



# **NHTS Data and Transit Planning**

Xuehao Chu

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# Outline

- **Characteristics of the NHTS**
- **Data for Each Household**
- **Data for Each Person**
- **Data for Each Worker**
- **Data for Each Linked Trip**
- **The Florida Sample**
- **Florida Add-on Questions**
- **Some Results**
- **Conclusions**

# Characteristics of the NHTS

- Inventory of daily travel nationwide
  - Who, when, where, why, how
  - Annual travel
  - Linked trips
  - All modes
  - All purposes
  - All persons 5+
  - Similar in content to RHTS, which are rare & a snapshot
  - Smaller sample than ACS
  - Actual trips made rather than usual mode (ACS)
  - Most variables in on-board surveys (duration of use, alternative modes)
- No monetary cost of travel
  - No road type
  - No specific routes



# Data for Each Household

- *Number of people, drivers, workers and vehicles*
- *Income*
- Housing Type
- Owned or rented
- Number of cell phones\*
- Number of other phones
- *Race of reference person*
- *Hispanic status of reference person*
- Tract and Block Group characteristics
- Internet Use & Delivery to households\*\*

# Data for Each Person

- *Age/Gender*
- *Driver status*
- *Worker status/Primary activity*
- Internet use\*
- Home deliveries from Internet shopping\*\*
- Travel Disability / Effect of disability on mobility\*
- *Education level*
- Immigrant status\*
- Views on transportation
- *Annual miles driven*
- Incidence of public transit use in past month
- Incidence of motorcycle use in last month
- Incidence of walk and bike trips in past week
- Usual mode to school/Usual mode from school (children)\*\*

# Data for Each Worker

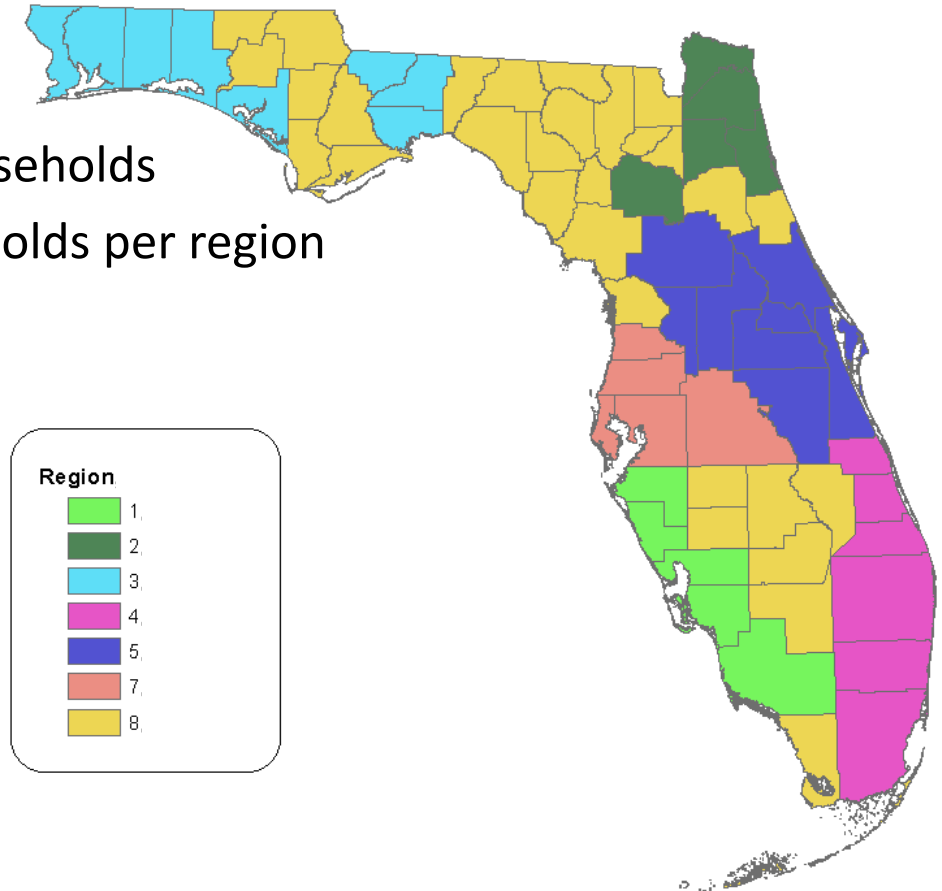
- *Full or part-time*
- More than one job
- Occupation (four categories)\*
- *Workplace location*
- *Usual mode to work*
- *Drive alone or carpool*
- *Usual distance to work*
- Usual time to work\*\*
- Work from home
- Usual arrival time at work
- Flexibility in work arrival time\*\*

# Data for Each Linked Trip

- Origin and Destination address (for Add-ons)
- *Time trip started and ended*
- *Distance*
- *Means of transportation:*
  - vehicle type*
    - if household vehicle, which one*
    - if transit, wait time*
    - if transit, access & egress modes\**
    - if transit, access time & egress time\**
- Interstate Use\*\*
- Tolls Paid\*\*
- *Trip Purpose*
- *Travel Party Size*

# The Florida Sample in 2009 NHTS

- 15,884 households
- Paid 2.95 million for add-on households
- Designed to have 1,200+ households per region
- 1,437 households in 2001 NHTS





# Florida Add-on Data in 2009 NHTS

- For workers:
  - For public transit to be a good option for your **commute**, which of the following would be most important to you?
- For persons 16+:
  - For public transit to be a good option for **the trips you make most frequently**, which of the following would be most important to you?
- For households:
  - How many months of the year do you live in Florida?
  - How long ago did you move to this home?
  - What is the most important reason you chose your current home location? Being close to public transit was one of 11 reasons.
  - What is the most important reason you have stayed in your current home? Being close to public transit was one of 14 reasons.

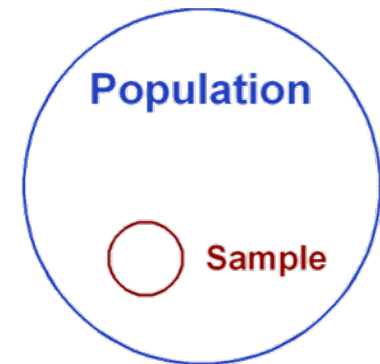
# Some Illustrative Results

- Public transit trips are those linked trips whose main mode is one of these:
  1. Local public bus
  2. Commuter bus
  3. Commuter train
  4. Subway/elevated train
  5. Streetcar/trolley
- Illustrative results are shown for:
  - Magnitude of sampling error
  - Size of transit markets
  - Transit's mode share
  - Distribution across all modes
  - Relative general mobility

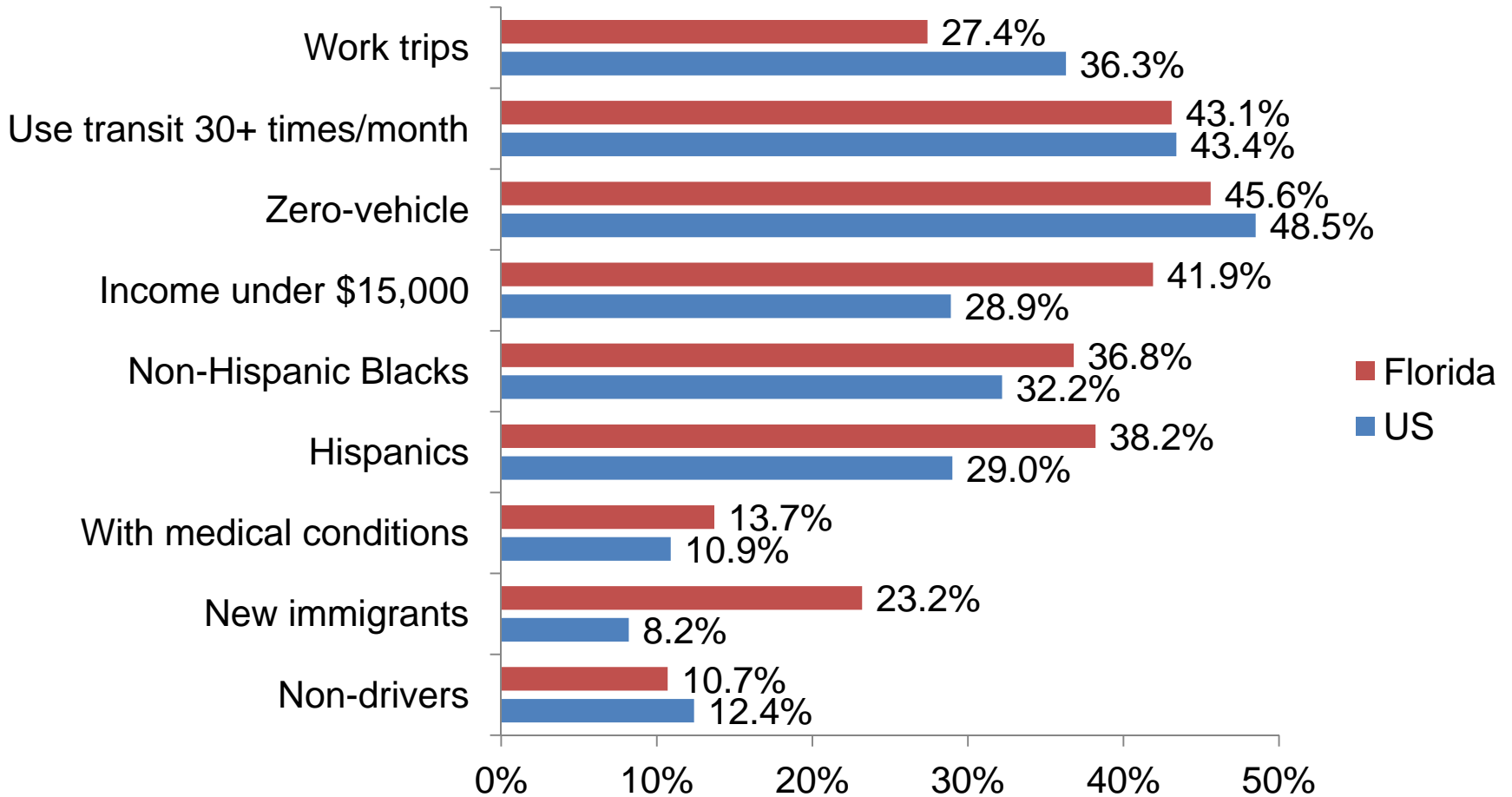
# Magnitude of Sampling Error

- Need to measure sampling error when precise estimates are important
- 100 sets of replicate weights are available
- Use software that can handle complex surveys (e.g. WesVar)
- Or use the NHTS online Table Designer
- The following illustrates the magnitude:

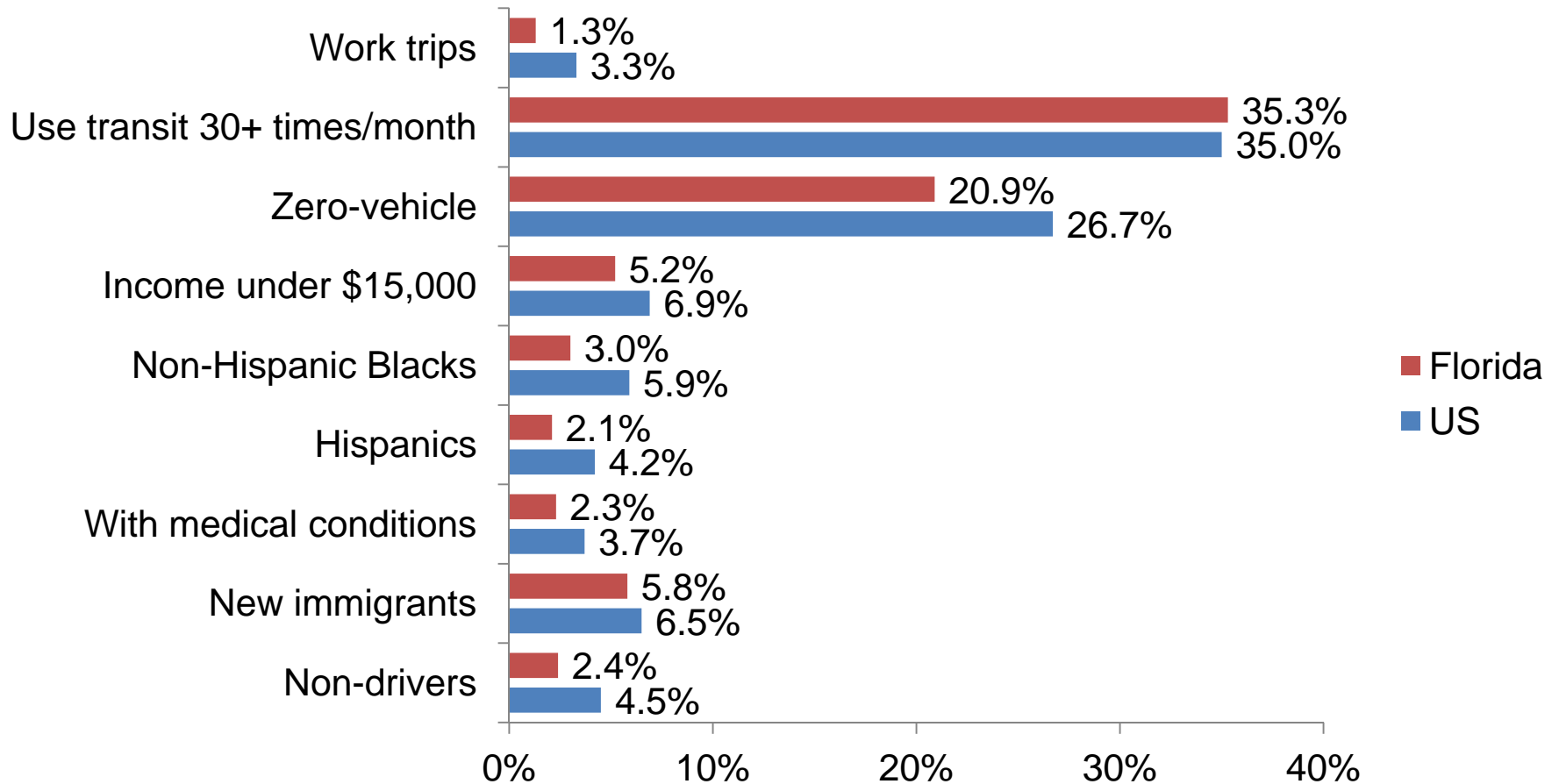
Population Segments	Sampled Transit Trips	Estimated Annual Transit Trips (millions)	95% Margin of Error (millions)	Standard Error (millions)	Coefficient of Variation (COV)
U.S. total	8,521	7,520	493.4	251.7	3.3%
Florida total	513	228	55.5	28.3	12.4%



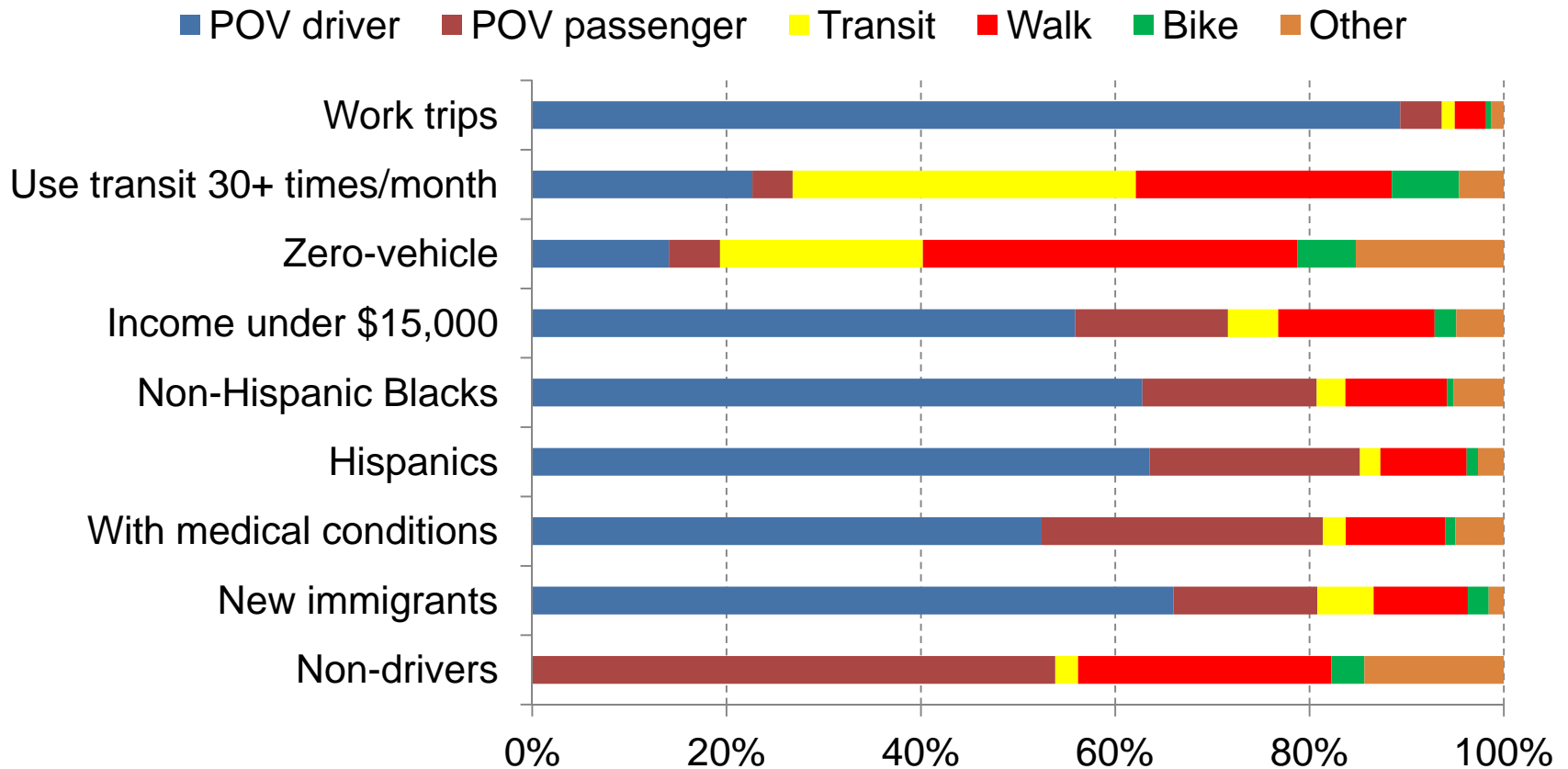
# Size of Transit Markets



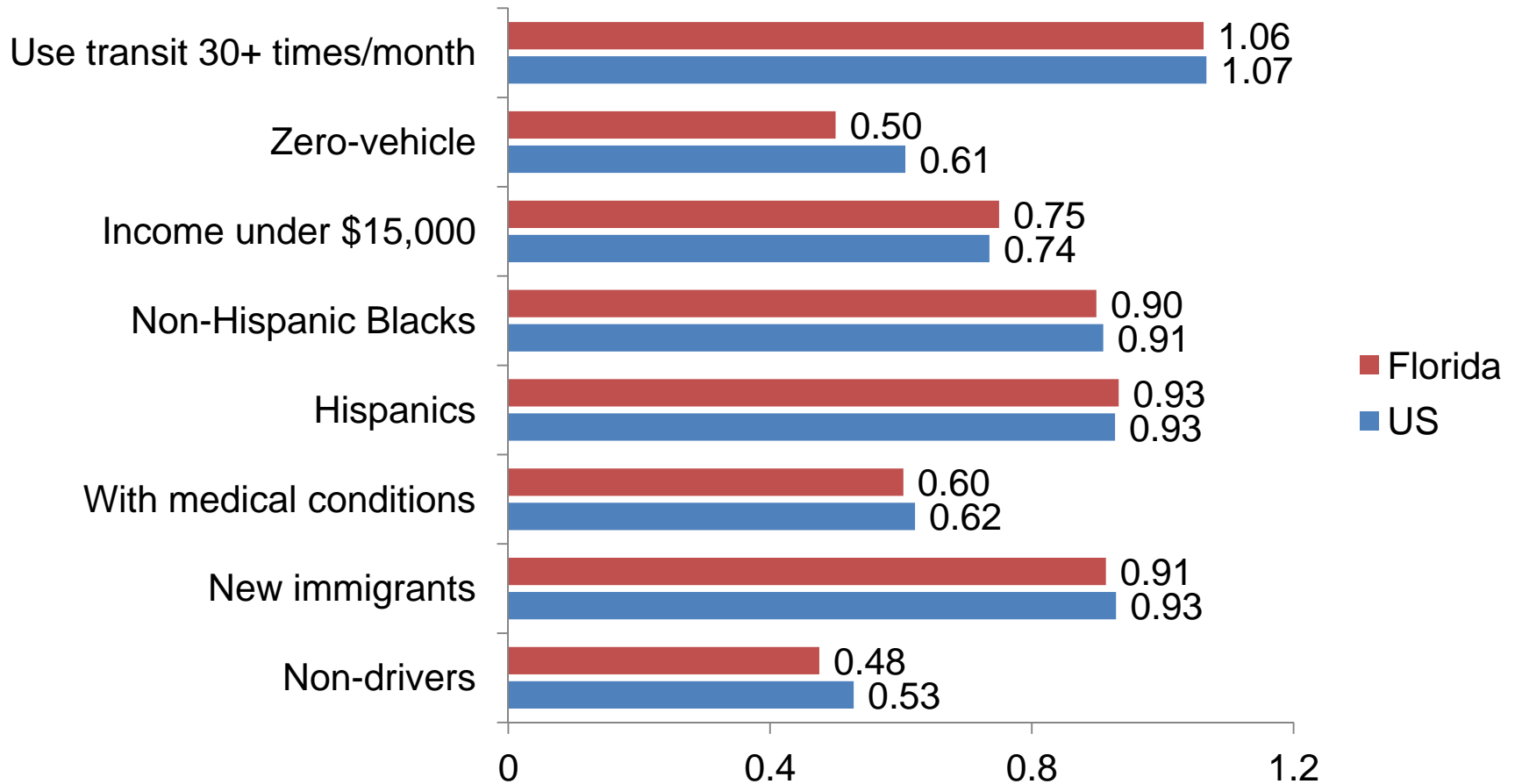
# Transit's Modal Share



# Distribution across All Modes

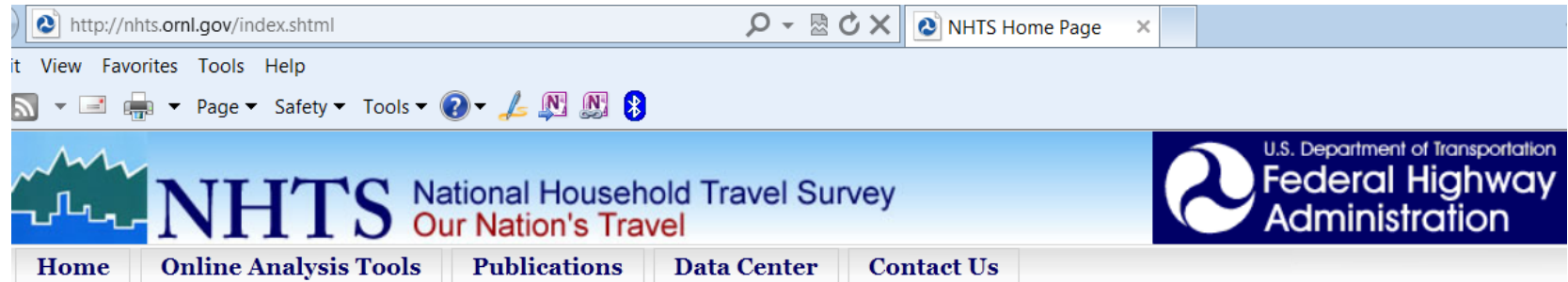


# Relative General Mobility



# Where to Get the NHTS Data?

- Nationwide data **without** geocoded locations or add-on data:
  - Official NHTS website



- Florida data **with** geocoded locations and add-on data:
  - Florida Department of Transportation



# Conclusions

- The 2009 NHTS is a rich source of data on the who, when, where, why, and how of daily travel by households in Florida and U.S.
- Florida sample is 10 times of previous ones
- Sufficient for statewide analysis of transit
- Careful for aggregate analysis at regional level
- Learn a lot about transit and alternatives