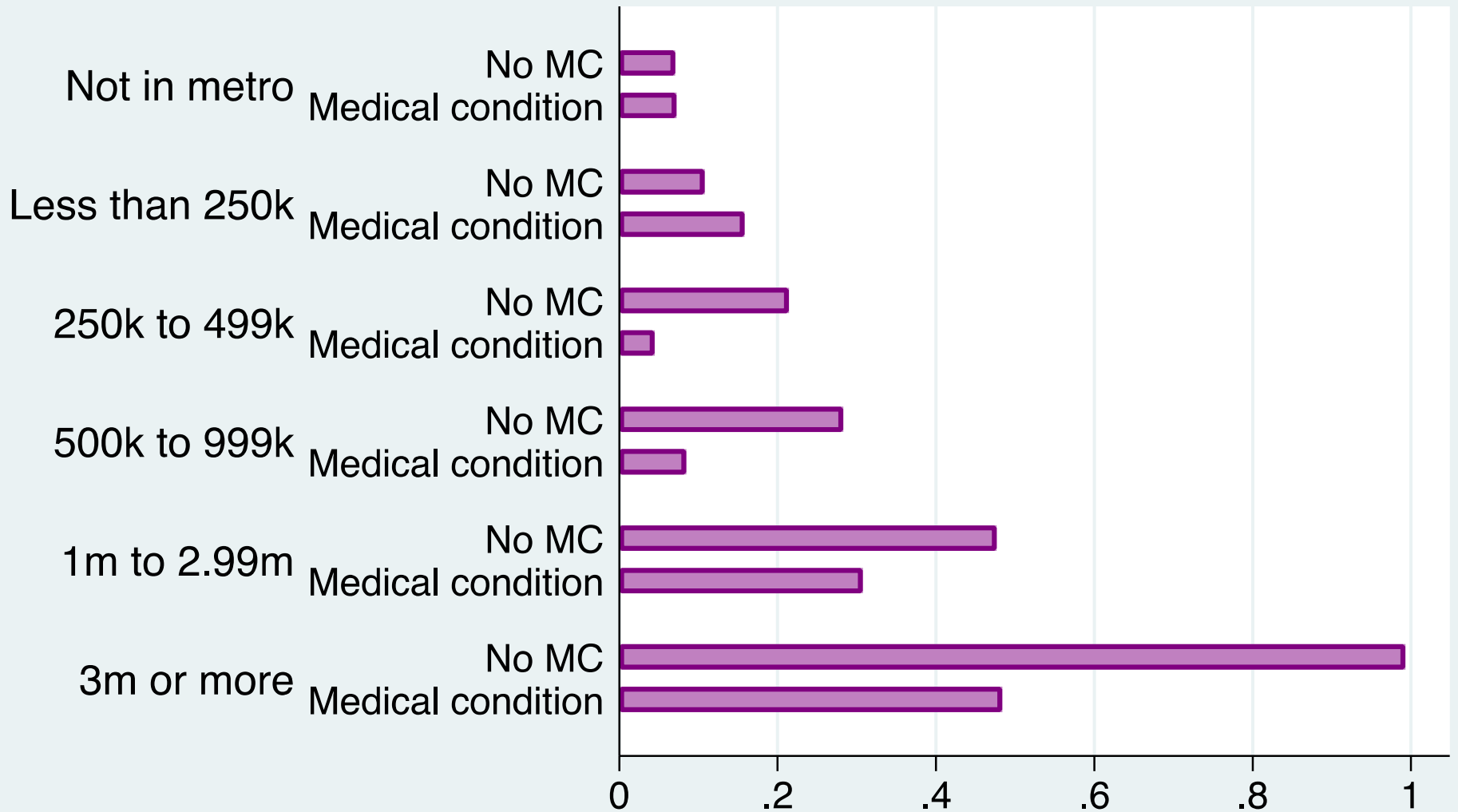
By medical condition by metropolitan area size



NHTS 2017 (weighted)

# TNC trips per month, age 16-64

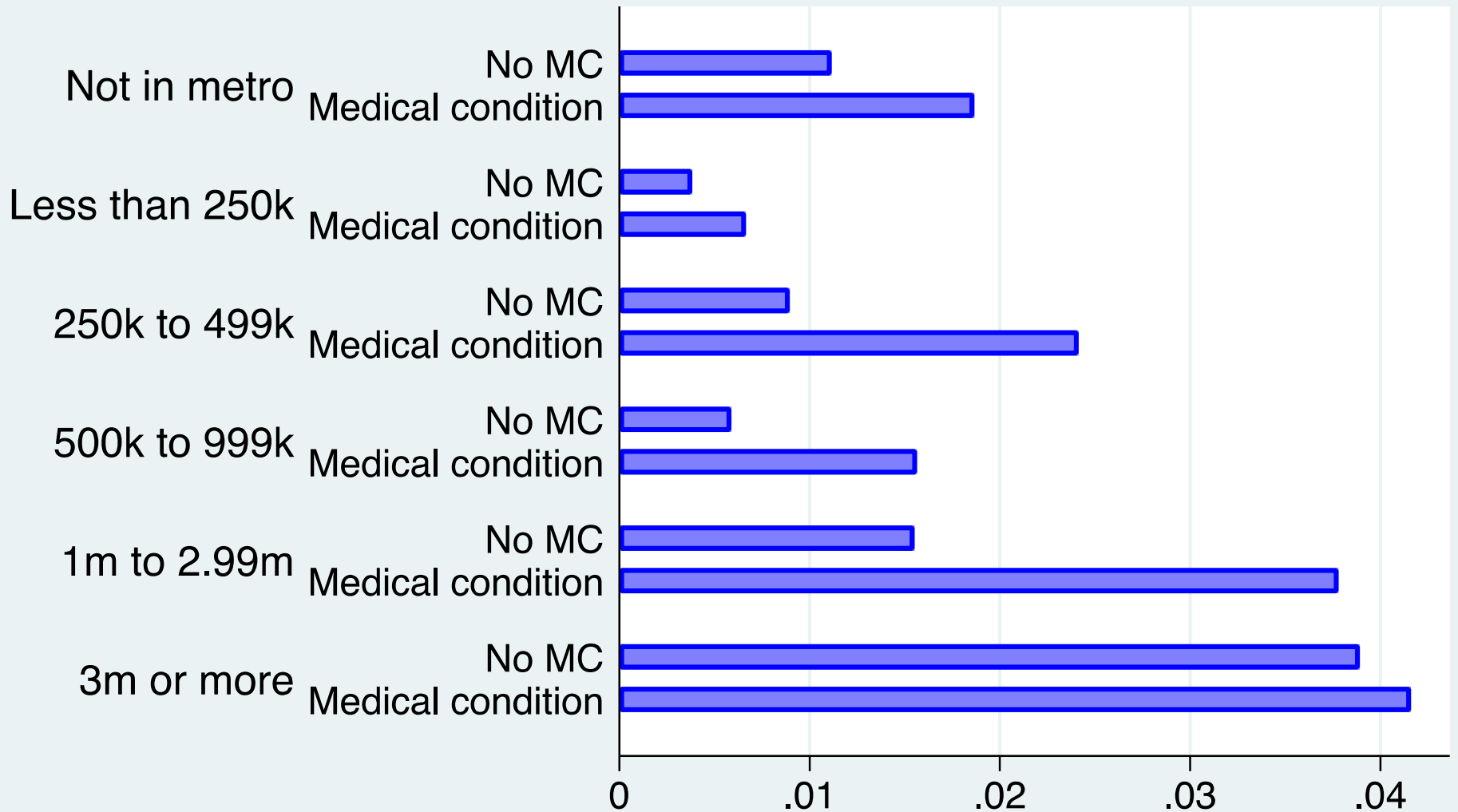
By medical condition by metropolitan area size



NHTS 2017 (weighted)

# Number of taxi trips, age 16-64

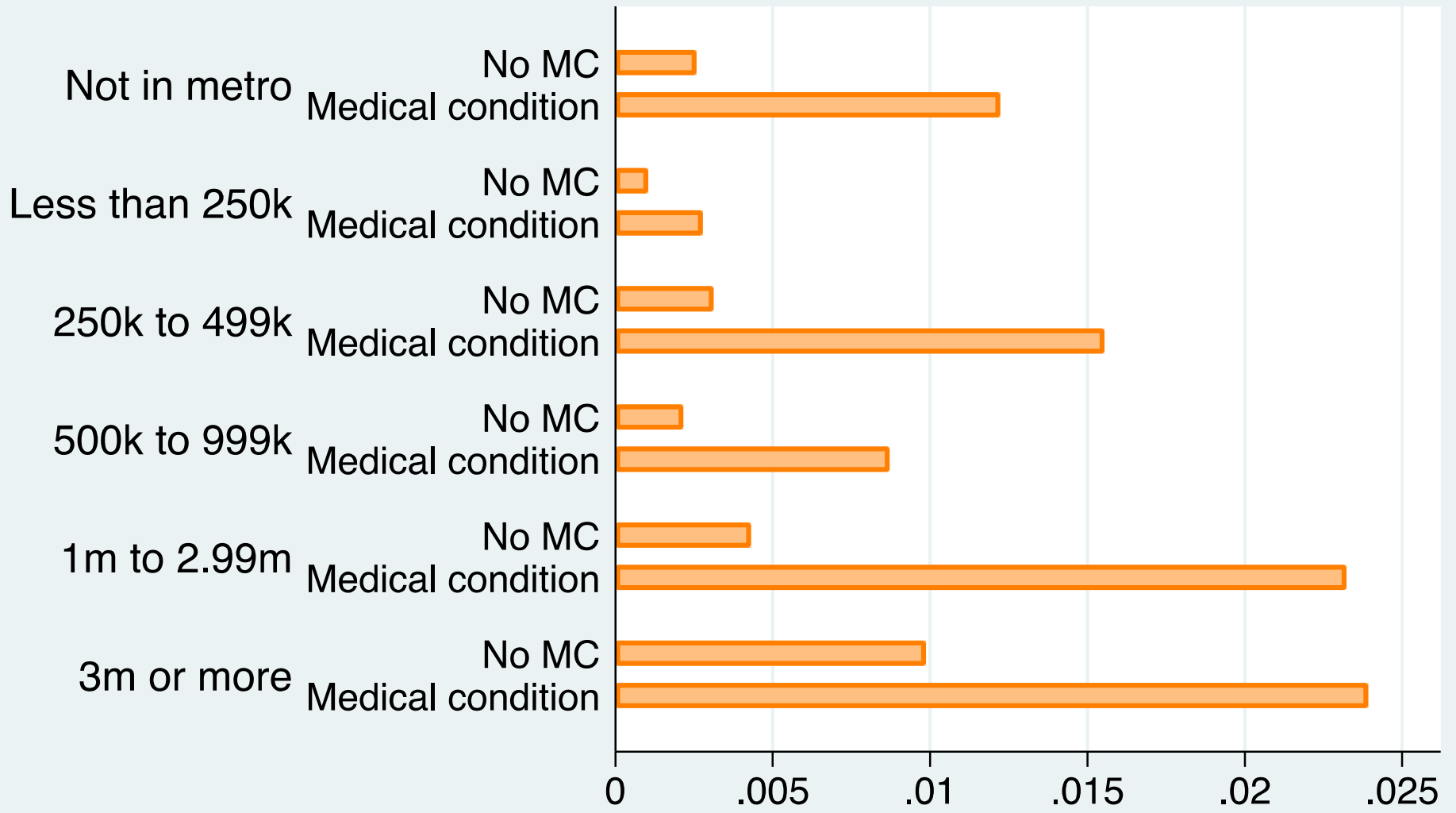
By medical condition by metropolitan area size



NHTS 2017 (weighted)

# Share of taxi trips, age 16-64

By medical condition by metropolitan area size



NHTS 2017 (weighted)

# **TNC USE & TRAVEL PATTERNS OF IMMIGRANTS**

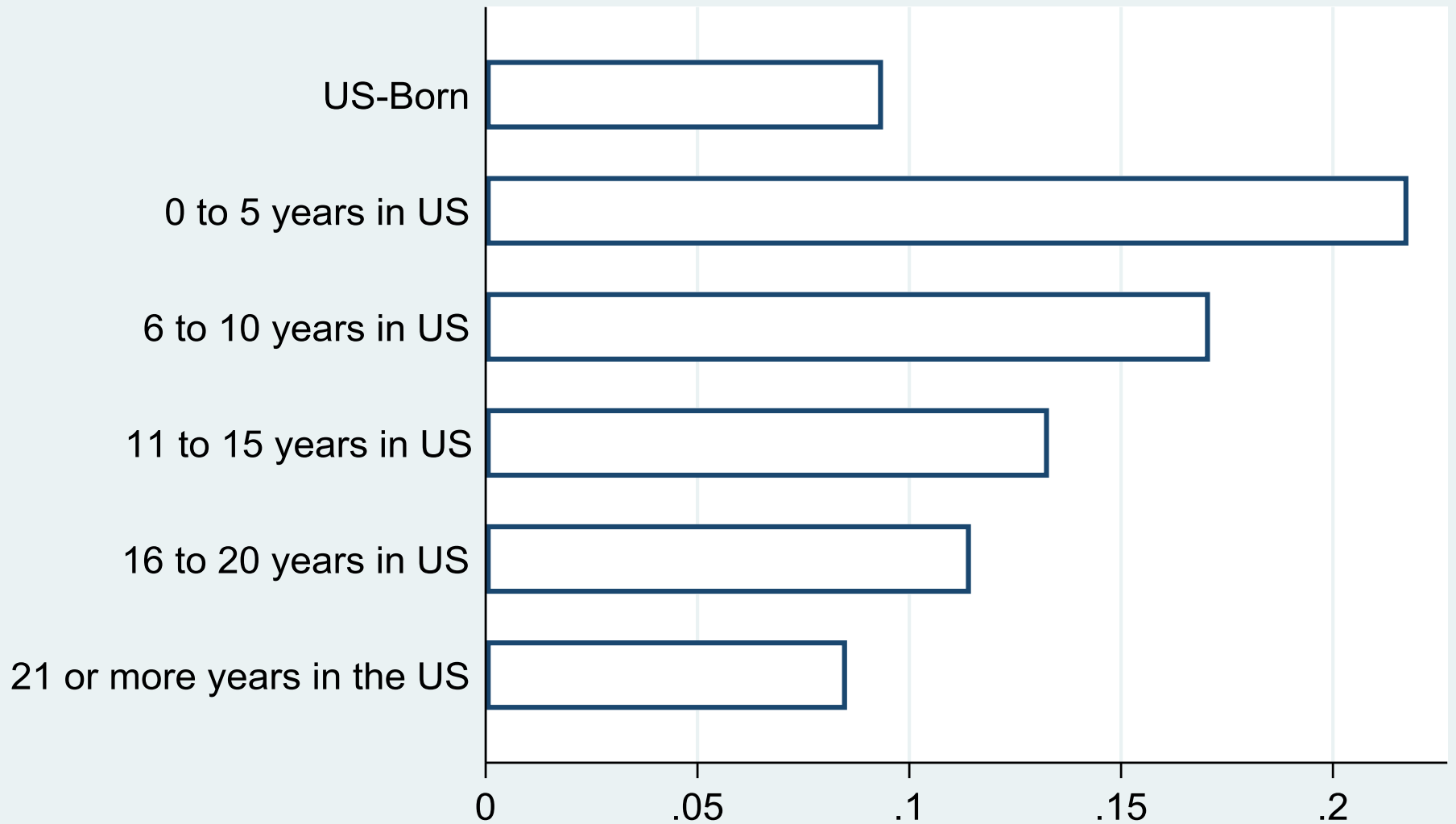
# **TNC use and travel patterns of immigrants**

- **About 22 percent of immigrants who arrived in the US in the past 5 years report using TNCs at least once per month**
  - **2.3 X rate in population as a whole**
  - **1.3-2.3 X rate for more settled immigrants**
- **Recent immigrants also report much higher rates of daily taxi/TNC use**
  - **0.045 trips per day compared to 0.016 for the US-born (2.75 X).**



# Share of population using TNCs monthly

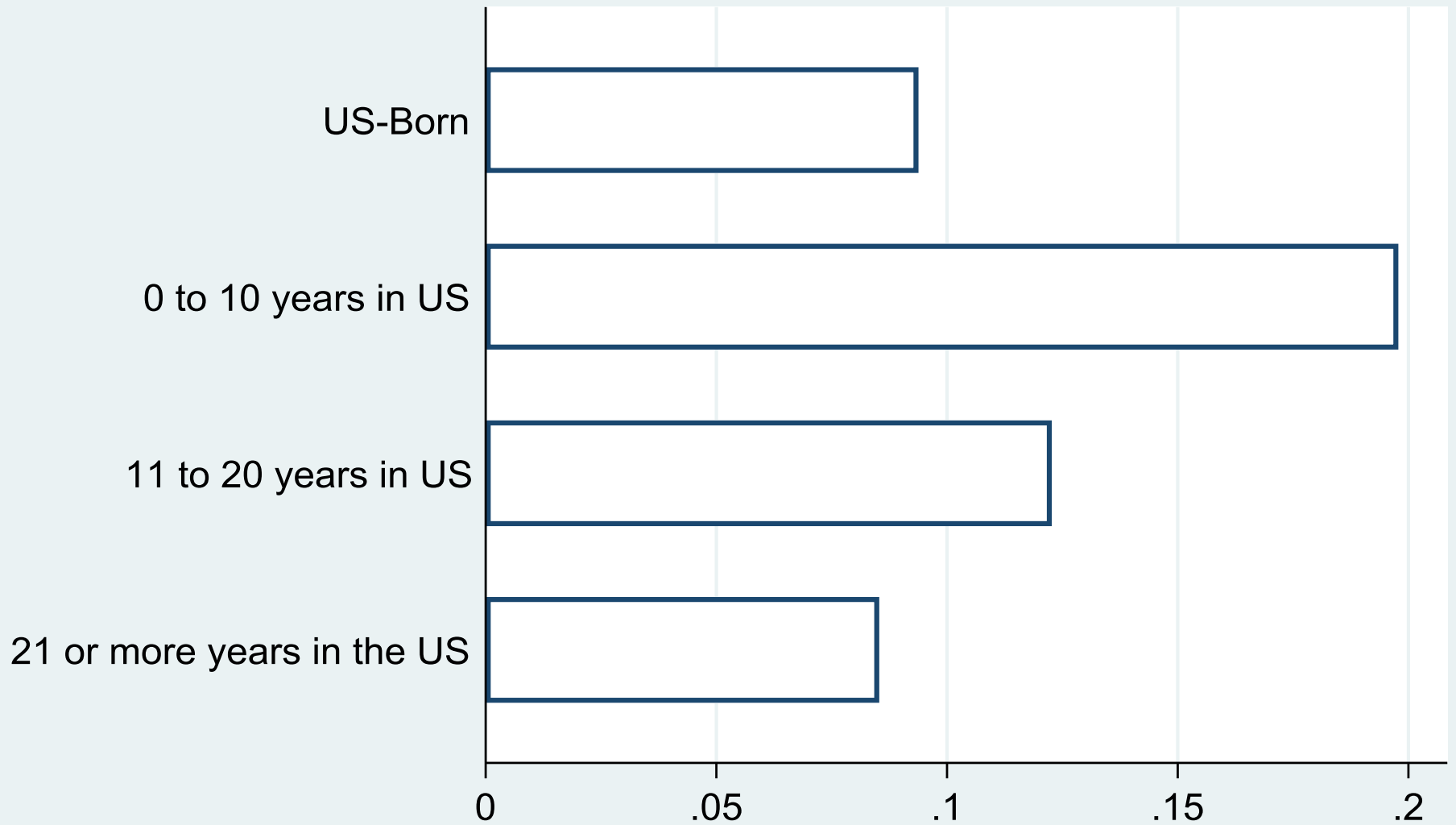
## By nativity and years in the US



Source: NHTS 2017, complete sample, with person weights

# Share of population using TNCs monthly

## By nativity and years in the US



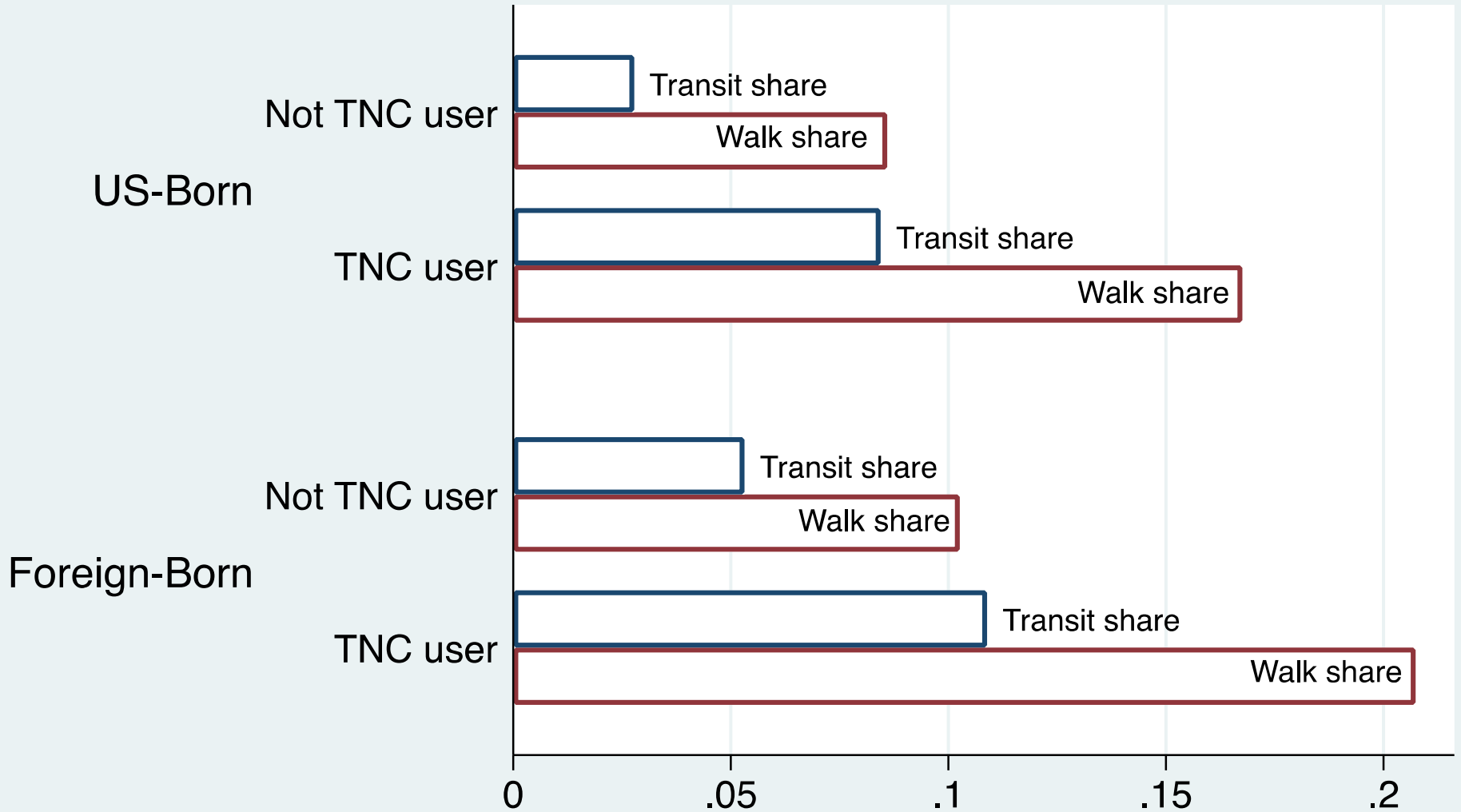
Source: NHTS 2017, complete sample, with person weights

# **Does TNC use encourage intermodal non-auto travel?**

- TNCs could be used to forestall or decrease owning and using a personal vehicle, particularly among immigrants, who are initially more reliant on public transit and walking
- In cross-sectional data we can only infer roughly the evidence testing this hypothesis

# Transit and walking mode share by nativity

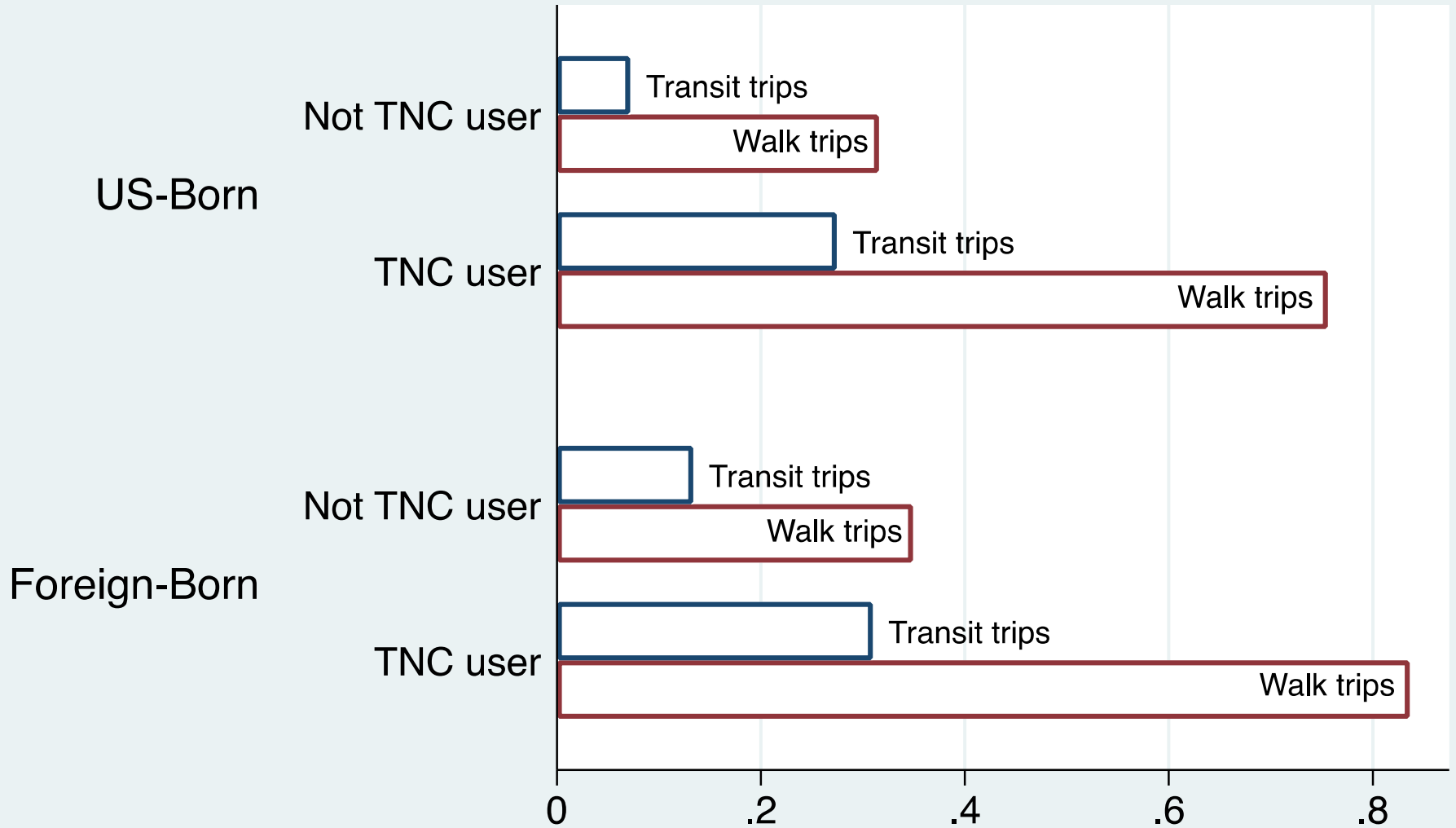
Comparing TNC users to non-users



Source: NHTS 2017, age 16-64 only, with person weights

# Transit and walking trips by nativity

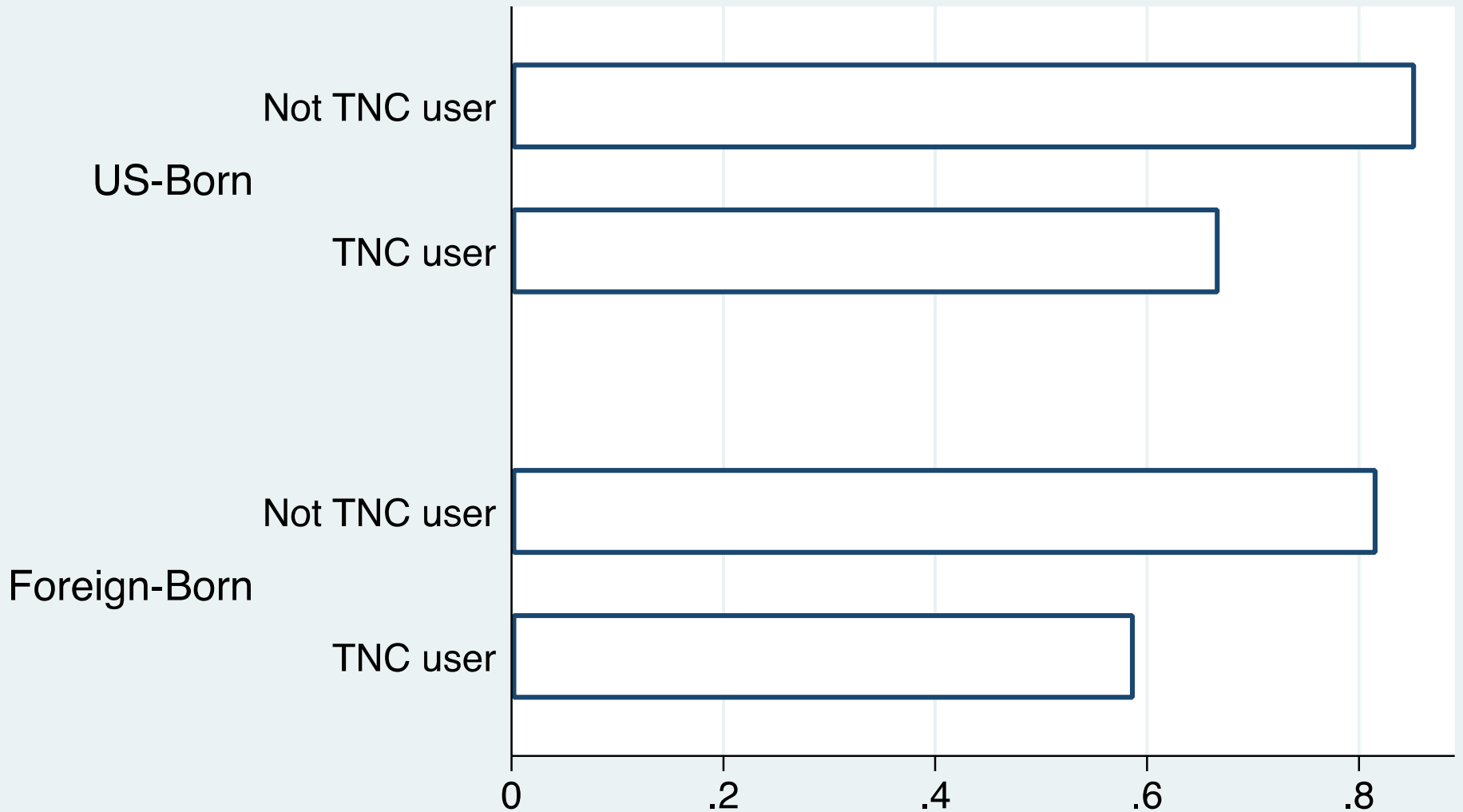
Comparing TNC users to non-users



Source: NHTS 2017, age 16-64 only, with person weights

# Personal vehicle mode share

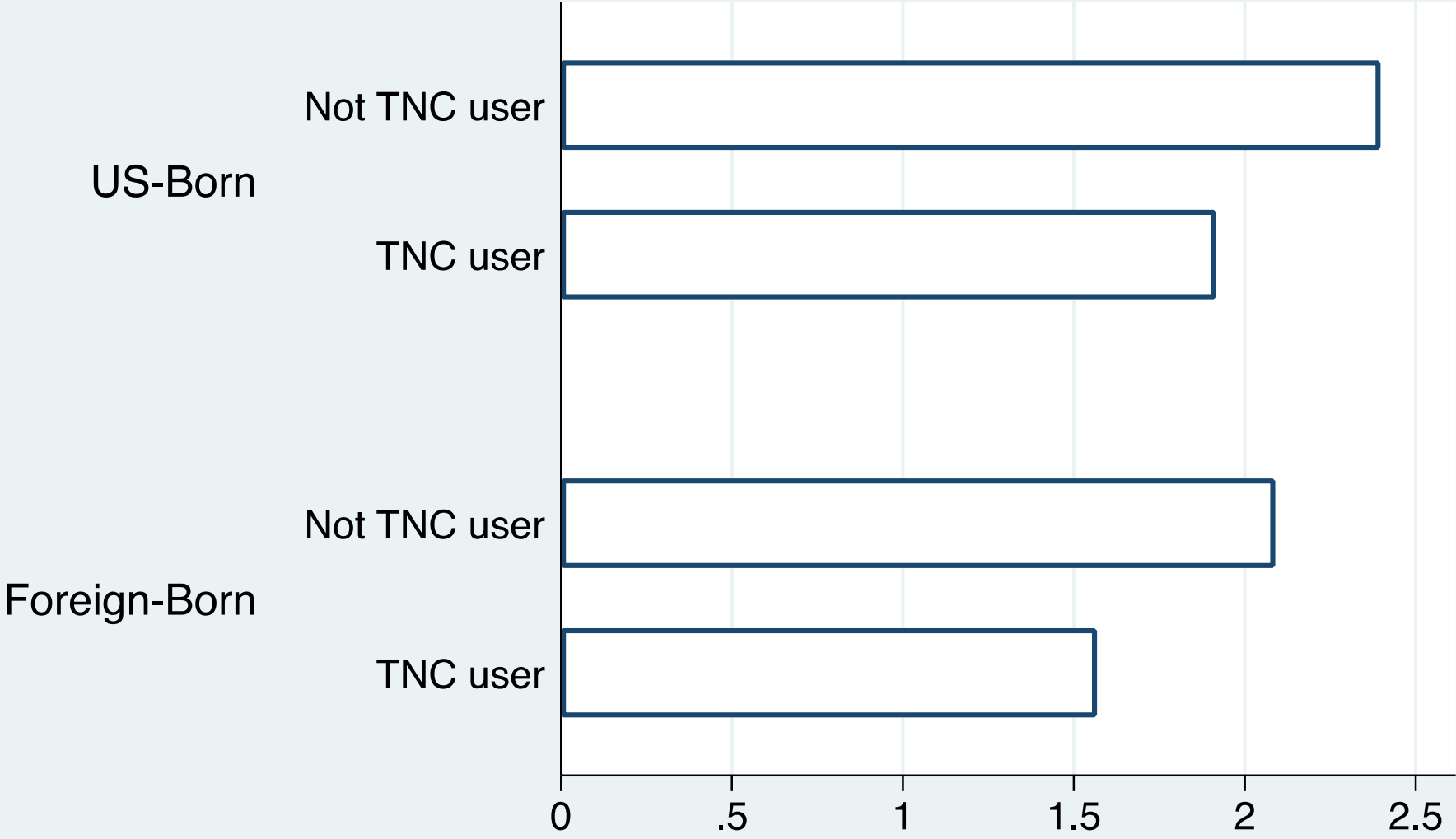
By nativity by TNC user



Source: NHTS 2017, trips from trip file, age 16-64 only, with person weight

# Household vehicle ownership

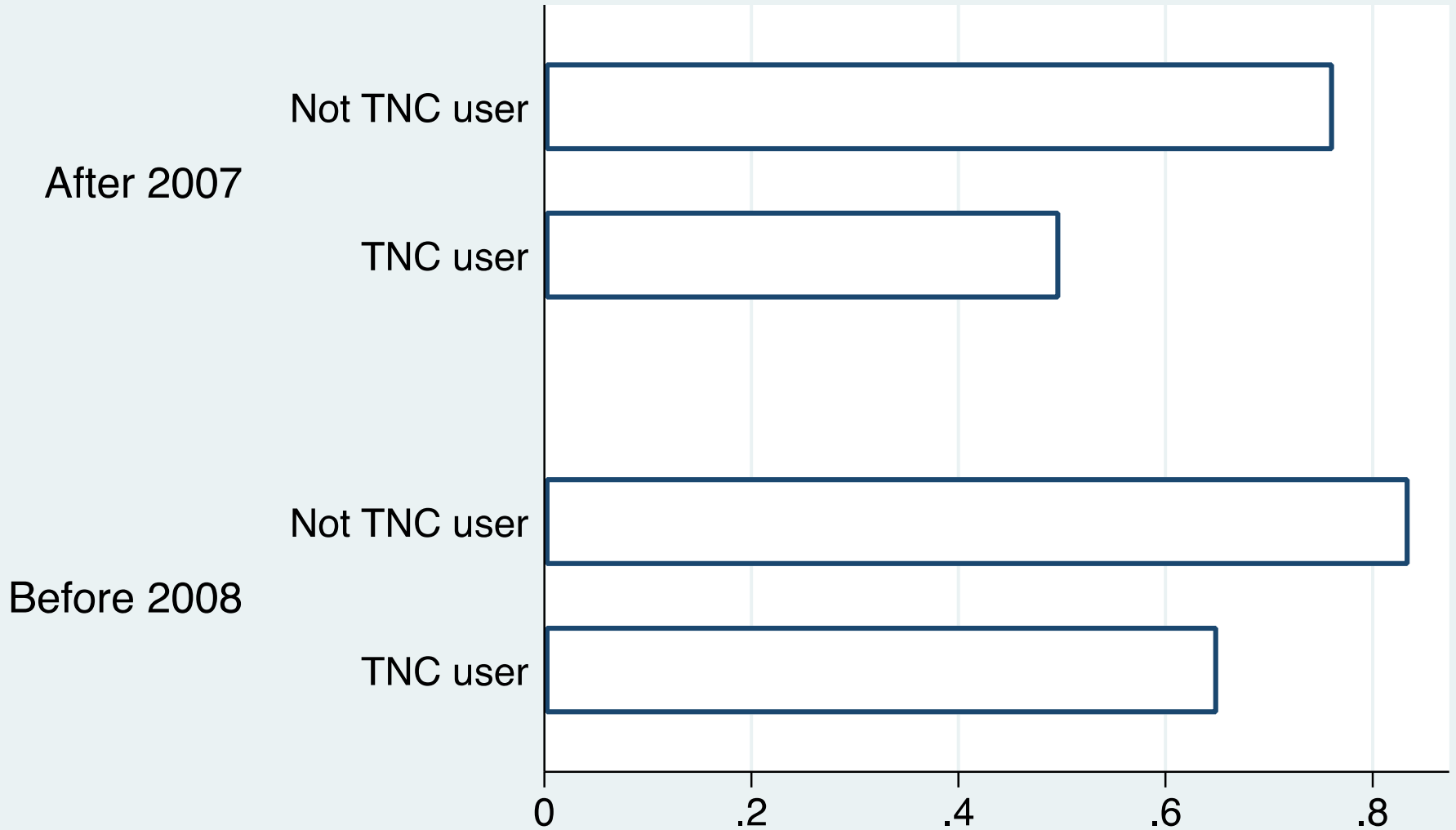
By nativity by TNC user



Source: NHTS 2017, age 16-64 only, with person weights

# POV mode share, immigrants

By recency of arrival by TNC user



NHTS 2017 (weighted), immigrants aged 16-64 only



# REGRESSION ANALYSES

# **Need for controlled estimates**

- **People with medical conditions are older, have lower income, are more rural; this could help explain their lower TNC use**
- **Immigrants are more likely to live in large cities and to work; this could explain their higher TNC use and lower auto use**
- **These explanations help better understand the dynamic behind the large differences shown in the previous slides**

Logistic regression  
 Number of obs = 158,889  
 LR chi2(23) = 16590.51  
 Prob > chi2 = 0.0000  
 Pseudo R2 = 0.1614

Log likelihood = -43088.492

rideshare_dummy	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
medcond_dummy	.6196257	.0358316	-8.28	0.000	.5532307	.6939889
age_categories						
25 to 34 years	1.482857	.0476442	12.26	0.000	1.392356	1.579241
35 to 44 years	.9119303	.030175	-2.79	0.005	.8546654	.9730322
45 to 54 years	.4523909	.0156113	-22.99	0.000	.4228051	.4840471
55 to 64 years	.2327331	.0084294	-40.25	0.000	.2167845	.249855
NH_black	.9532199	.0361052	-1.26	0.206	.8850178	1.026678
NH_asian	.8626455	.0306931	-4.15	0.000	.8045377	.9249501
NH_other	1.025029	.0474173	0.53	0.593	.9361816	1.122309
hispanic	.9510577	.028951	-1.65	0.099	.8959744	1.009527
no_children_in_hh	2.365053	.0488243	41.70	0.000	2.271269	2.462709
hh_inc_25_to_50	.8782187	.0357804	-3.19	0.001	.8108174	.9512229
hh_inc_50_to_100	1.129261	.0405939	3.38	0.001	1.052437	1.211694
hh_inc_100_to_200	1.878051	.0668923	17.69	0.000	1.751416	2.013842
hh_inc_above_200	4.612004	.1828868	38.55	0.000	4.267128	4.984753
working_last_week	1.400946	.0304162	15.53	0.000	1.342582	1.461847
msacat						
MSA of 1 million or more, ..	7.934271	.4454604	36.89	0.000	7.107507	8.857206
MSA of 1 million or more, ..	5.963449	.3143072	33.88	0.000	5.378169	6.612423
MSA less than 1 million	2.783781	.1451584	19.63	0.000	2.513331	3.083332
cbsa_NYC	.6739994	.0303176	-8.77	0.000	.6171221	.7361188
cbsa_SF	2.096796	.1036137	14.98	0.000	1.903241	2.310034
cbsa_LA	1.656126	.0761512	10.97	0.000	1.5134	1.812312
cbsa_DFW	.9935372	.0330201	-0.20	0.845	.9308819	1.06041
cbsa_Houston	.8404119	.0365335	-4.00	0.000	.7717732	.9151551
_cons	.0121705	.0007595	-70.65	0.000	.0107693	.013754

Note: cons estimates baseline odds.

Logistic regression

Number of obs = 158,980  
 LR chi2(23) = 1414.76  
 Prob > chi2 = 0.0000  
 Pseudo R2 = 0.0911

Log likelihood = -7060.2974

made_taxitrip	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
medcond_dummy	1.647691	.1809707	4.55	0.000	1.328575	2.043458
age_categories						
25 to 34 years	1.307693	.1295314	2.71	0.007	1.07694	1.58789
35 to 44 years	.8580749	.0901093	-1.46	0.145	.6984539	1.054175
45 to 54 years	.5283585	.0567541	-5.94	0.000	.4280516	.6521706
55 to 64 years	.3759134	.0401498	-9.16	0.000	.3049119	.4634482
NH_black	1.199066	.122941	1.77	0.077	.9807738	1.465944
NH_asian	.9210796	.0975699	-0.78	0.438	.7483925	1.133613
NH_other	1.193407	.1553508	1.36	0.174	.9246641	1.540256
hispanic	.9828936	.0930416	-0.18	0.855	.8164527	1.183265
no_children_in_hh	2.480318	.1682488	13.39	0.000	2.171538	2.833006
hh_inc_25_to_50	.399552	.0452587	-8.10	0.000	.3200035	.4988753
hh_inc_50_to_100	.5164571	.0475696	-7.17	0.000	.4311537	.6186378
hh_inc_100_to_200	.6502448	.0598787	-4.67	0.000	.5428662	.7788629
hh_inc_above_200	1.862488	.1812067	6.39	0.000	1.539138	2.253768
working_last_week	1.123879	.0734671	1.79	0.074	.9887288	1.277503
msacat						
MSA of 1 million or more, with rail	4.677941	.6634138	10.88	0.000	3.542741	6.176891
MSA of 1 million or more, and not in 1	2.588123	.3521984	6.99	0.000	1.982218	3.379237
MSA less than 1 million	1.27062	.1708886	1.78	0.075	.9761934	1.653849
cbsa_NYC	1.193177	.1298731	1.62	0.105	.9639502	1.476914
cbsa_SF	1.813596	.2144912	5.03	0.000	1.438369	2.286709
cbsa_LA	1.026952	.1358181	0.20	0.841	.7924573	1.330837
cbsa_DFW	1.021241	.1143199	0.19	0.851	.8200546	1.271784
cbsa_Houston	.6554199	.1075875	-2.57	0.010	.4751103	.9041591
_cons	.0034856	.0005463	-36.11	0.000	.0025637	.0047391

Note: \_cons estimates baseline odds.

Negative binomial regression

Number of obs	=	158,674
LR chi2(26)	=	4437.63
Prob > chi2	=	0.0000
Pseudo R2	=	0.0829

Dispersion = mean

Log likelihood = -24530.454

transittrips	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
rideshare_dummy	2.621385	.1369257	18.45	0.000	2.366296	2.903973
yrtous_10yr_bins						
0 to 10 years in US	1.53927	.1485135	4.47	0.000	1.274055	1.859693
11 to 20 years in US	1.149445	.1174163	1.36	0.173	.9408871	1.404232
21 or more years in the US	1.046873	.0818462	0.59	0.558	.8981434	1.220232
age_categories						
25 to 34 years	.7656896	.0530208	-3.86	0.000	.6685141	.8769906
35 to 44 years	.8659665	.0596999	-2.09	0.037	.7565177	.9912497
45 to 54 years	.7431126	.0504084	-4.38	0.000	.6506	.84878
55 to 64 years	.6041855	.0406761	-7.48	0.000	.5294978	.6894081
NH_black	2.505366	.1452315	15.84	0.000	2.236292	2.806815
NH_asian	1.724763	.1401551	6.71	0.000	1.470823	2.022546
NH_other	1.716172	.1490274	6.22	0.000	1.447588	2.034589
hispanic	1.344021	.0818787	4.85	0.000	1.192752	1.514474
no_children_in_hh	1.696093	.0716511	12.51	0.000	1.561316	1.842504
hh_inc_25_to_50	.2927144	.0176918	-20.33	0.000	.2600143	.329527
hh_inc_50_to_100	.218031	.0122716	-27.06	0.000	.1952583	.2434596
hh_inc_100_to_200	.2049678	.012363	-26.28	0.000	.1821142	.2306892
hh_inc_above_200	.2180959	.0174186	-19.07	0.000	.186494	.2550529
working_last_week	1.109822	.0461738	2.50	0.012	1.022914	1.204113
msacat						
MSA of 1 million or more, with rail	7.817446	.7243071	22.19	0.000	6.519268	9.37413
MSA of 1 million or more, and not in 1	3.715511	.311564	15.65	0.000	3.152398	4.379212
MSA less than 1 million	2.135737	.1686909	9.61	0.000	1.82943	2.493331
cbsa_NYC	3.49243	.2747018	15.90	0.000	2.993472	4.074554
cbsa_SF	2.608454	.27122	9.22	0.000	2.127539	3.198076
cbsa_LA	.6558391	.0700951	-3.95	0.000	.5318904	.8086722

Negative binomial regression

Number of obs = 158,674

LR chi2(29) = 4447.08

Dispersion = mean

Prob > chi2 = 0.0000

Log likelihood = -24525.726

Pseudo R2 = 0.0831

	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
transittrips						
yrtous_10yr_bins#rideshare_dummy						
US-Born#Yes	2.772662	.1565754	18.06	0.000	2.482153	3.097171
0 to 10 years in US#No	1.634679	.1786584	4.50	0.000	1.319479	2.025175
0 to 10 years in US#Yes	3.590773	.6315747	7.27	0.000	2.543734	5.06879
11 to 20 years in US#No	1.290333	.1419432	2.32	0.020	1.040076	1.600804
11 to 20 years in US#Yes	1.768912	.4069605	2.48	0.013	1.126878	2.776745
21 or more years in the US#No	1.093129	.0911656	1.07	0.286	.9282866	1.287243
21 or more years in the US#Yes	2.313946	.4290668	4.52	0.000	1.608859	3.32804
age_categories						
25 to 34 years	.7634598	.0528948	-3.90	0.000	.6665187	.8745004
35 to 44 years	.8669134	.059767	-2.07	0.038	.7573418	.9923378
45 to 54 years	.7450906	.0505505	-4.34	0.000	.6523183	.8510569
55 to 64 years	.604265	.0407028	-7.48	0.000	.5295308	.6895467
NH_black	2.508148	.1454677	15.85	0.000	2.238645	2.810096
NH_asian	1.704386	.1381238	6.58	0.000	1.454074	1.997789
NH_other	1.723831	.1496275	6.27	0.000	1.454155	2.043517
hispanic	1.335407	.0813968	4.75	0.000	1.185034	1.504863
no_children_in_hh	1.700606	.0718617	12.57	0.000	1.565435	1.847449
hh_inc_25_to_50	.2919568	.0176486	-20.37	0.000	.2593367	.32868
hh_inc_50_to_100	.2176465	.012253	-27.09	0.000	.1949086	.2430371
hh_inc_100_to_200	.20448	.0123388	-26.30	0.000	.1816717	.2301517
hh_inc_above_200	.2173233	.017361	-19.11	0.000	.1858265	.2541586
working_last_week	1.108354	.0461224	2.47	0.013	1.021544	1.202541
msacat						
MSA of 1 million or more, with rail	7.769252	.7198364	22.13	0.000	6.479085	9.316326
MSA of 1 million or more, and not in 1	3.700052	.310248	15.60	0.000	3.139315	4.360947
MSA less than 1 million	2.125855	.167913	9.55	0.000	1.820961	2.4818
cbsa NYC	3.510675	.2761114	15.97	0.000	3.009154	4.095782

Negative binomial regression	Number of obs	=	158,674
	LR chi2(29)	=	2921.13
Dispersion = mean	Prob > chi2	=	0.0000
Log likelihood = -102963	Pseudo R2	=	0.0140

walktrips	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
yrtous_10yr_bins#rideshare_dummy						
US-Born#Yes	1.852274	.0525341	21.73	0.000	1.752118 1.958154	
0 to 10 years in US#No	1.442382	.0788049	6.70	0.000	1.29591 1.60541	
0 to 10 years in US#Yes	2.2373	.2208221	8.16	0.000	1.843785 2.714801	
11 to 20 years in US#No	1.04963	.0571775	0.89	0.374	.9433397 1.167898	
11 to 20 years in US#Yes	1.624389	.2021814	3.90	0.000	1.272753 2.073174	
21 or more years in the US#No	1.060206	.0421436	1.47	0.141	.980742 1.146109	
21 or more years in the US#Yes	1.991203	.1961057	6.99	0.000	1.641663 2.415166	
age_categories						
25 to 34 years	1.152068	.0368062	4.43	0.000	1.082141 1.226513	
35 to 44 years	1.123588	.0354618	3.69	0.000	1.05619 1.195286	
45 to 54 years	1.040323	.0321696	1.28	0.201	.9791445 1.105324	
55 to 64 years	.9771146	.0298764	-0.76	0.449	.920278 1.037461	
NH_black	.8129016	.0260257	-6.47	0.000	.7634597 .8655455	
NH_asian	.9017644	.0368657	-2.53	0.011	.832328 .9769936	
NH_other	1.017843	.0427388	0.42	0.674	.9374304 1.105153	
hispanic	.7715586	.0226921	-8.82	0.000	.7283406 .8173411	
no_children_in_hh	1.356563	.0254345	16.26	0.000	1.307617 1.407341	
hh_inc_25_to_50	.6802259	.0196886	-13.31	0.000	.6427112 .7199304	
hh_inc_50_to_100	.6555145	.0173067	-16.00	0.000	.6224566 .690328	
hh_inc_100_to_200	.7534692	.020831	-10.24	0.000	.7137276 .7954237	
hh_inc_above_200	.8872366	.0321309	-3.30	0.001	.8264441 .9525009	
working_last_week	.7855134	.0139092	-13.63	0.000	.7587194 .8132536	
msacat						
MSA of 1 million or more, with rail	1.379634	.0514147	8.64	0.000	1.282455 1.484177	
MSA of 1 million or more, and not in 1	1.260777	.0370023	7.90	0.000	1.190301 1.335427	
MSA less than 1 million	1.052846	.0269543	2.01	0.044	1.00132 1.107023	
cbsa NYC	1.525409	.0686951	9.38	0.000	1.39654 1.66617	

Negative binomial regression

Number of obs = 158,674

LR chi2(29) = 21435.53

Dispersion = mean

Prob > chi2 = 0.0000

Log likelihood = -251535.54

Pseudo R2 = 0.0409

hhvehcnt	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
yrtous_10yr_bins#rideshare_dummy						
US-Born#Yes	.8417432	.0055221	-26.26	0.000	.8309894	.8526362
0 to 10 years in US#No	.8482251	.0110168	-12.67	0.000	.8269051	.8700947
0 to 10 years in US#Yes	.6082315	.0181122	-16.70	0.000	.5737484	.6447871
11 to 20 years in US#No	.9657615	.0108944	-3.09	0.002	.9446431	.987352
11 to 20 years in US#Yes	.8288939	.0248661	-6.26	0.000	.7815624	.8790918
21 or more years in the US#No	1.010607	.0082425	1.29	0.196	.9945801	1.026891
21 or more years in the US#Yes	.8192937	.0197967	-8.25	0.000	.7813973	.8590279
age_categories						
25 to 34 years	.7876373	.0050059	-37.56	0.000	.7778868	.7975101
35 to 44 years	.745158	.0046194	-47.45	0.000	.7361589	.7542671
45 to 54 years	.8639557	.00509	-24.82	0.000	.8540369	.8739896
55 to 64 years	.8617105	.0051263	-25.02	0.000	.8517215	.8718166
NH_black	.8653356	.0061522	-20.34	0.000	.8533612	.877478
NH_asian	.9558273	.0085395	-5.06	0.000	.9392359	.9727117
NH_other	.9805419	.0087262	-2.21	0.027	.9635871	.997795
hispanic	1.034533	.0060815	5.78	0.000	1.022682	1.046521
no_children_in_hh	.8800007	.0033445	-33.64	0.000	.8734699	.8865803
hh_inc_25_to_50	1.383122	.0097084	46.21	0.000	1.364225	1.402282
hh_inc_50_to_100	1.645289	.01052	77.87	0.000	1.624799	1.666037
hh_inc_100_to_200	1.839869	.0120441	93.14	0.000	1.816414	1.863627
hh_inc_above_200	1.967403	.0157445	84.56	0.000	1.936785	1.998505
working_last_week	1.030698	.0037374	8.34	0.000	1.023399	1.038049
msacat						
MSA of 1 million or more, with rail	.8442192	.0065057	-21.97	0.000	.831564	.8570669
MSA of 1 million or more, and not in 1	.8615416	.0050343	-25.50	0.000	.8517307	.8714654
MSA less than 1 million	.9042505	.0044815	-20.31	0.000	.8955094	.9130769
cbsa NYC	.885083	.0090927	-11.88	0.000	.8674398	.9030851



Negative binomial regression

Number of obs = 158,674

LR chi2(29) = 6322.95

Dispersion = mean

Prob > chi2 = 0.0000

Log likelihood = -354035.04

Pseudo R2 = 0.0089

	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
pvtrips						
yrtous_10yr_bins#rideshare_dummy						
US-Born#Yes	.9596708	.0078287	-5.05	0.000	.9444488	.9751381
0 to 10 years in US#No	.8652927	.0137202	-9.13	0.000	.8388151	.892606
0 to 10 years in US#Yes	.7418147	.0237716	-9.32	0.000	.6966562	.7899004
11 to 20 years in US#No	.9361964	.0137318	-4.49	0.000	.9096657	.963501
11 to 20 years in US#Yes	.8856943	.0328056	-3.28	0.001	.8236749	.9523834
21 or more years in the US#No	.9322826	.0100509	-6.50	0.000	.9127899	.9521916
21 or more years in the US#Yes	.8754429	.026057	-4.47	0.000	.8258333	.9280327
age_categories						
25 to 34 years	1.239576	.010861	24.51	0.000	1.218471	1.261047
35 to 44 years	1.319585	.0112933	32.40	0.000	1.297635	1.341906
45 to 54 years	1.323598	.0110846	33.48	0.000	1.302049	1.345502
55 to 64 years	1.371674	.0114847	37.75	0.000	1.349348	1.394369
NH_black	.9499633	.0080234	-6.08	0.000	.9343672	.9658198
NH_asian	.9130551	.0106424	-7.80	0.000	.8924328	.9341539
NH_other	.9718717	.0112376	-2.47	0.014	.9500941	.9941486
hispanic	.9883609	.0076702	-1.51	0.131	.9734412	1.003509
no_children_in_hh	.8709524	.0043314	-27.78	0.000	.8625043	.8794833
hh_inc_25_to_50	1.160512	.0093232	18.53	0.000	1.142382	1.17893
hh_inc_50_to_100	1.191768	.0087544	23.88	0.000	1.174733	1.209051
hh_inc_100_to_200	1.219022	.0093458	25.83	0.000	1.200841	1.237478
hh_inc_above_200	1.243734	.0125167	21.67	0.000	1.219442	1.268509
working_last_week	1.163267	.0055005	31.98	0.000	1.152536	1.174098
msacat						
MSA of 1 million or more, with rail	.9463286	.0096325	-5.42	0.000	.9276364	.9653974
MSA of 1 million or more, and not in 1	1.012048	.0078967	1.53	0.125	.9966886	1.027644
MSA less than 1 million	1.041681	.0069754	6.10	0.000	1.028099	1.055443
cbsa NYC	.8361518	.0111922	-13.37	0.000	.8145008	.8583784

# Conclusions

- For immigrants, TNCs could play an important supplementary role in enabling multimodal travel, particularly by reducing driving and auto ownership
- People with disabilities have much lower takeup of TNCs, despite TNC potential to reduce barriers to travel; traditional taxis may be more accommodating