

BELOW POVERTY

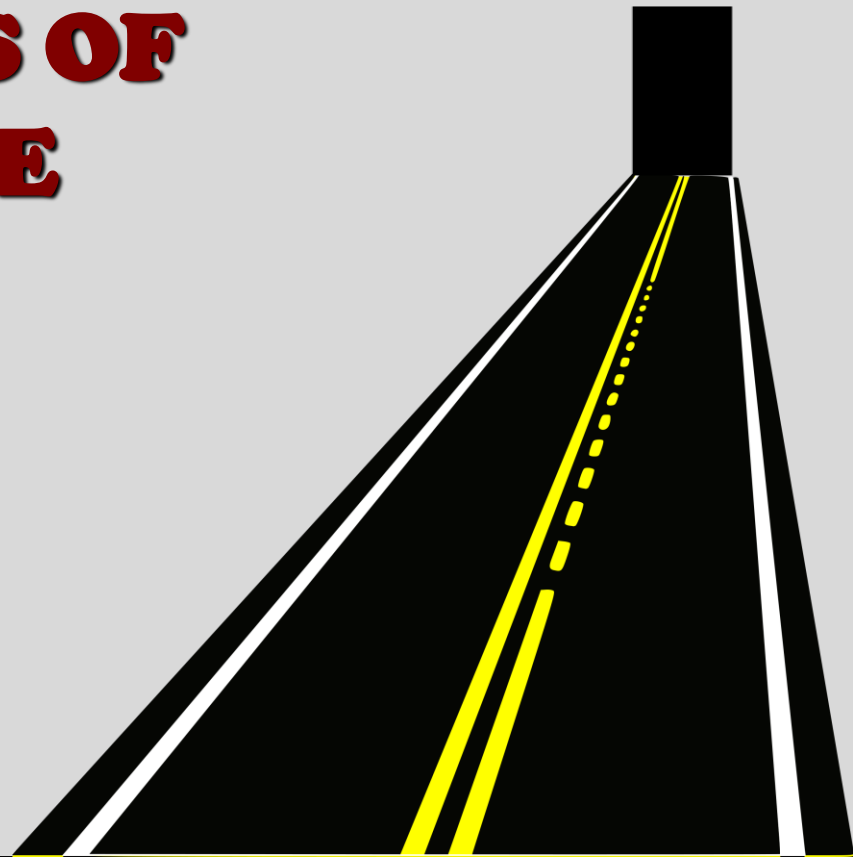


ABOVE POVERTY

TRAVEL PATTERNS OF THE LOW INCOME

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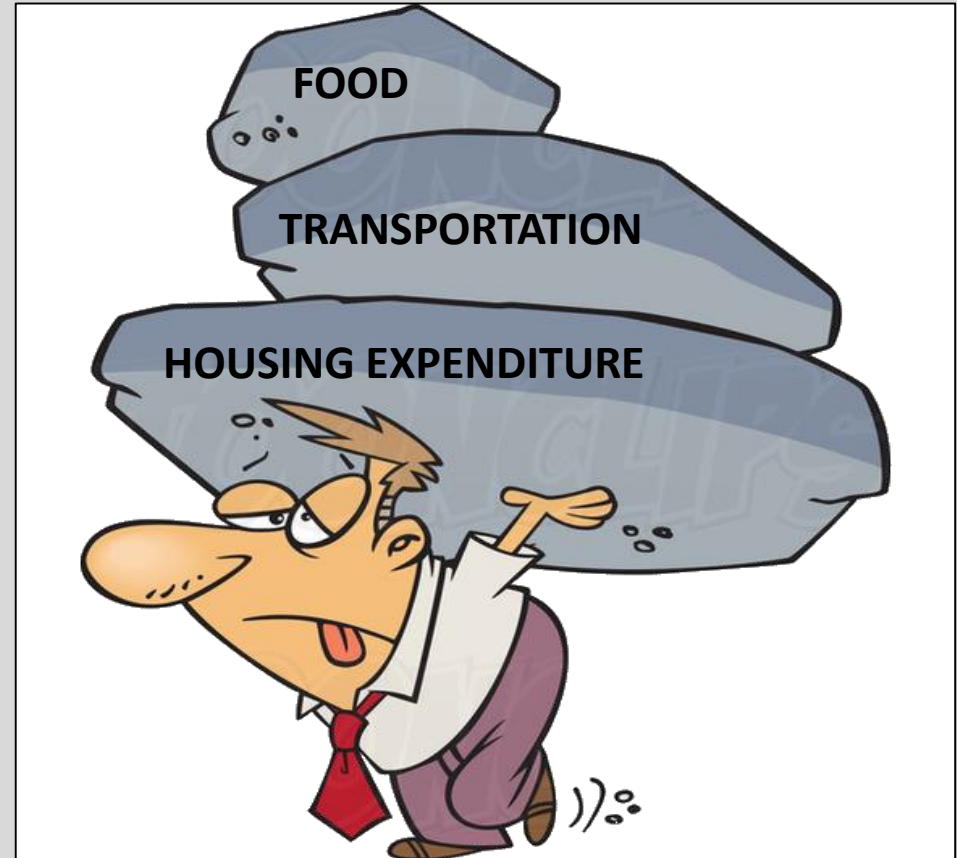


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- Classification of National Household Travel Survey households into Below and Above Poverty thresholds
- Average Travel Statistics
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BACKGROUND

- Transport constitutes 16% of an average household expenditure (*Consumer Expenditures–2016, Report*).
- A large part of it can be linked to the high vehicle ownership cost (*Miller, 2018*).
- Increasing transportation cost hinders mobility for low income population.
- 12.7 % of the U.S. population resides below poverty level (*Census Bureau's 2016 Estimates*)



Source: *Consumer Expenditures–2016 Report*.
Image: *Toonclips.com*

PREVIOUS STUDIES

Mobility challenges faced by low-income population have been mostly analyzed from the perspective of

- Access to employment opportunities due to spatial disparities. (Rogalsky et al., 2010; Blumenberg et al., 1998)
- Specific regions like urban or suburban areas or a specific city. (Hwang et al., 2017; Harrington et al., 2006.)

PURPOSE OF THIS STUDY

To explore the differences in travel behavior between Households Below Poverty (HBP) and Households Above Poverty (HAP) at the National level with focus on:

1. Daily Trip Rates and Distance Travelled
1. Mode of travel in relation to Vehicle ownership Pattern, Trip Purpose and Location.

The study uses the most recent National Household Travel Survey (NHTS) data of 2017 along with data from 2009 for trends.

CLASSIFICATION OF HOUSEHOLDS

Federal Poverty Guideline for 2017 and 2009



National Household Travel Survey : Household Size and Income

2017 FEDERAL POVERTY GUIDELINE

Persons in Family/Household = 1

Poverty Guideline = \$12,060

NHTS



HHSIZE = 1



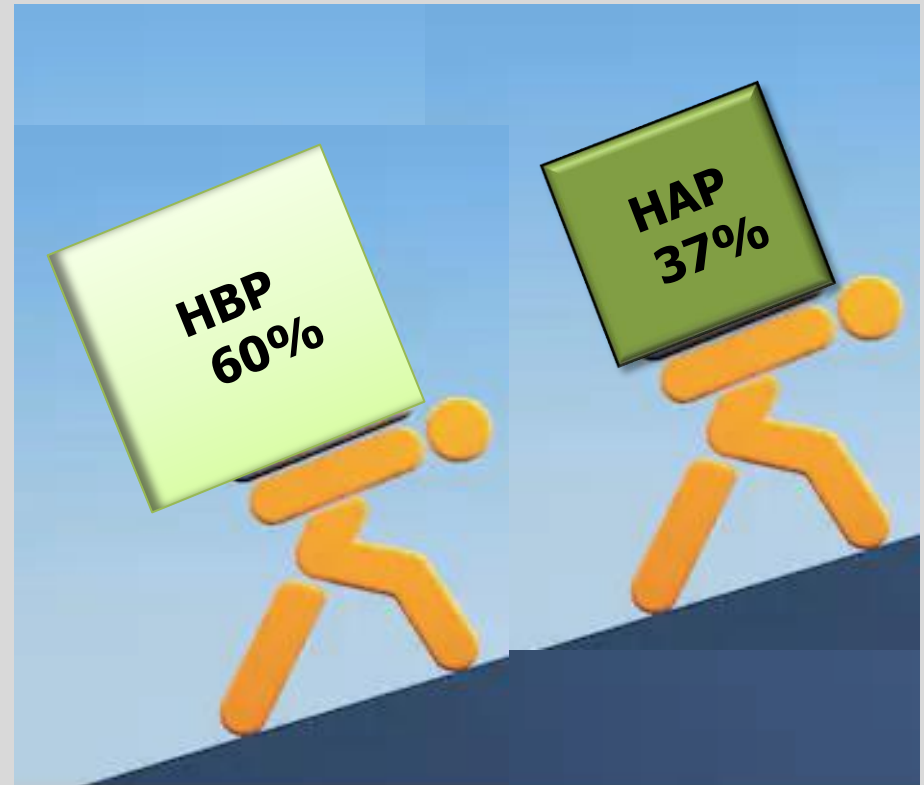
HHFAMINC CODE:
02 = "\$10,000 to \$14,999"

If hhsz=1 and (HHFAMINC>'-7'and HHFAMINC<'03') then Flag as Household Below Poverty

IS TRAVEL A FINANCIAL BURDEN?

According to 2017 NHTS,

- 60% of the HBP agreed that Travel is a financial Burden
- 14% of the HBP disagreed, while for HAP the percentage who disagreed was almost 30%.



*Source: FHWA NHTS 2017.
Image: Canstockphoto.com*

AVERAGE TRAVEL STATISTICS, 2017 NHTS

Below Poverty

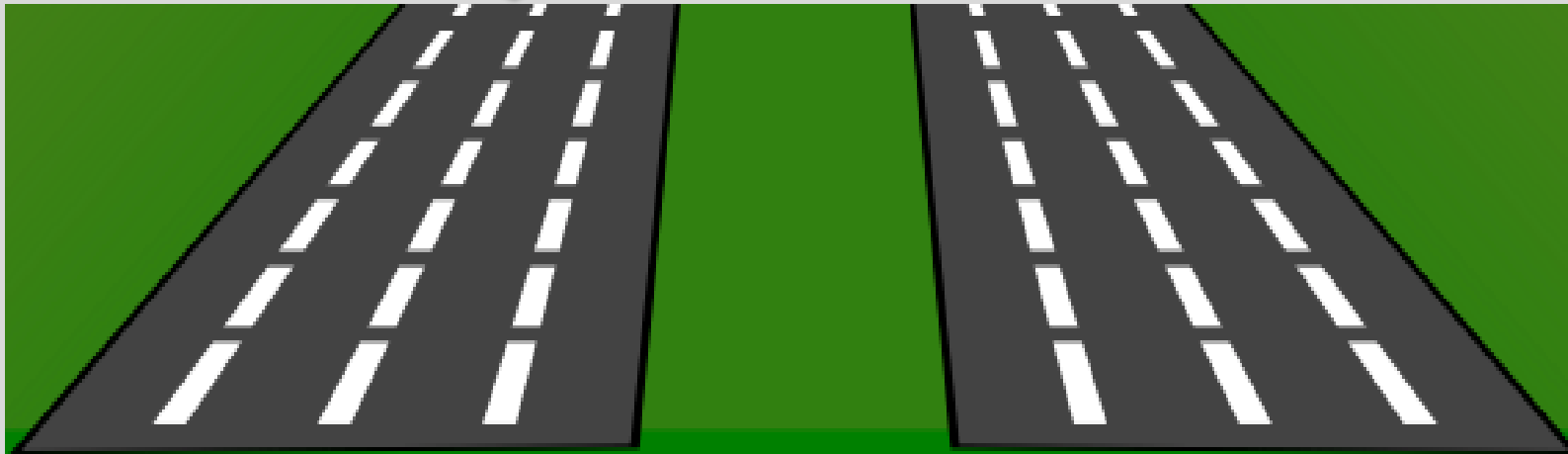
Daily Trip Rate for members of HBP – 2.9

Average Person Trip Length for trips made by members of HBP – 7.2 miles

Above Poverty

Daily Trip Rate for members of HAP – 3.5

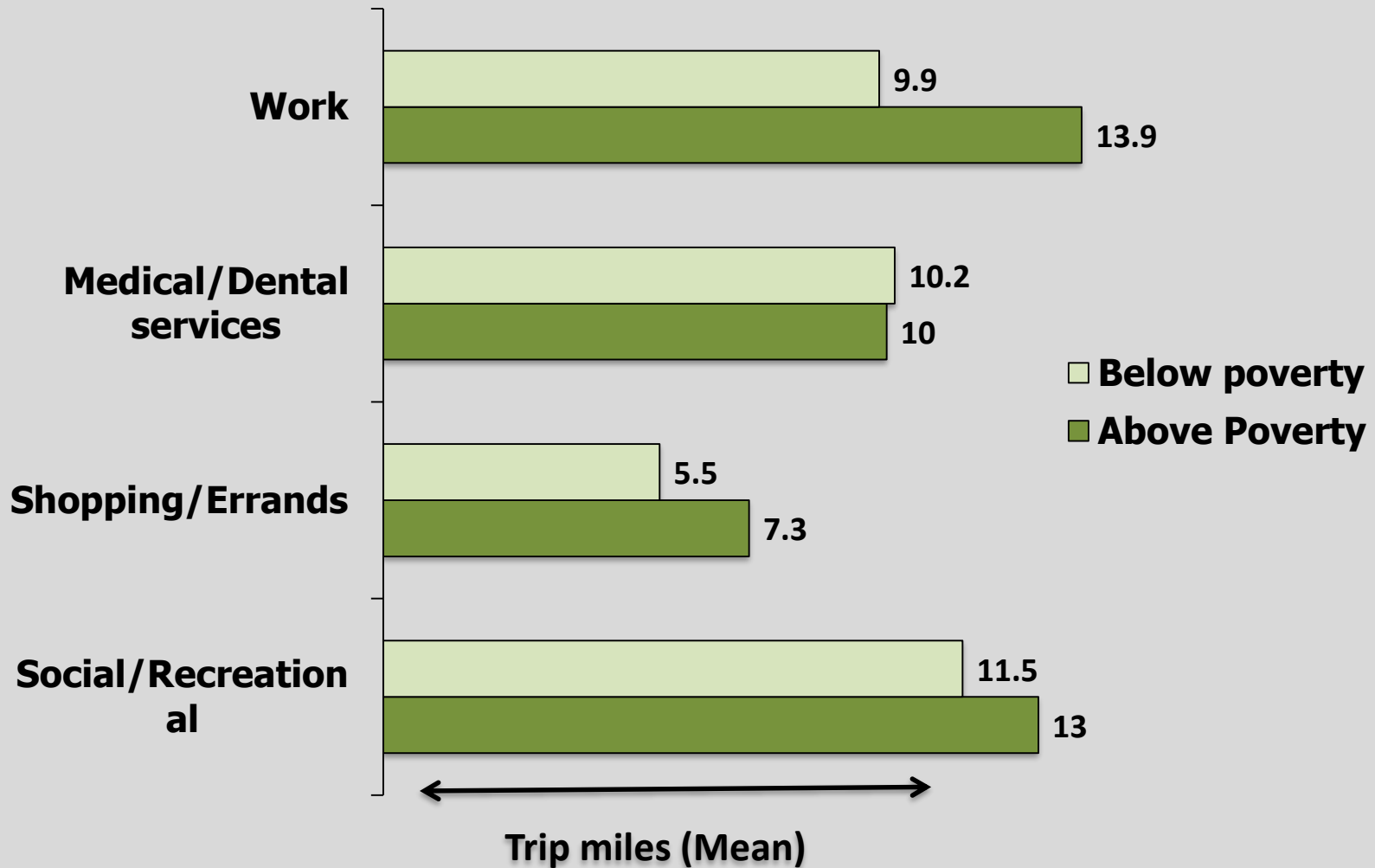
Average Person Trip Length for trips made by members of HAP – 11.3 miles



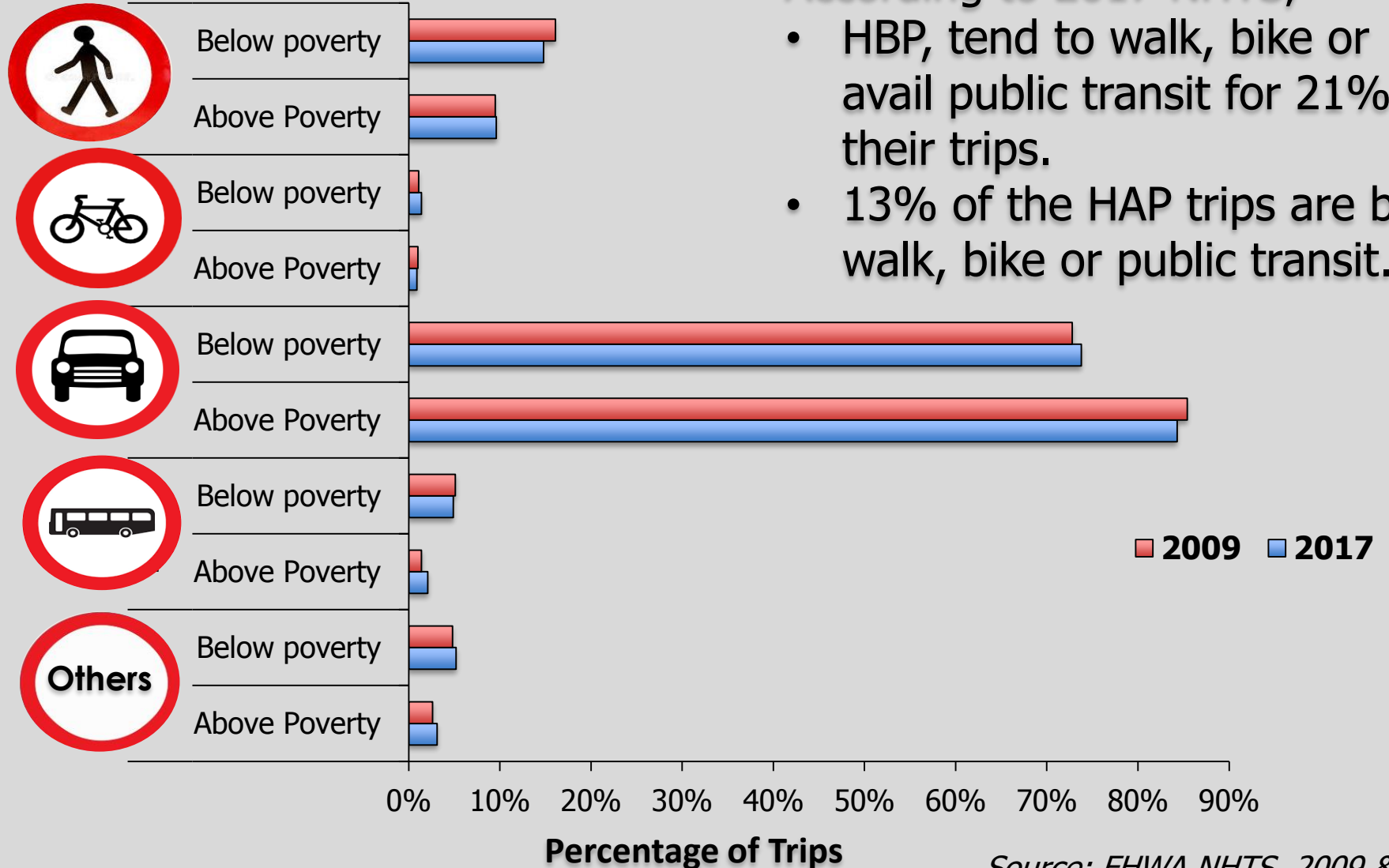
*Source: FHWA NHTS,
2017.*

Image: 123rf.com

AVERAGE PERSON TRIP LENGTH BY TRIP PURPOSE, 2017 NHTS



MODE SHARE (2009 - 2017 NHTS)

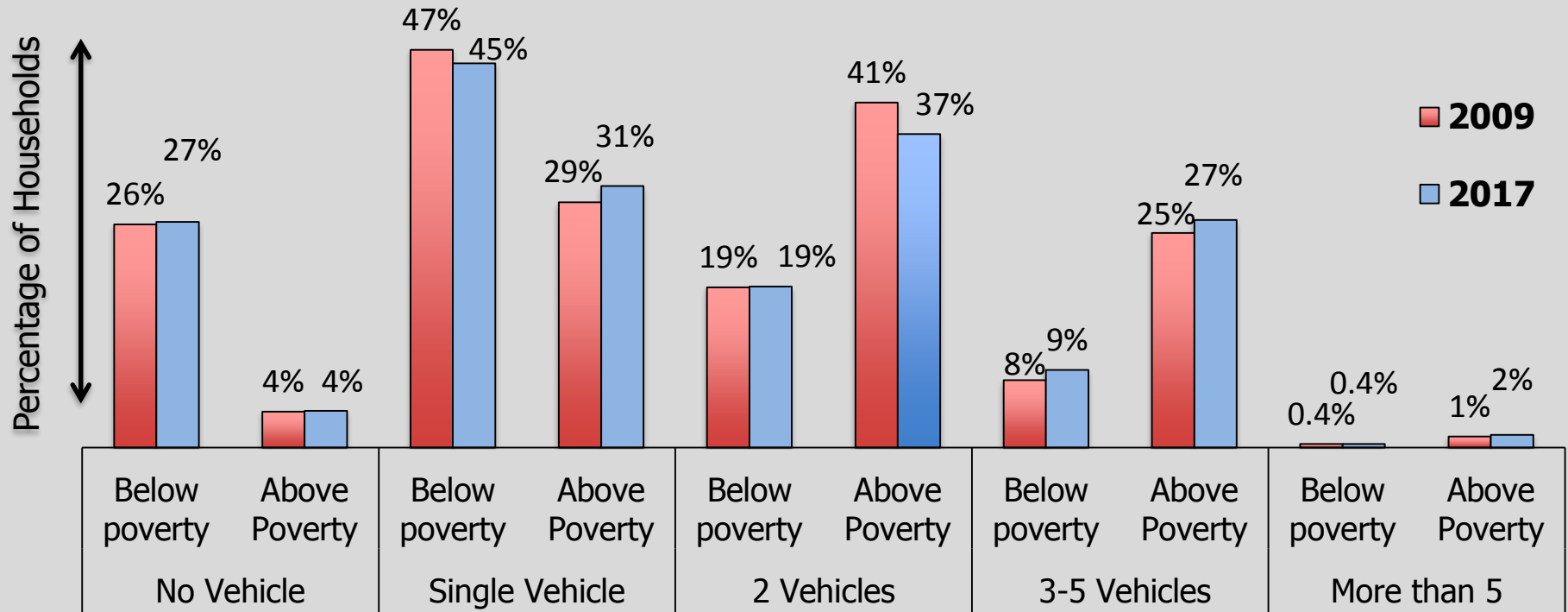


According to 2017 NHTS,

- HBP, tend to walk, bike or avail public transit for 21% of their trips.
- 13% of the HAP trips are by walk, bike or public transit.

■ 2009 ■ 2017

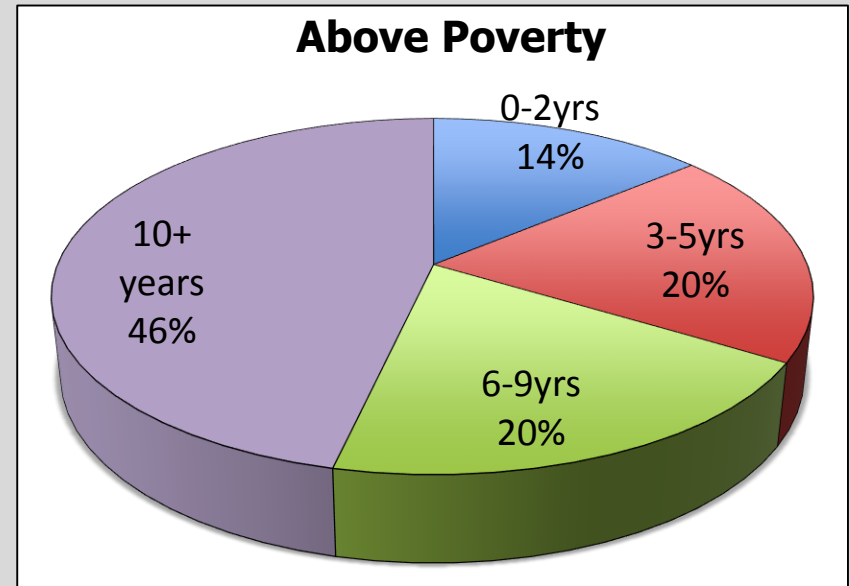
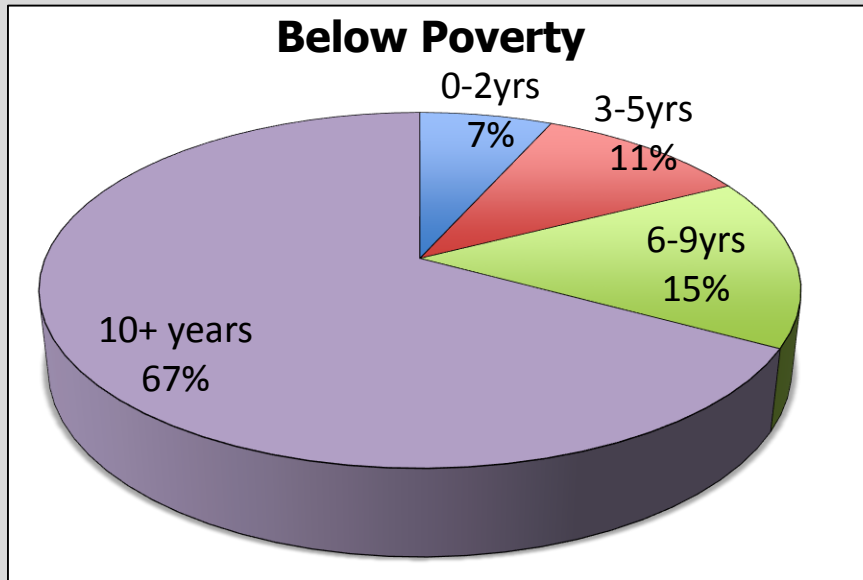
HOUSEHOLD OWNED VEHICLES (2009 - 2017 NHTS)



Source: FHWA NHTS, 2009 & 2017.

In 2017, 27% of HBP have no vehicles contrary to only 4% of HAP.

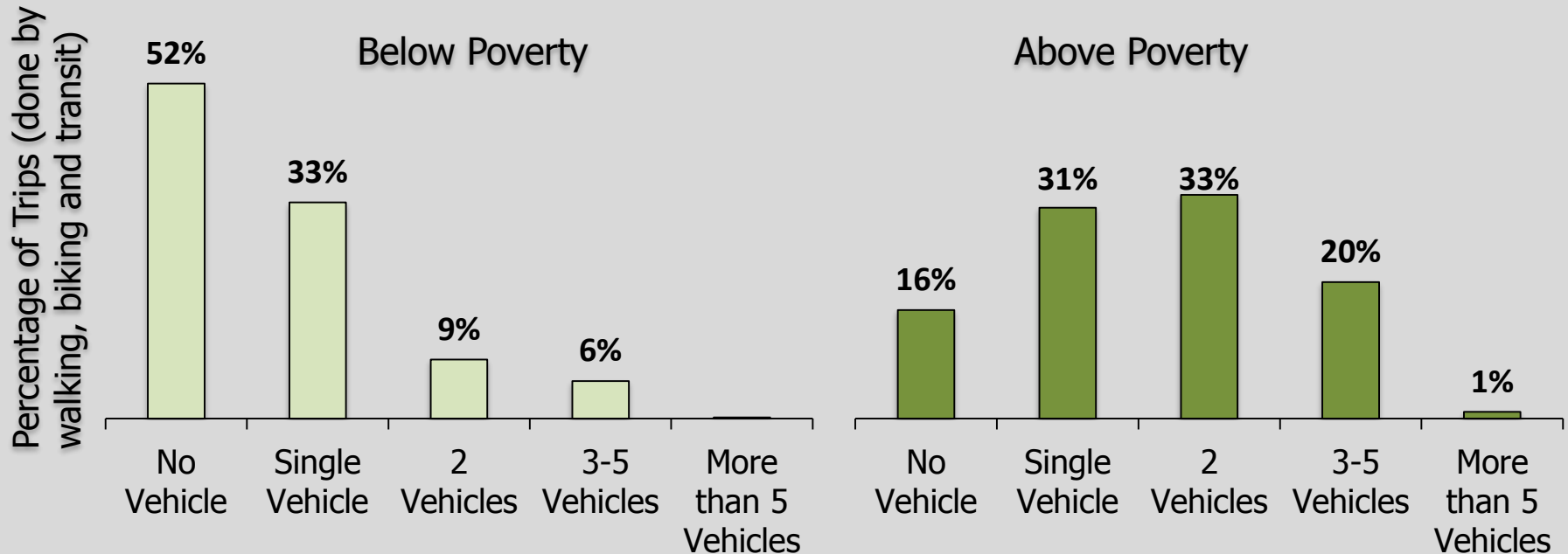
VEHICLE AGE, NHTS 2017



Source: FHWA NHTS, 2017.

- Mean Vehicle age for HBP was 13 years while for HAP it was 10 years
- 7% of the vehicles owned by HBP were found to be between 0-2 years old while 14% of the vehicles owned by HAP were between 0-2 years old vehicles

HOUSEHOLD VEHICLES AND MODE CHOICE, 2017 NHTS



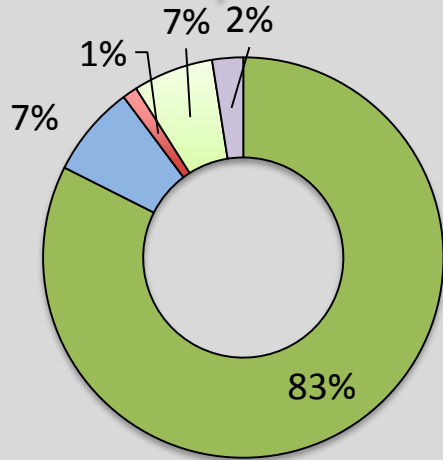
Source: FHWA NHTS, 2017.

Among the total walk, bike and public transit trips undertaken by

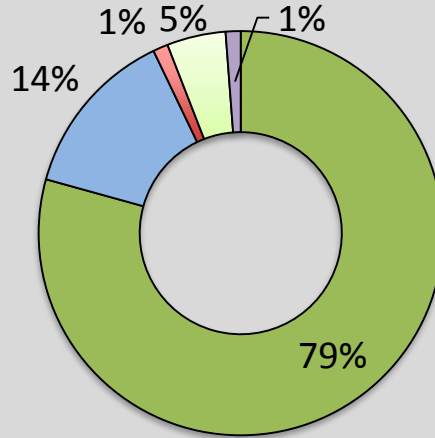
- HBP, 52% were done by people belonging to no vehicle households.
- HAP, 33% were done by members belonging to households with 2 vehicles.

DISTRIBUTION OF TRIPS BY MODE AND PURPOSE, 2017 NHTS

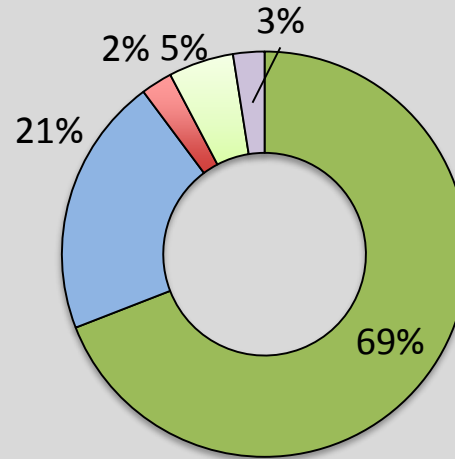
Below Poverty



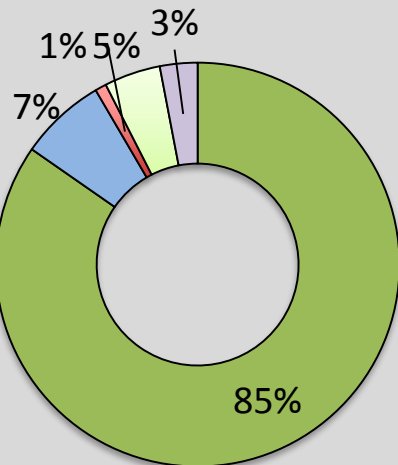
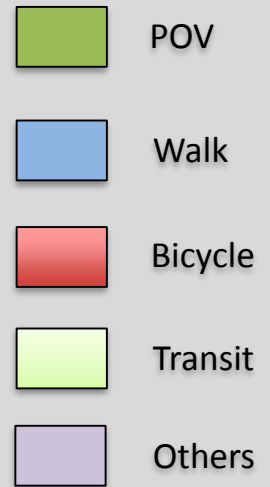
WORK



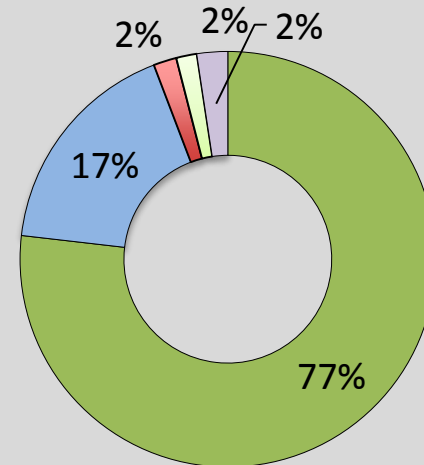
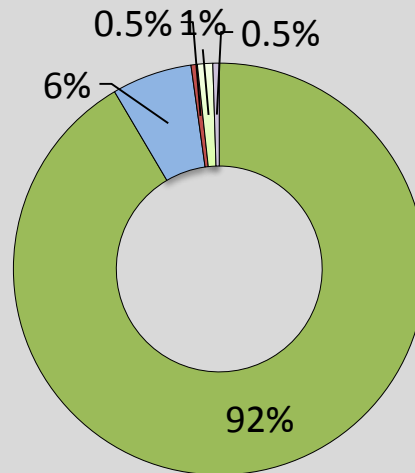
Shopping/Errands



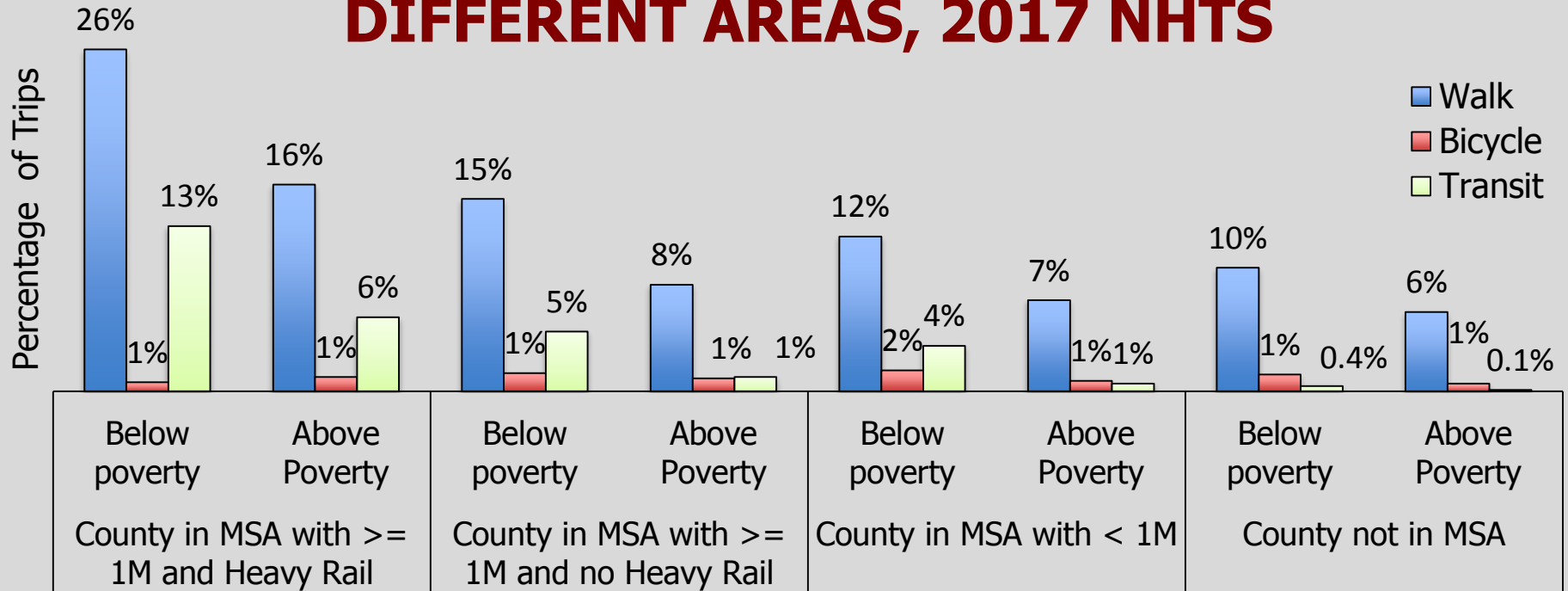
Social/Recreational



Above Poverty



WALKING, BIKING OR TRANSIT TRIPS BY DIFFERENT AREAS, 2017 NHTS

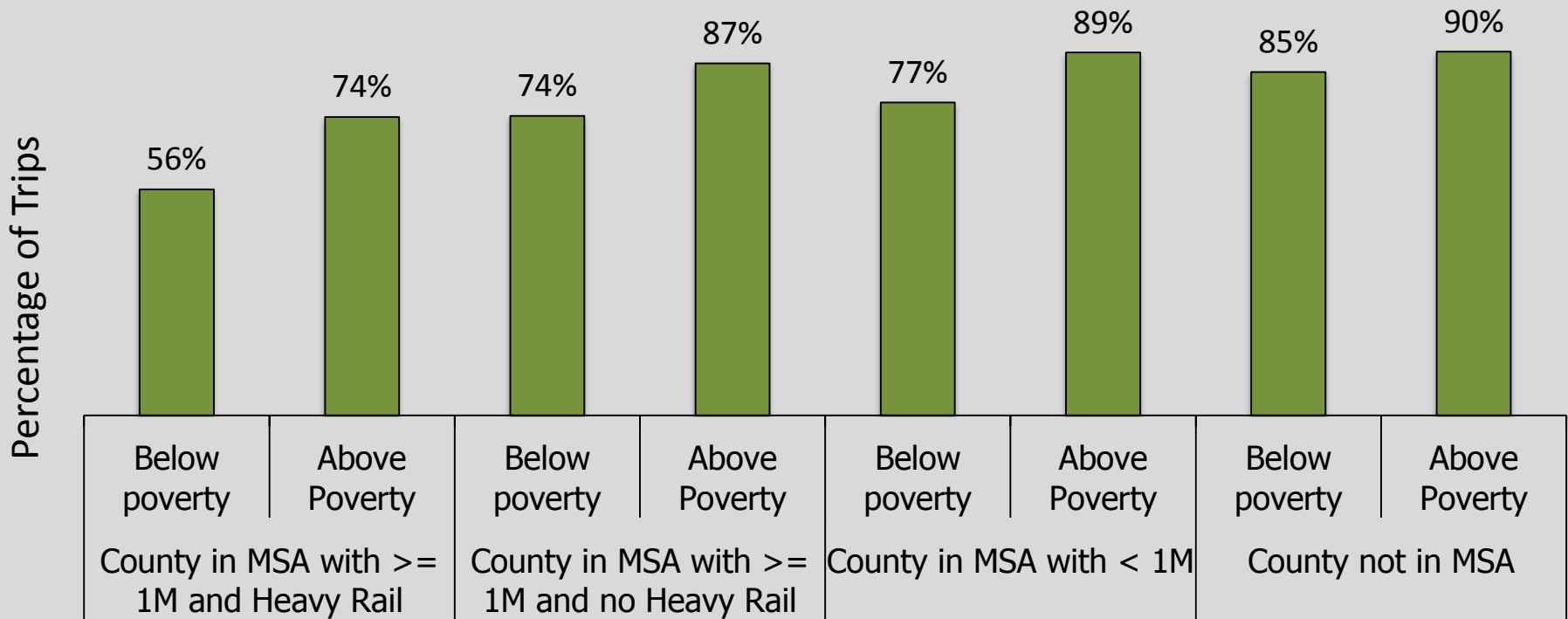


Source: FHWA NHTS, 2017.

For a county in MSA with more than 1million population and connected by heavy rail,

- HBP complete 40% of their total trips by walking, biking or using public transport.
- HAP level complete 23% of their trips by walk, bike or public transit.

POV TRIPS BY DIFFERENT AREAS, 2017 NHTS



Source: FHWA NHTS, 2017.

- In MSA's with population more than 1 million and connected by Heavy Rail, HAP use POV for almost 20% more trips than HBP.
- For counties not in MSA, the percentage of POV trips for HAP and HBP are comparable.

CONCLUSION

According to 2017 NHTS,

- Walk, bike or public transit usage is found to be higher for trips undertaken by HBP than their richer counter parts.
- 27% of the HBP are no household vehicles.
- Alternative transportation (walk, bike, public transit) usage is more for social-recreational or shopping trips in case of HBP.
- In large urban areas with rail, HBP use public transit for higher percentage of trips than HAP. But POV still remains the dominant mode.

WAY FORWARD: Further research in these areas will lead to more comprehensive understanding.

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THANK YOU