

Peak Travel in America: *Where Are We Going?*

Impact of Changing Demographics on the Transportation System

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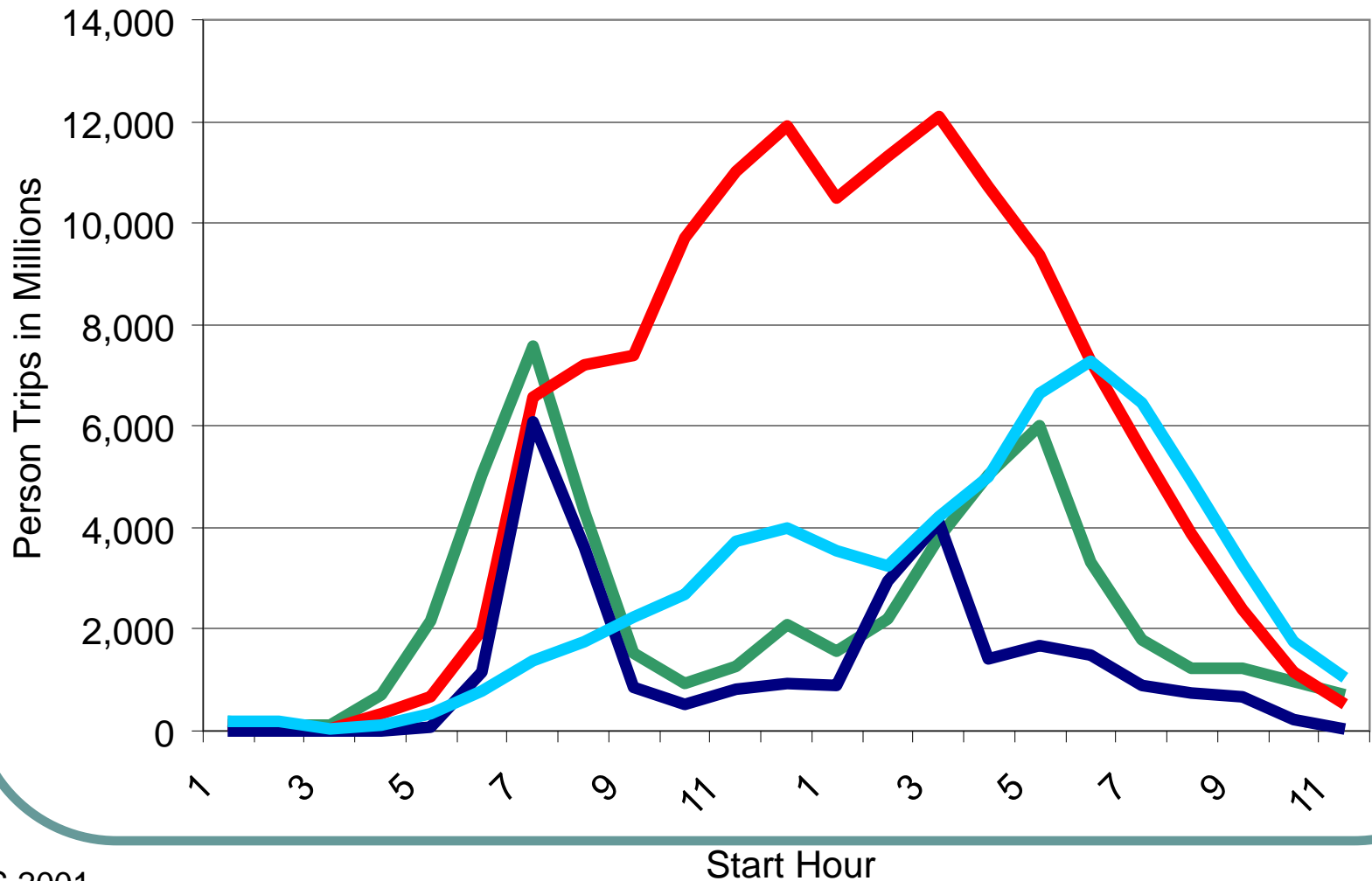
Background and Purpose

- ✓ Understanding Peak Travel is vital for finance, congestion, and air quality policies
- ✓ Historic changes in travel include more growth in non-work purposes, including during peak
- ✓ The effect of non-work travel on peak period is poorly understood
- ✓ Using consistent definitions of purpose allows trend analysis and illuminates this complex issue

Changing Demographics

- ✓ The mix of people traveling in the peak will change as the population changes
- ✓ People will continue to make trips for many purposes besides work during peak
- ✓ But the mix of purposes during peak will likely change as the population changes
- ✓ Retiring baby-boomers will not necessarily ease congestion

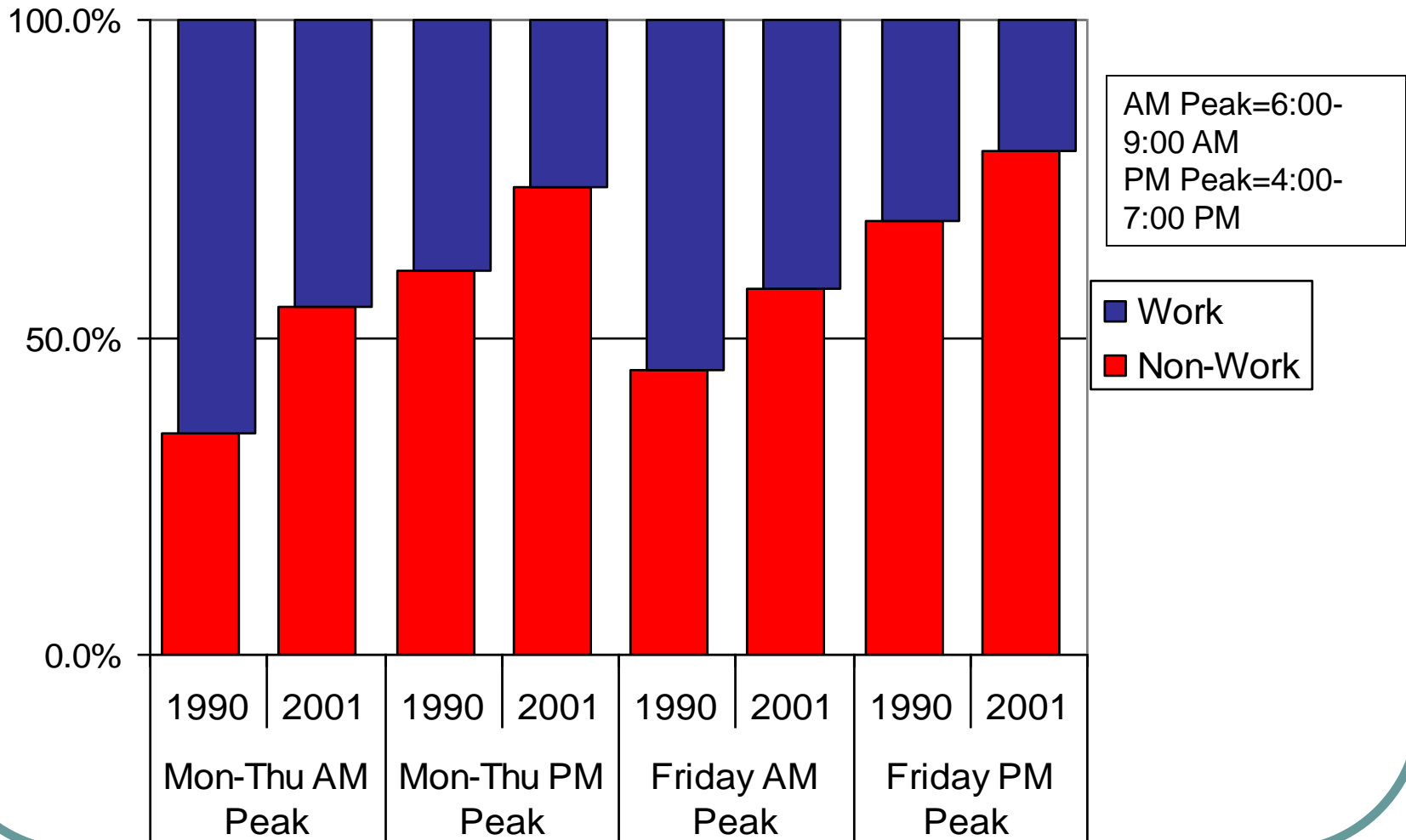
There is more to peak travel than work trips...



NHTS 2001

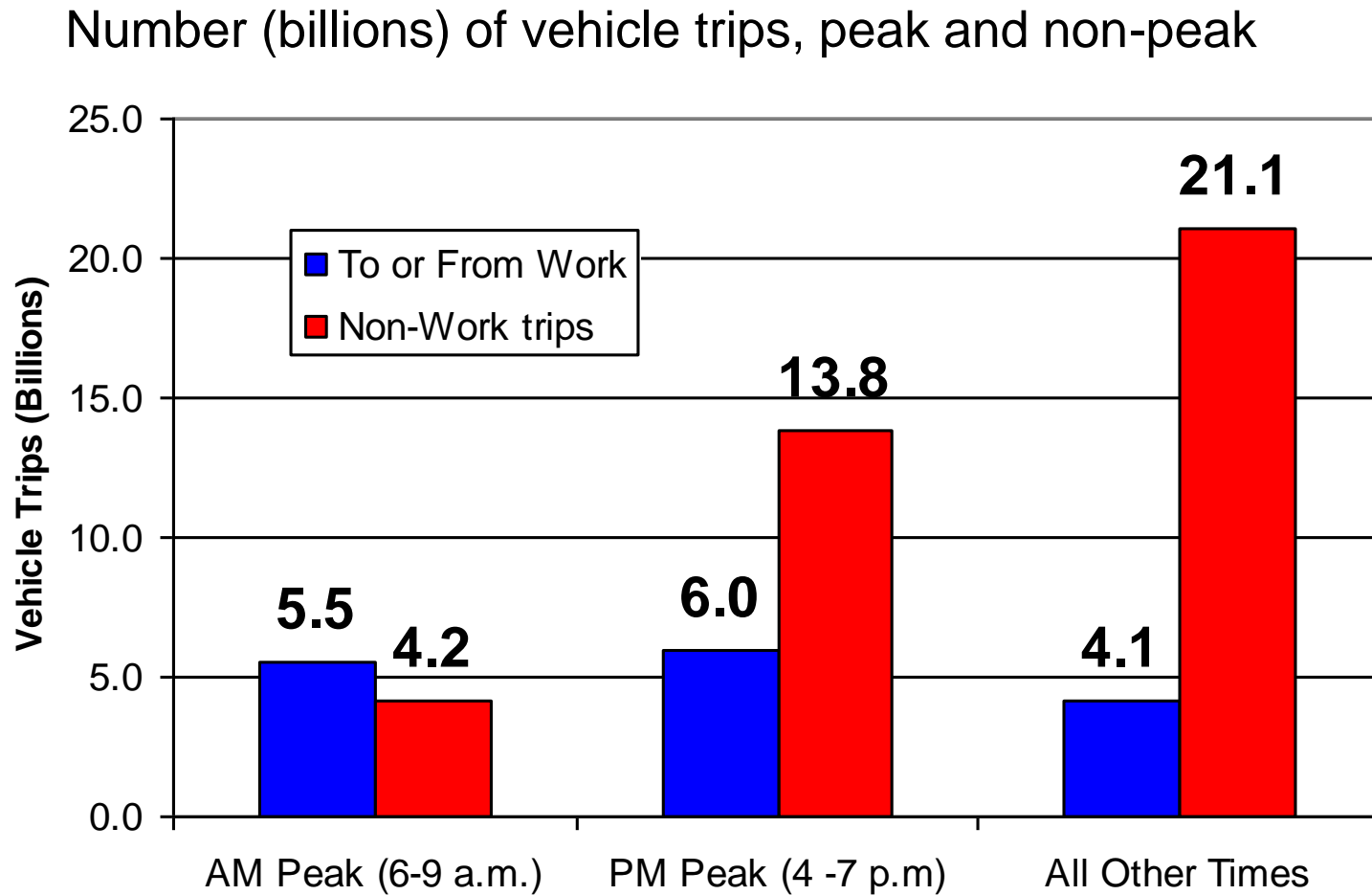
— Commute — Fam/Pers (inc. Shop) — School/Ch — Soc/Rec

Trends show that non-work travel during the peak is increasing...



Source: NHTS Data Series ("WHYTRP90")

Even in the most congested areas, non-work travel occurs in the peak...



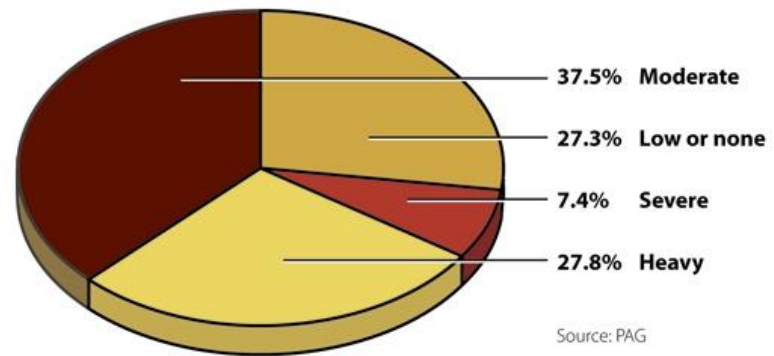
Source: 2001 NHTS, All vehicle trips, weekdays, in TTI's 13 most congested metro areas

How much of weekday peak vehicle travel is really necessary?

HOW IT WORKS:



Percent of Vehicle Miles Traveled Under Congested Roadway Conditions in 2005



Let's untangle weekday peak travel...

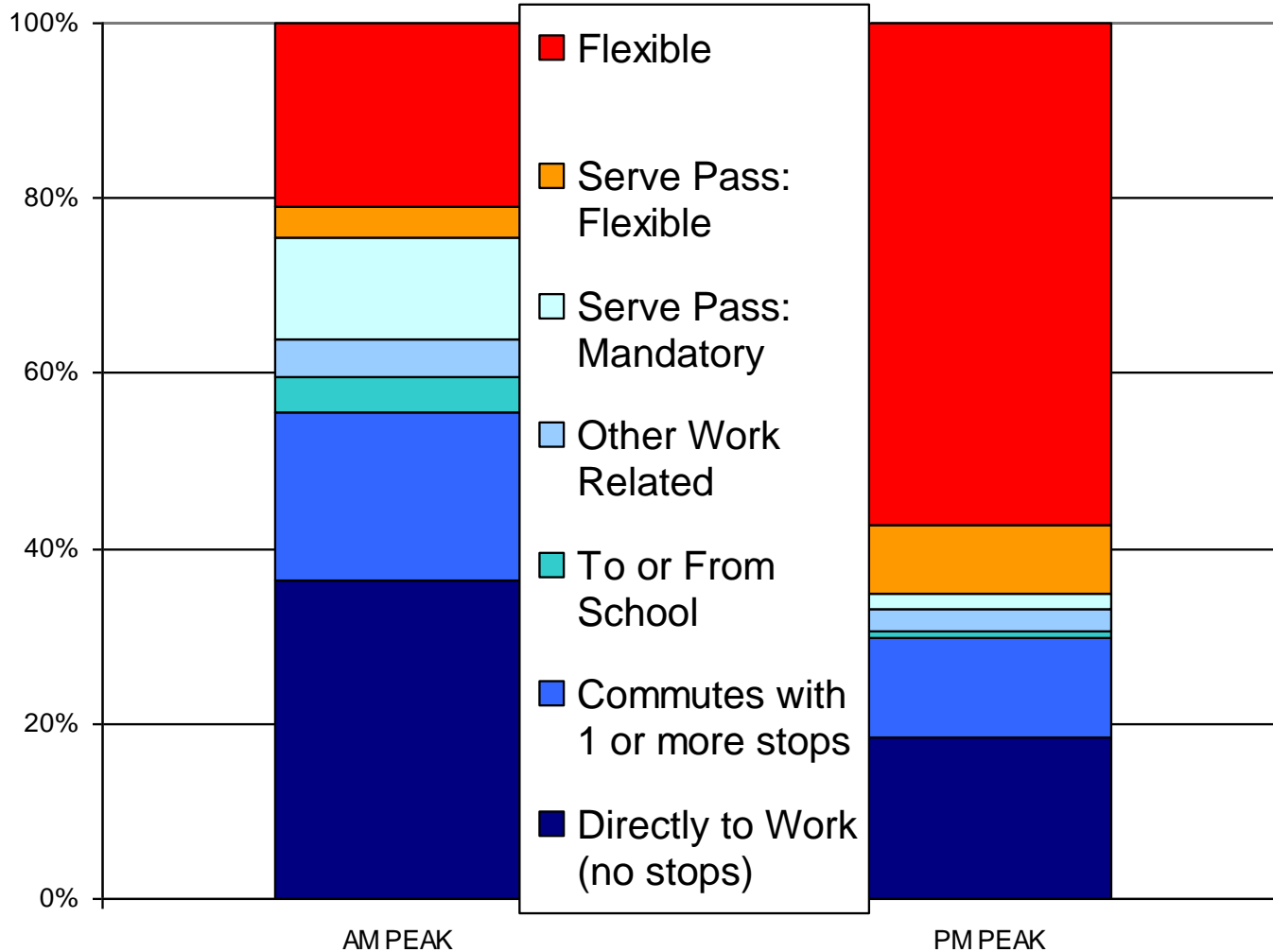
Divide peak period vehicle travel into:

- 'Mandatory' (work, work-related, and school),
- 'Flexible' (shopping/errands, medical, soc/rec), and
- 'Serve Passenger' (may be either, depending on passenger's purpose)

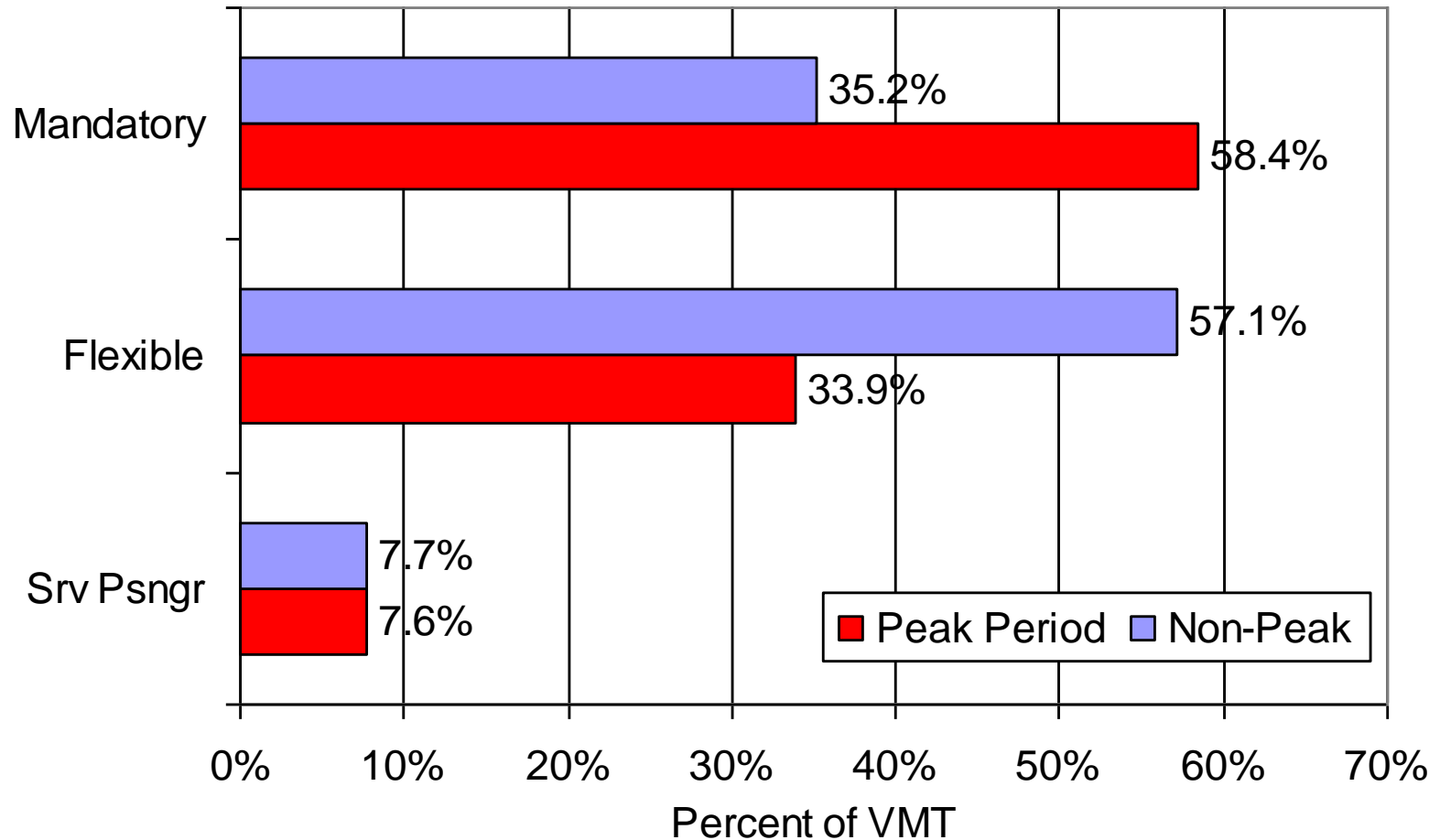
These are the detailed purposes and percent of all trips in each category...

Mandatory		Flexible	
Go to work (tours*)	59.36	Buy goods: Groceries/clothing/hardware	38.84
Return to Work	16.64	Visit friends and relatives	26.20
Other work related	16.06	Go to gym/exercise/sports	21.23
Attend school	4.79	Get/eat meal	18.85
Attend meeting/bus. Trip	1.82	Buy services: video/dry cleaner/post office/car service/bank	14.32
Other School	1.34	Family and personal	11.46
		Go out to entertainment/sports event/bar	9.12
Work Tours include work trips chained with incidental stops for purposes listed as 'Flexible'		General Shopping/errands	8.95
		Medical/dental	6.82
		Buy gas	6.17
		Coffee/ice cream/snacks	5.12

Results: 25% of am peak and 65 % of pm peak vehicle trips are 'flexible'



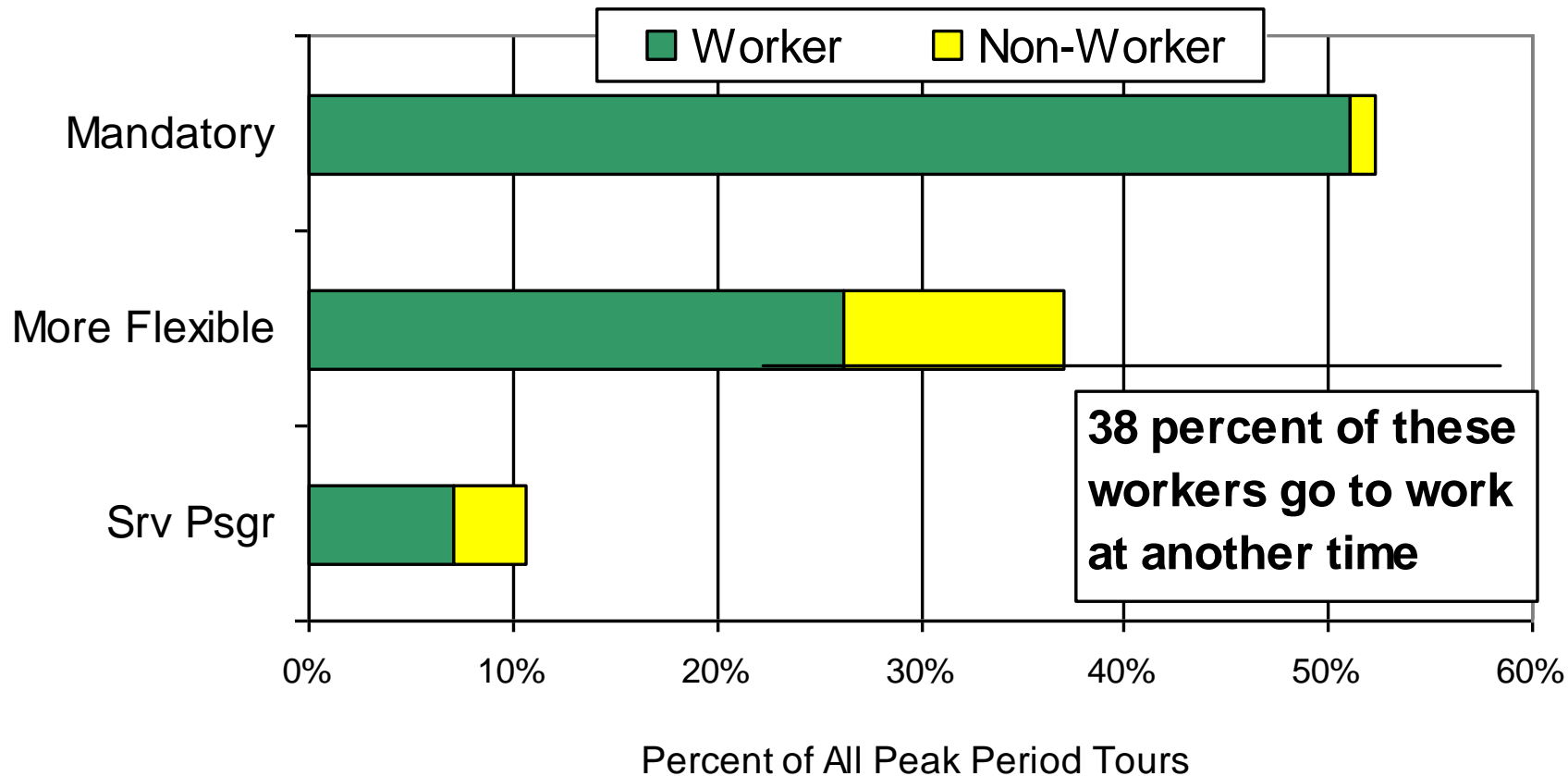
Altogether, nearly 60 percent of peak vehicle *miles* are 'Mandatory' (AM and PM Combined)



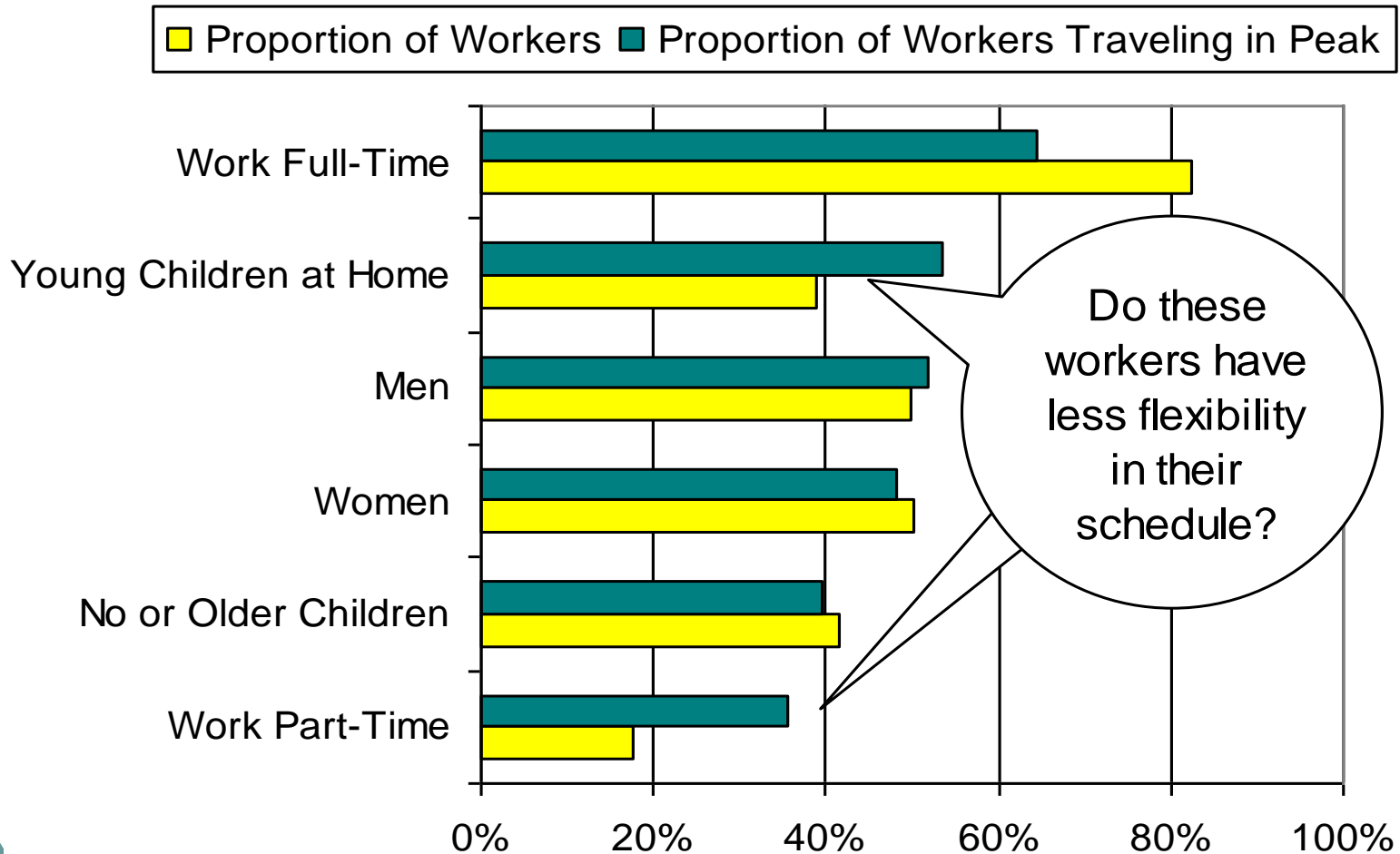
Who is traveling for mandatory and flexible purposes during peak?



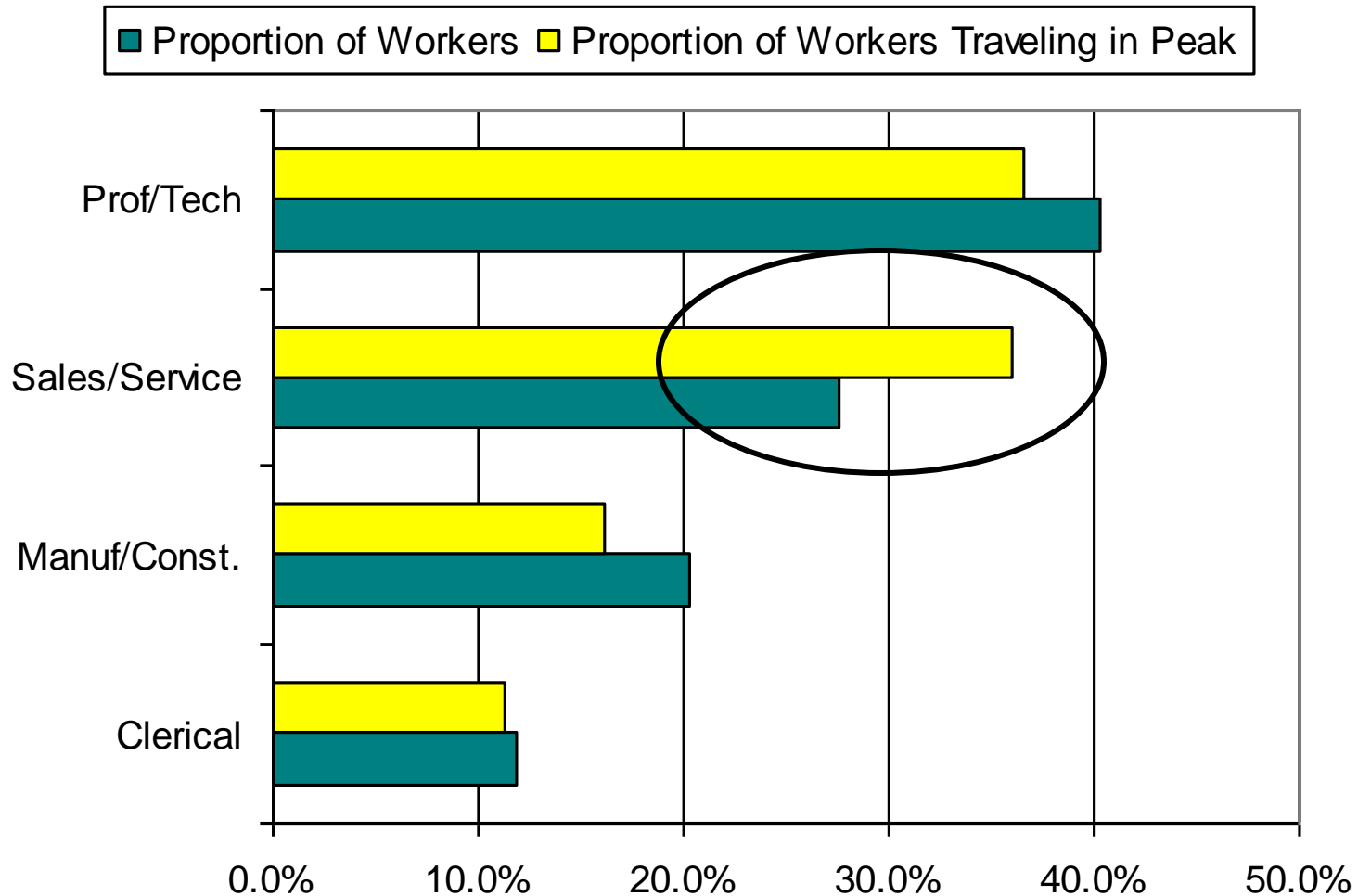
The majority of peak vehicle trips are made by workers, whether 'mandatory' or 'flexible'



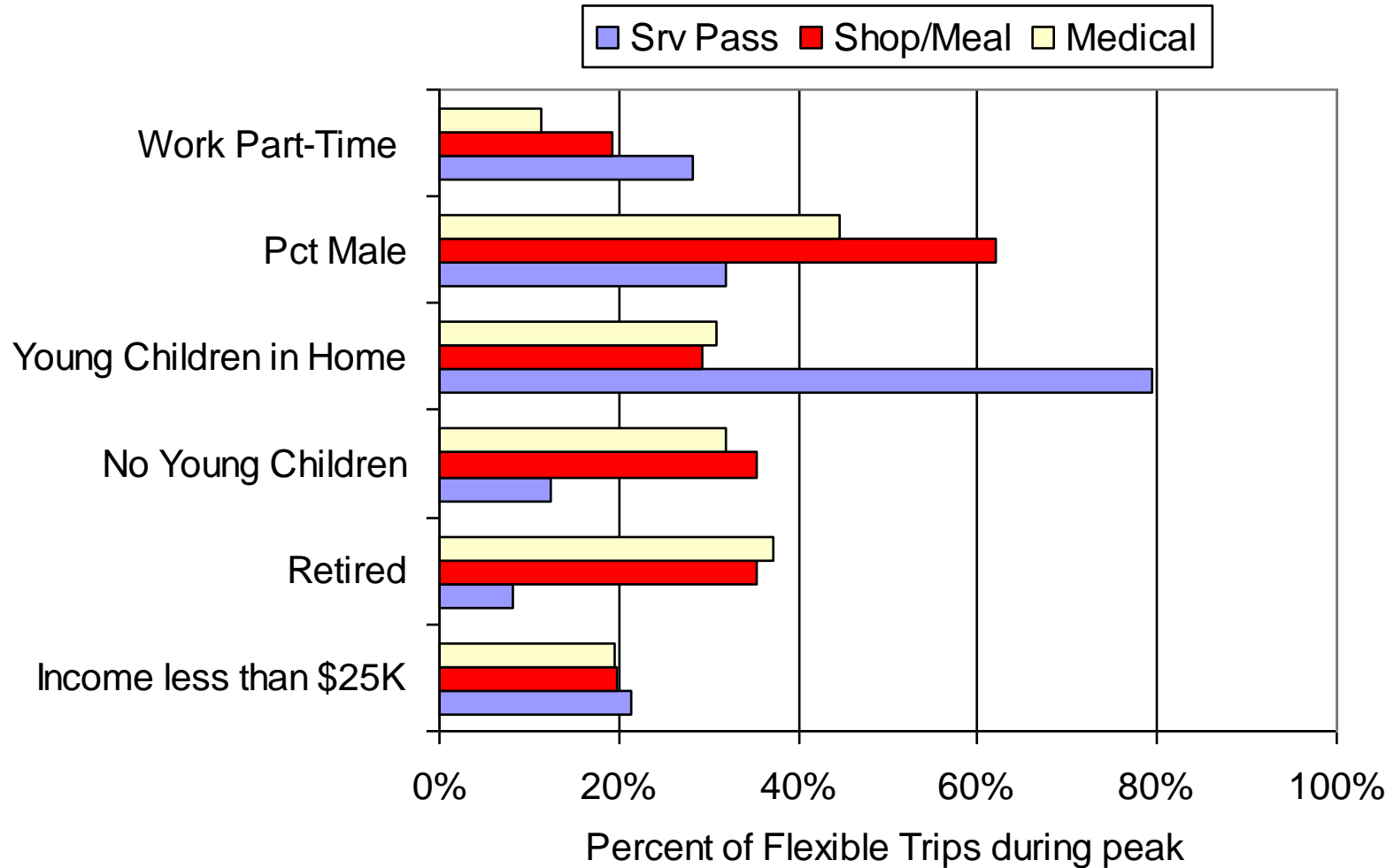
Some workers may have less flexibility in their schedules...



Workers in Sales and Service are more likely to be peak travelers...

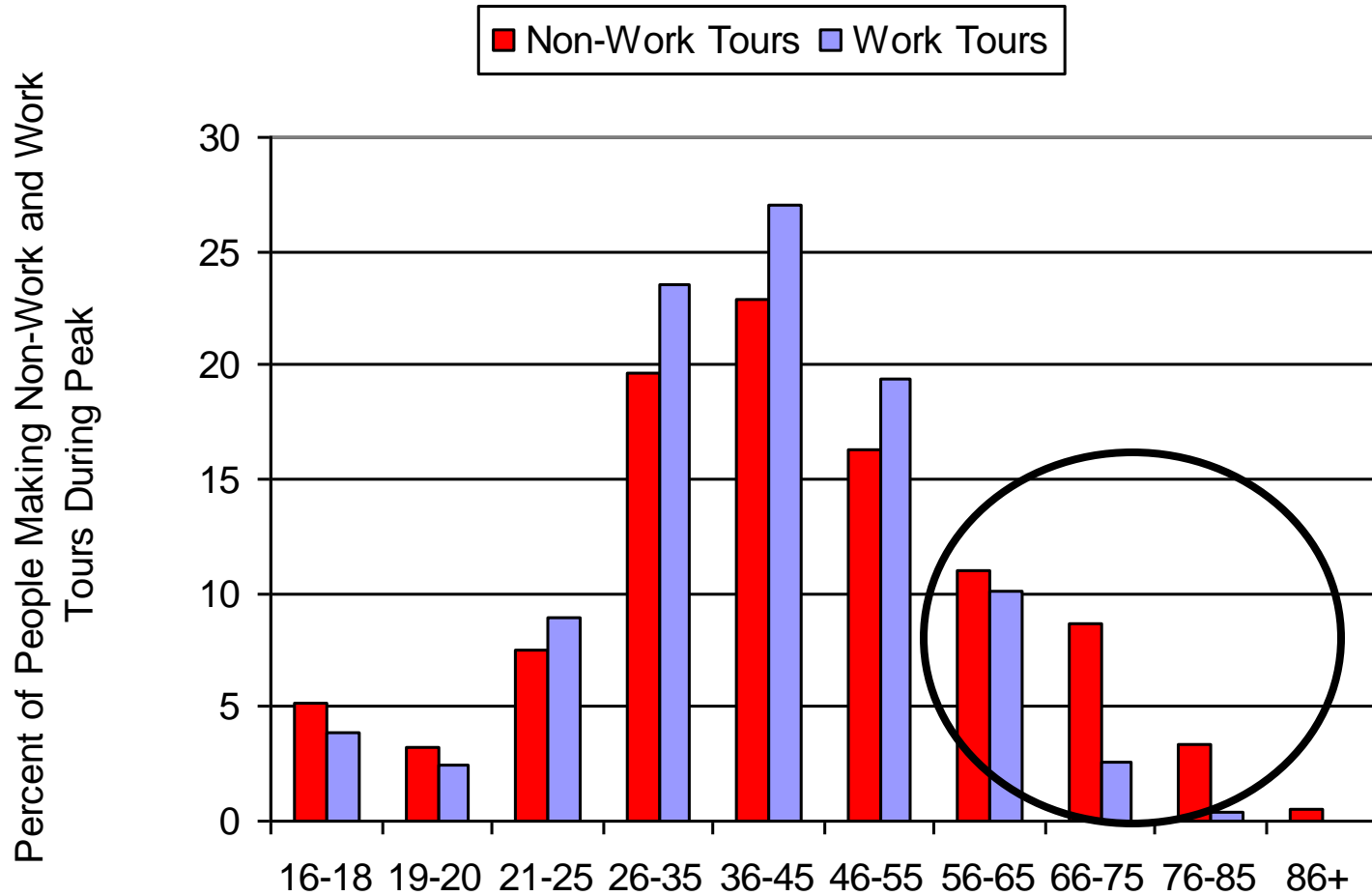


Men are more likely to shop/eat meals, retired people travel for medical purposes...

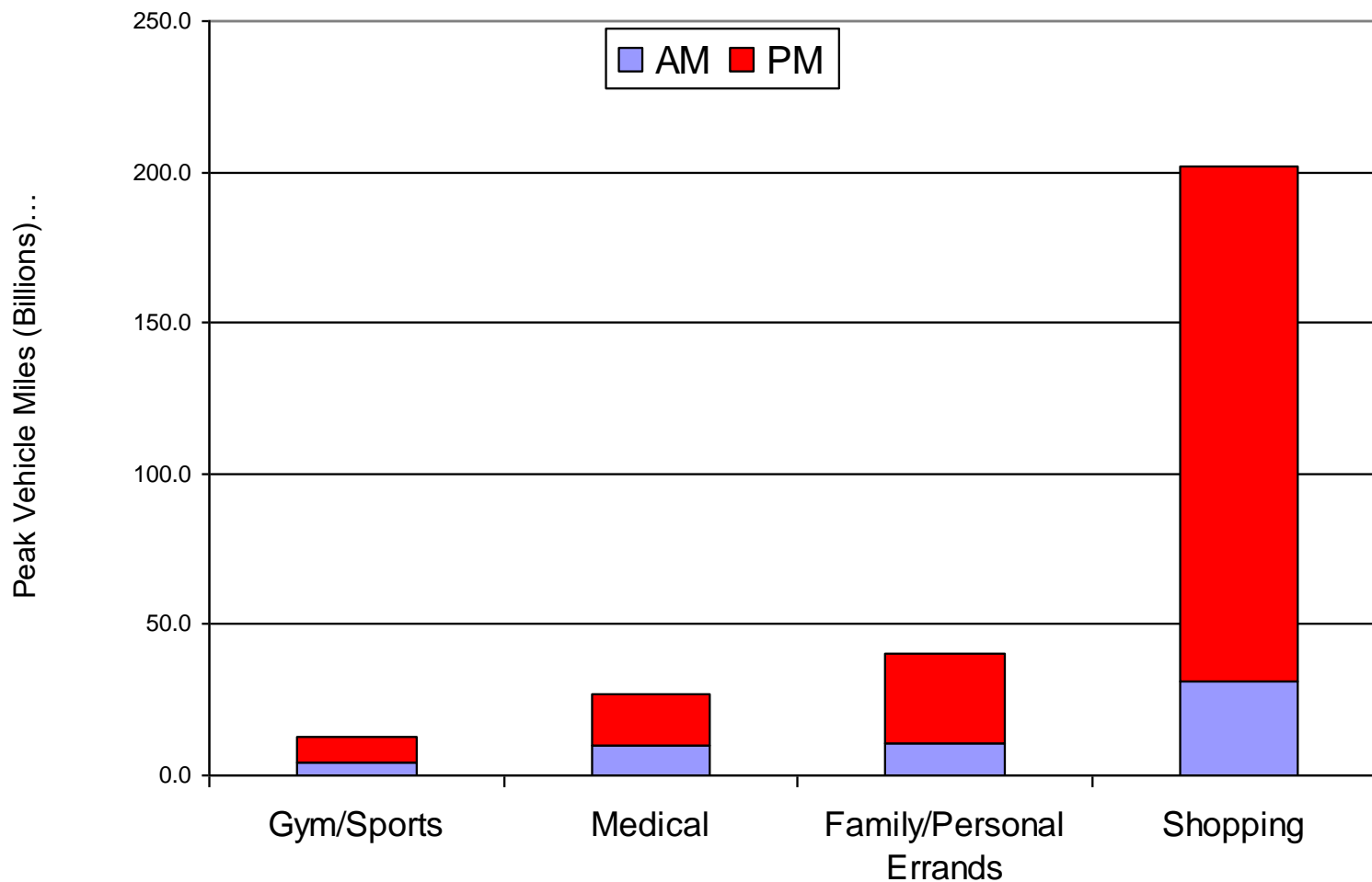


Remember, half of serve passenger trips are 'Mandatory'—80% in am and 20% in pm peak

Overall, older age groups are more likely to make flexible vehicle trips during peak...



Shopping (inc. meals) dwarfs other 'Flexible' purposes in terms of miles added...



Source: 2001 NHTS, vehicle trips not in work trip chains

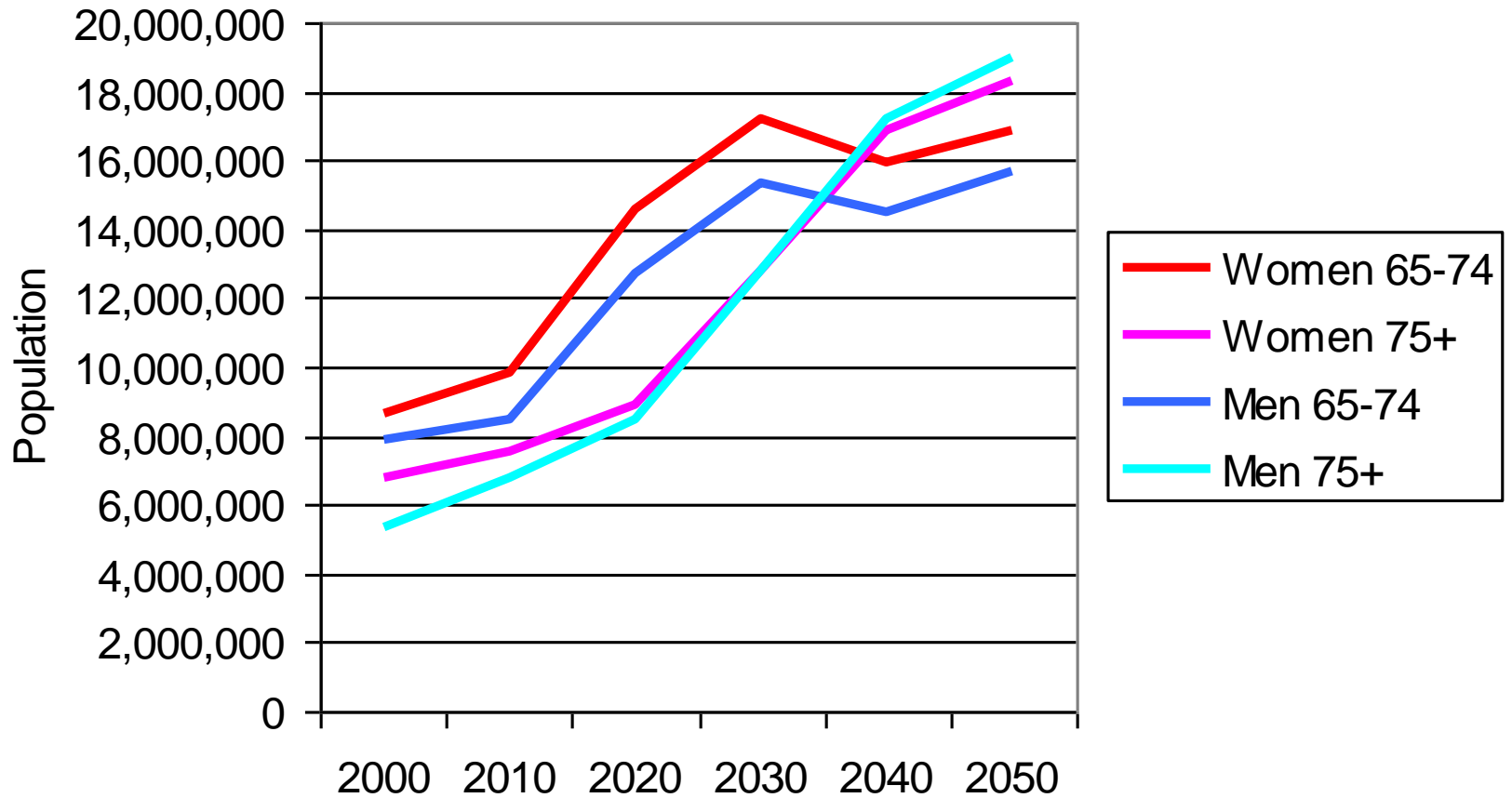
What does the future look like for weekday peak vehicle travel?



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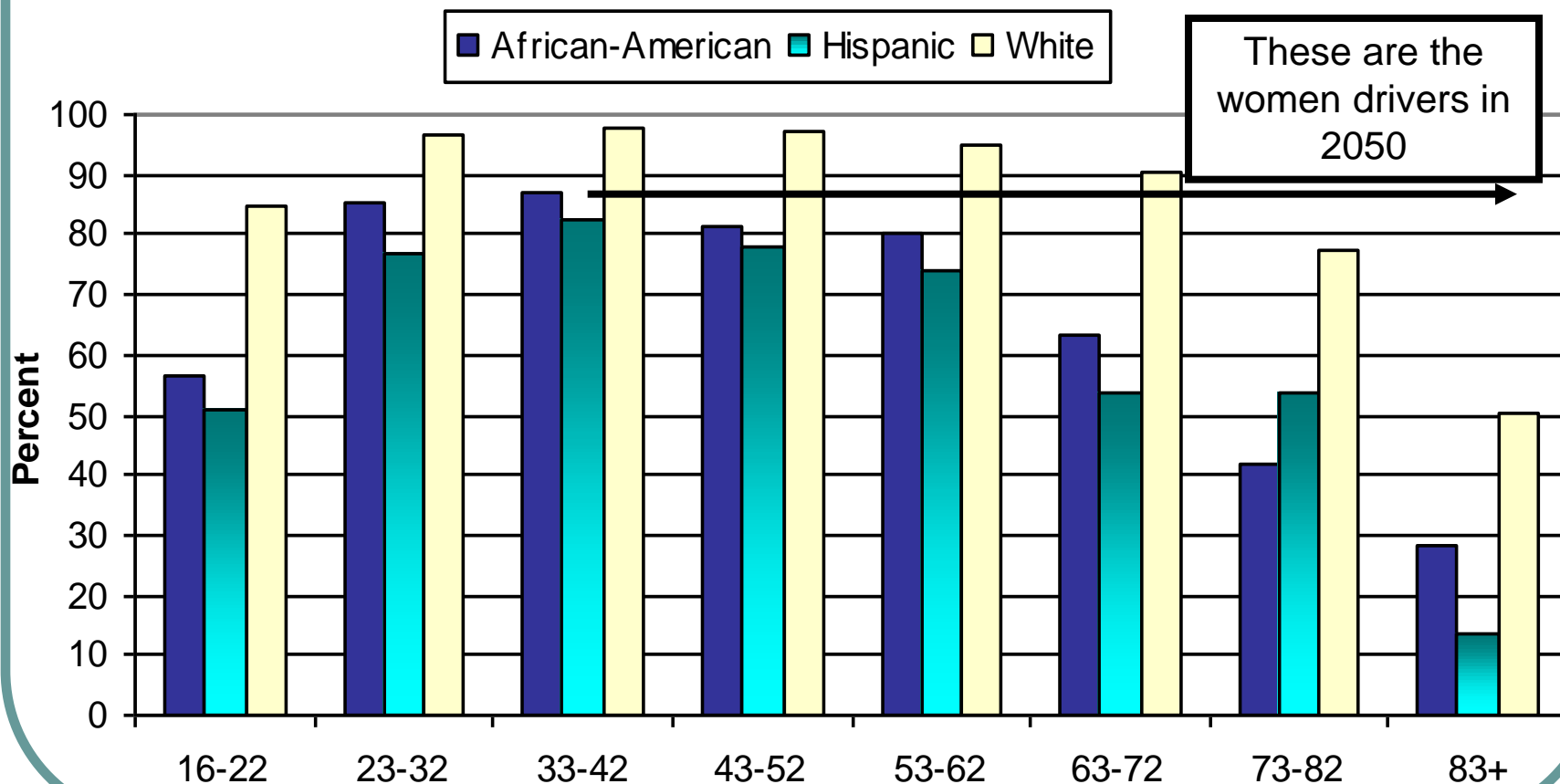
The driving population is aging...



Source: NHTS 2001 and Census population projections

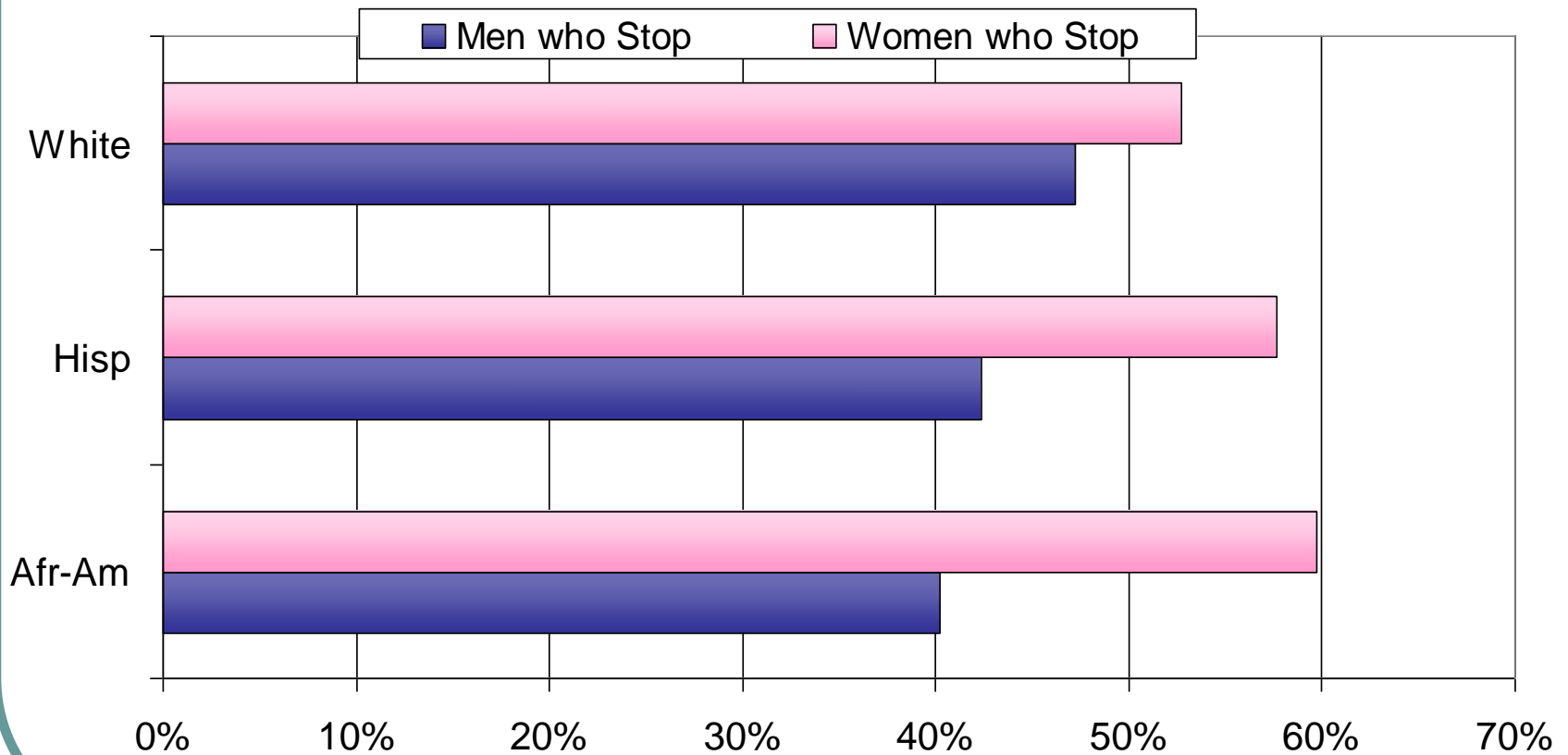
There will be more older drivers in the next decades, especially women of color

Percent of Women Drivers by Age and Race



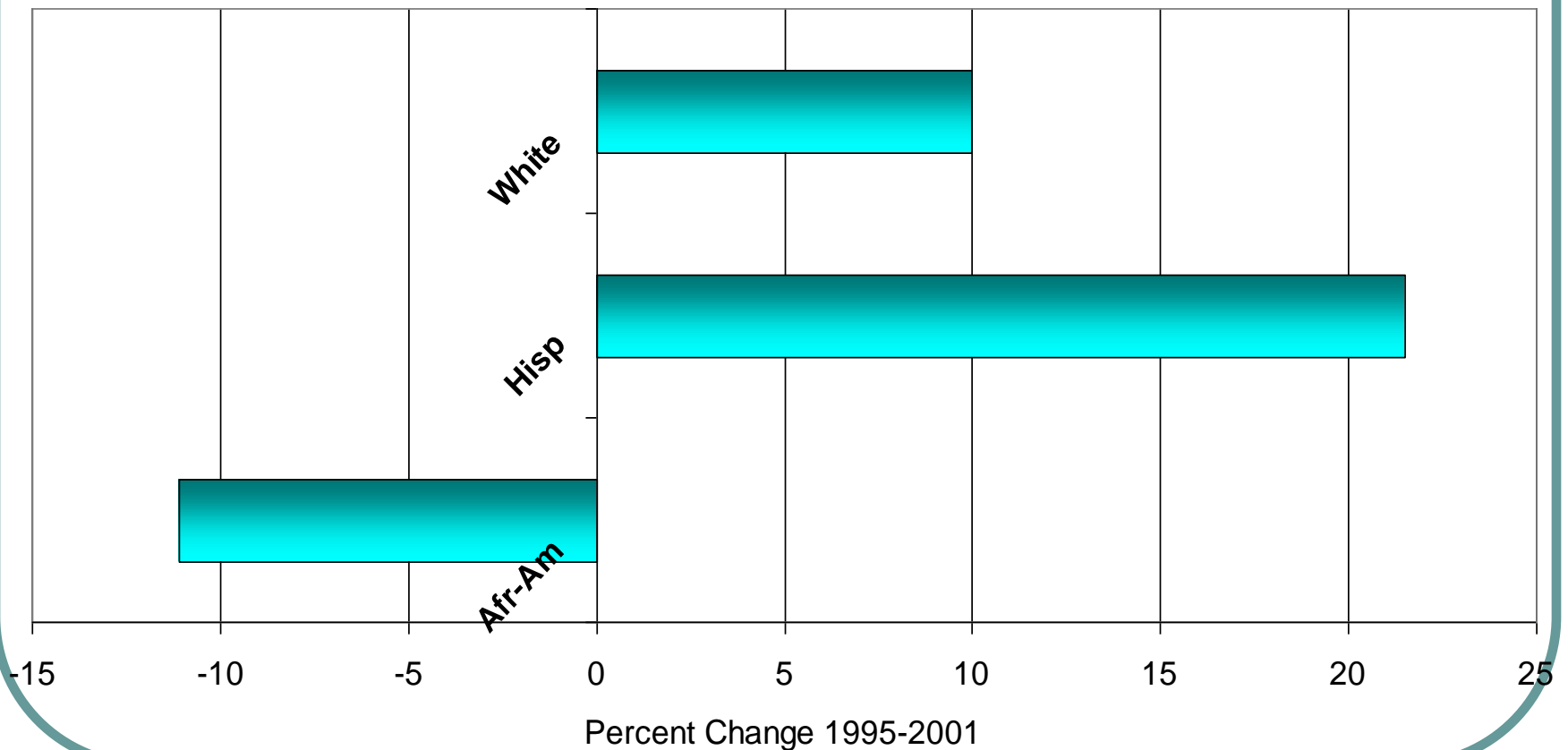
African-American and Hispanic women are the most likely commuters to trip chain during their commute..

Percent of Men and Women who Stop During Their Commutes



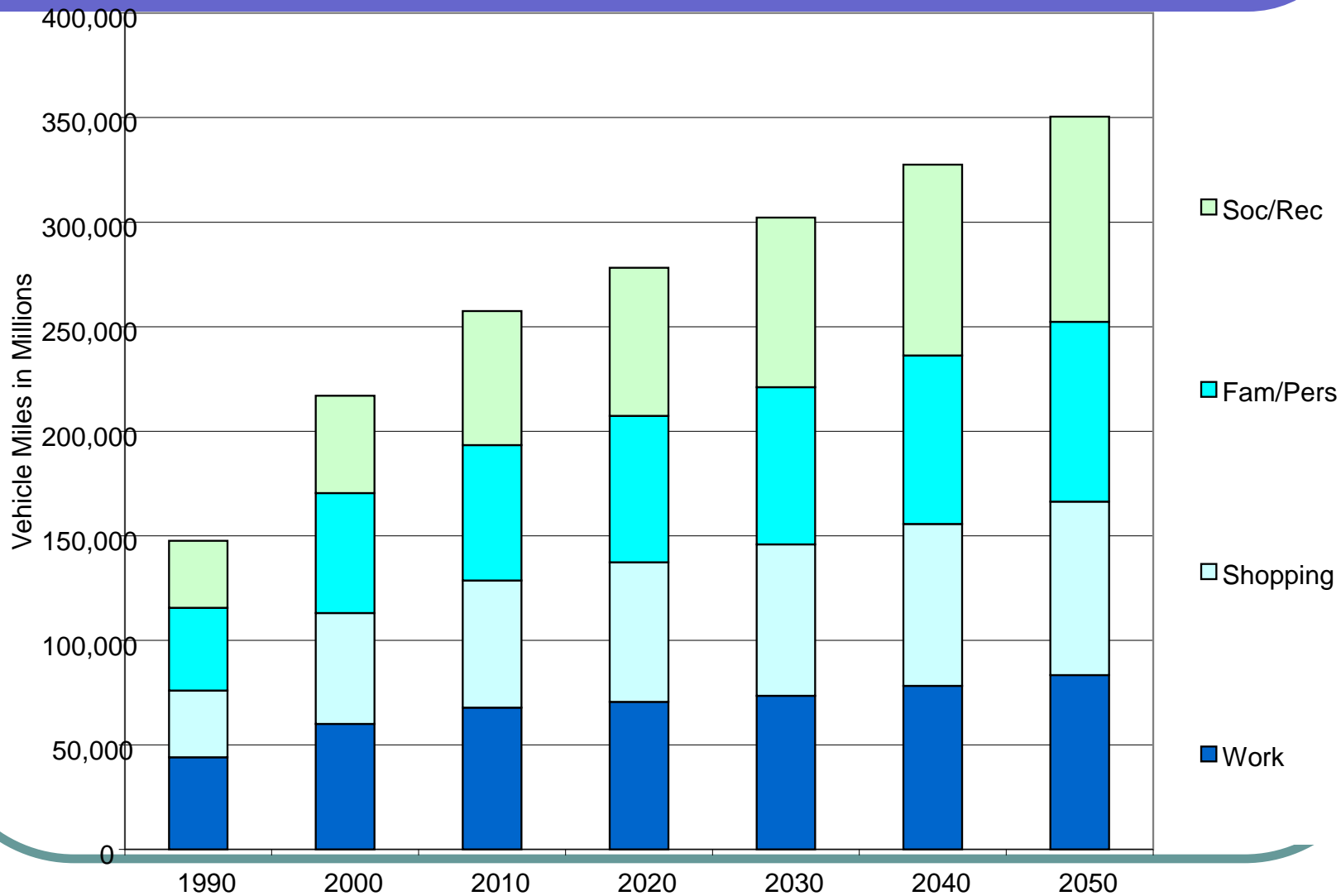
But trends show that Hispanics are stopping more to shop/get meals during the commute....

Percent Change in Stops for Shopping in Commutes Work-Home 1995 - 2001

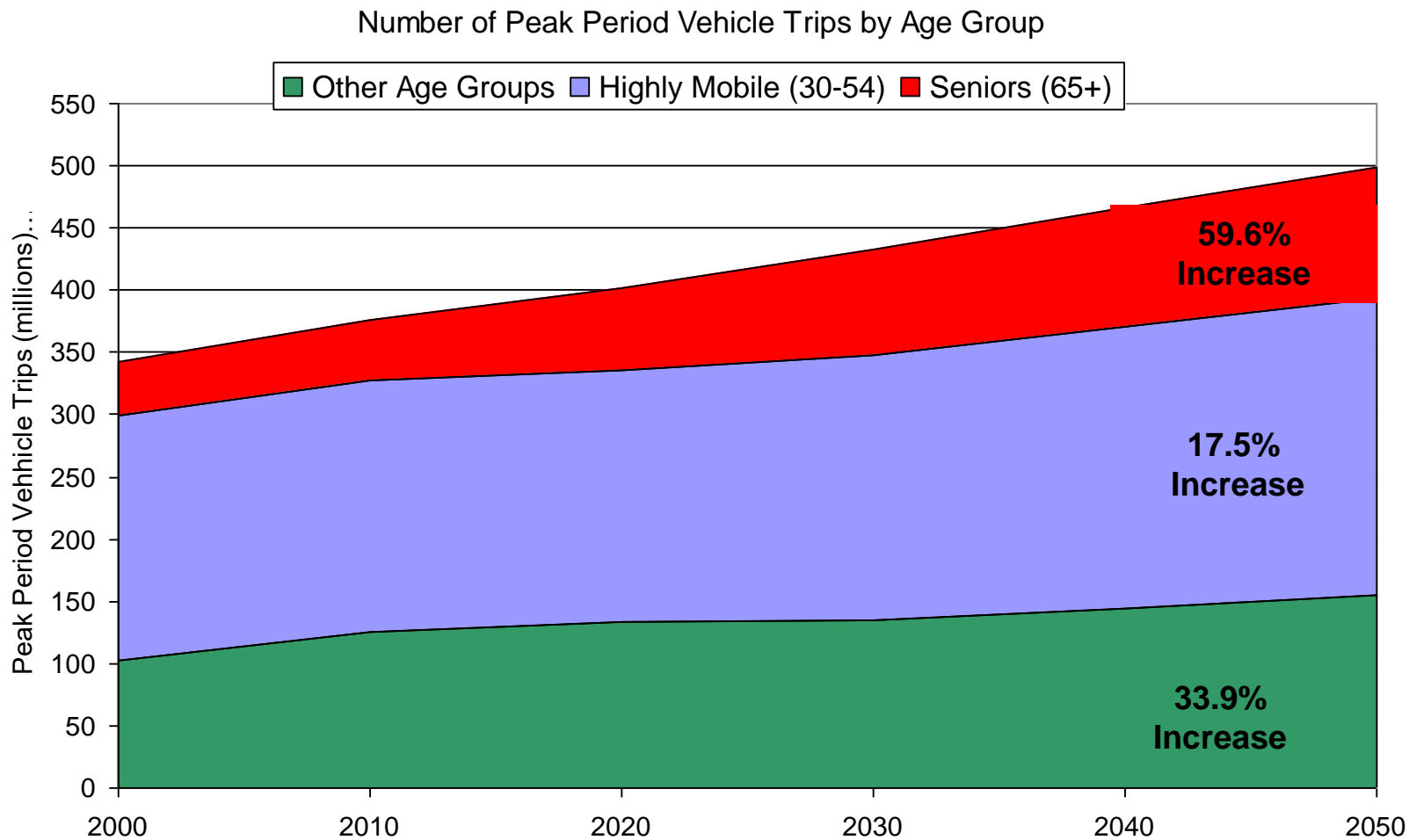


Source: NHTS data series

And we expect non-work purposes to grow faster than commuting...



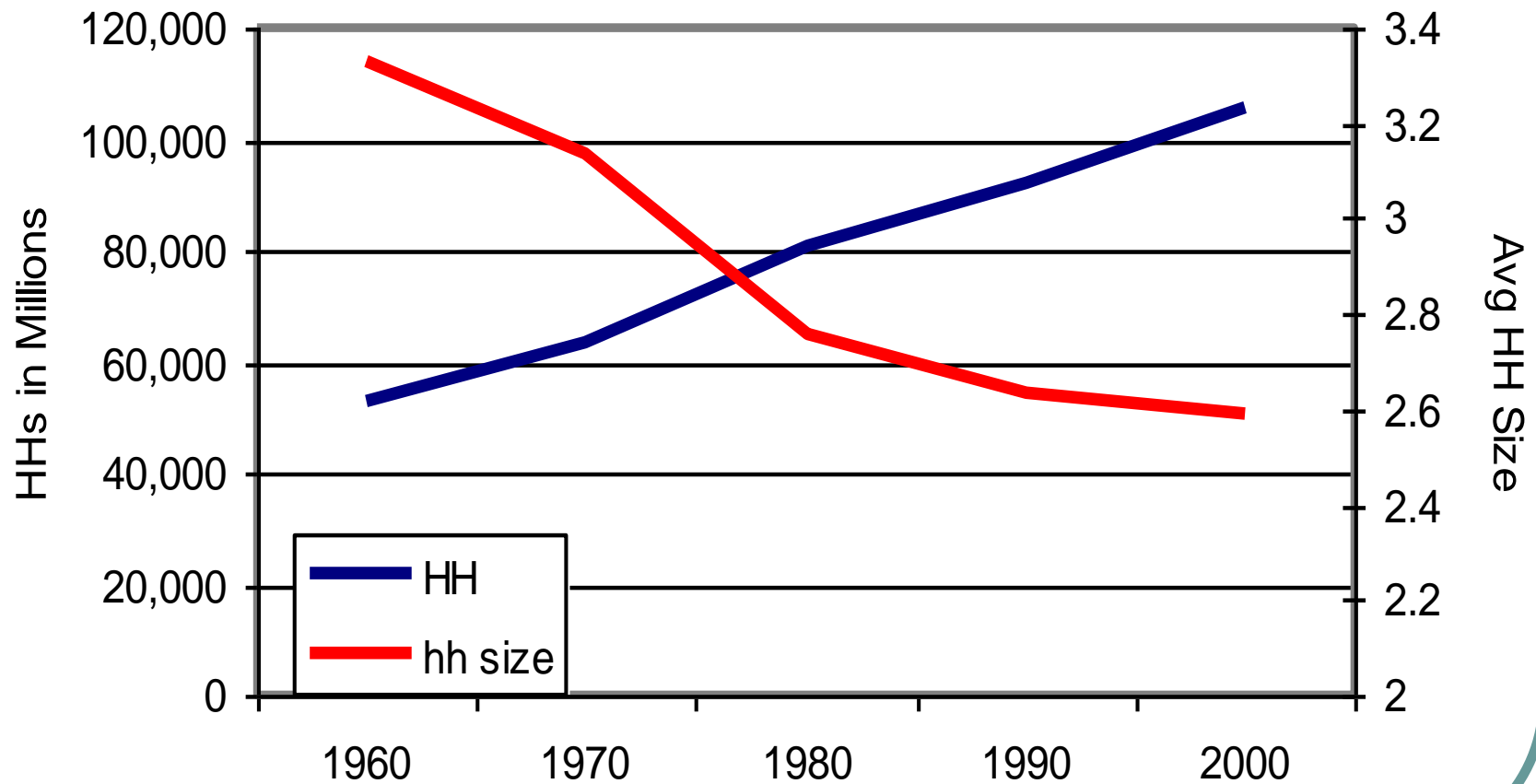
Congestion may remain, but the types of drivers and trips in the peak will change...



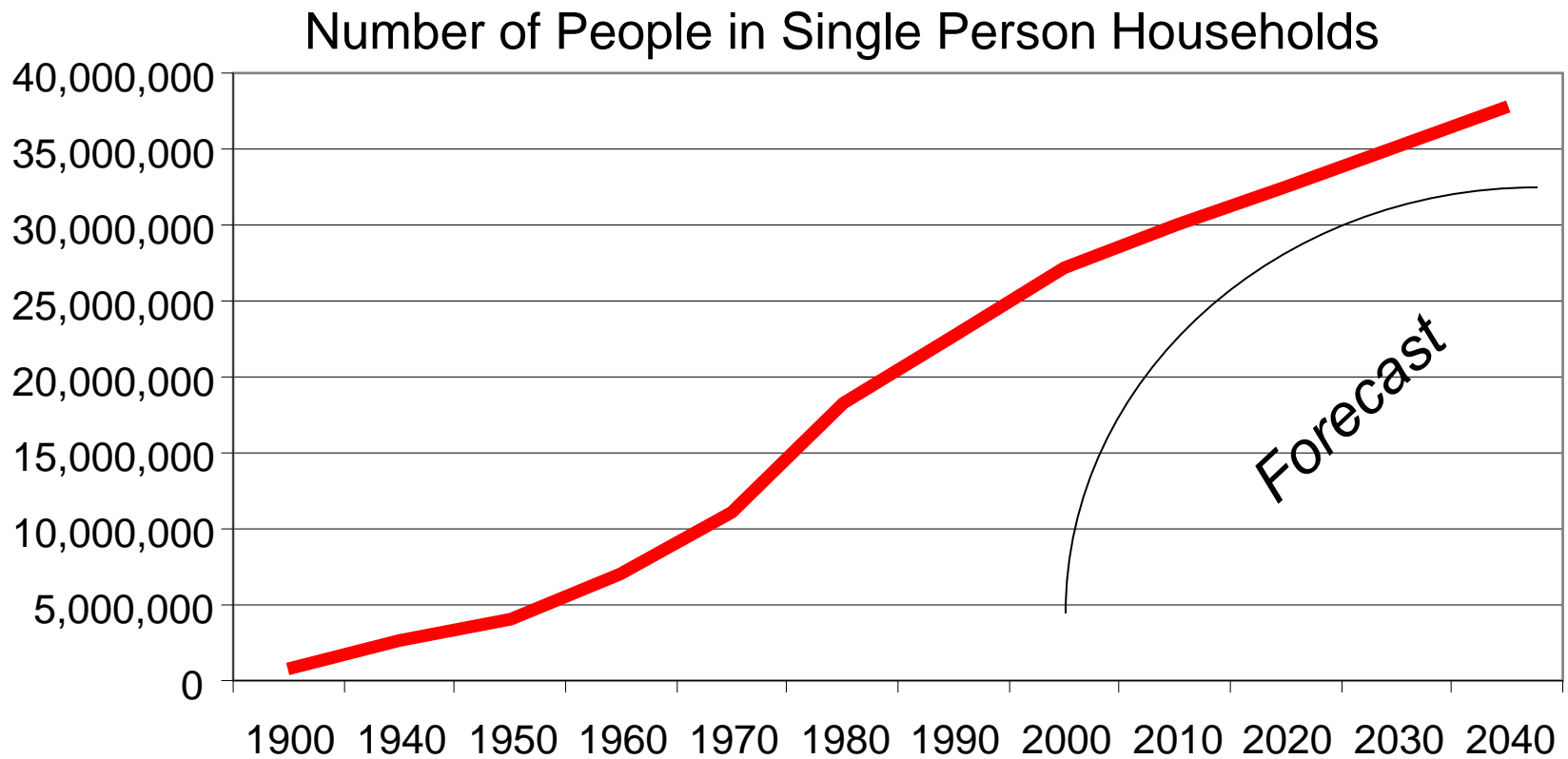
Some thoughts on the future...



The number of households has grown while the the average size has dropped...

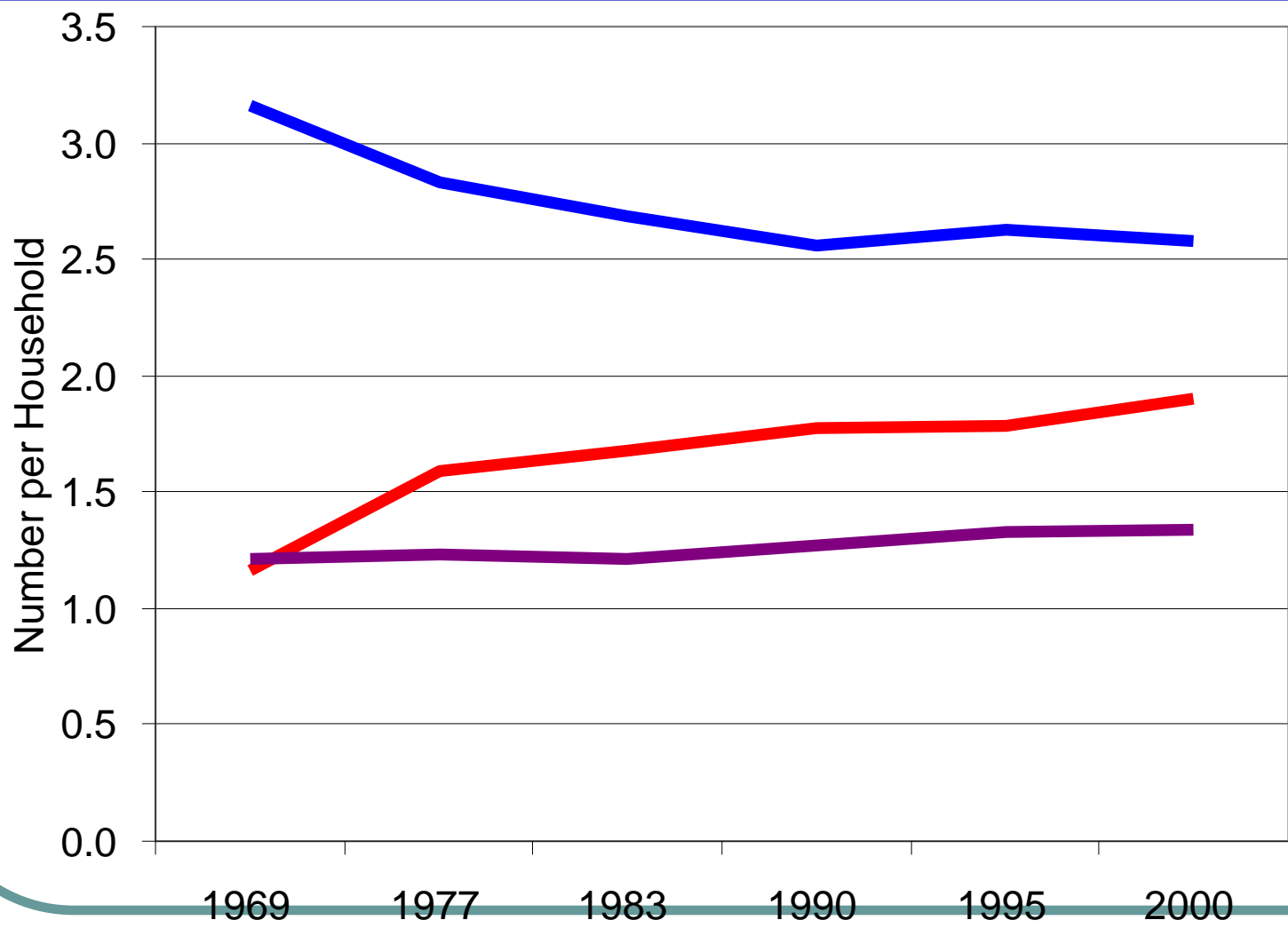


Single-person households are growing fastest...



Source: US Census

And while the number of workers per household has remained stable, we expect that to decline...

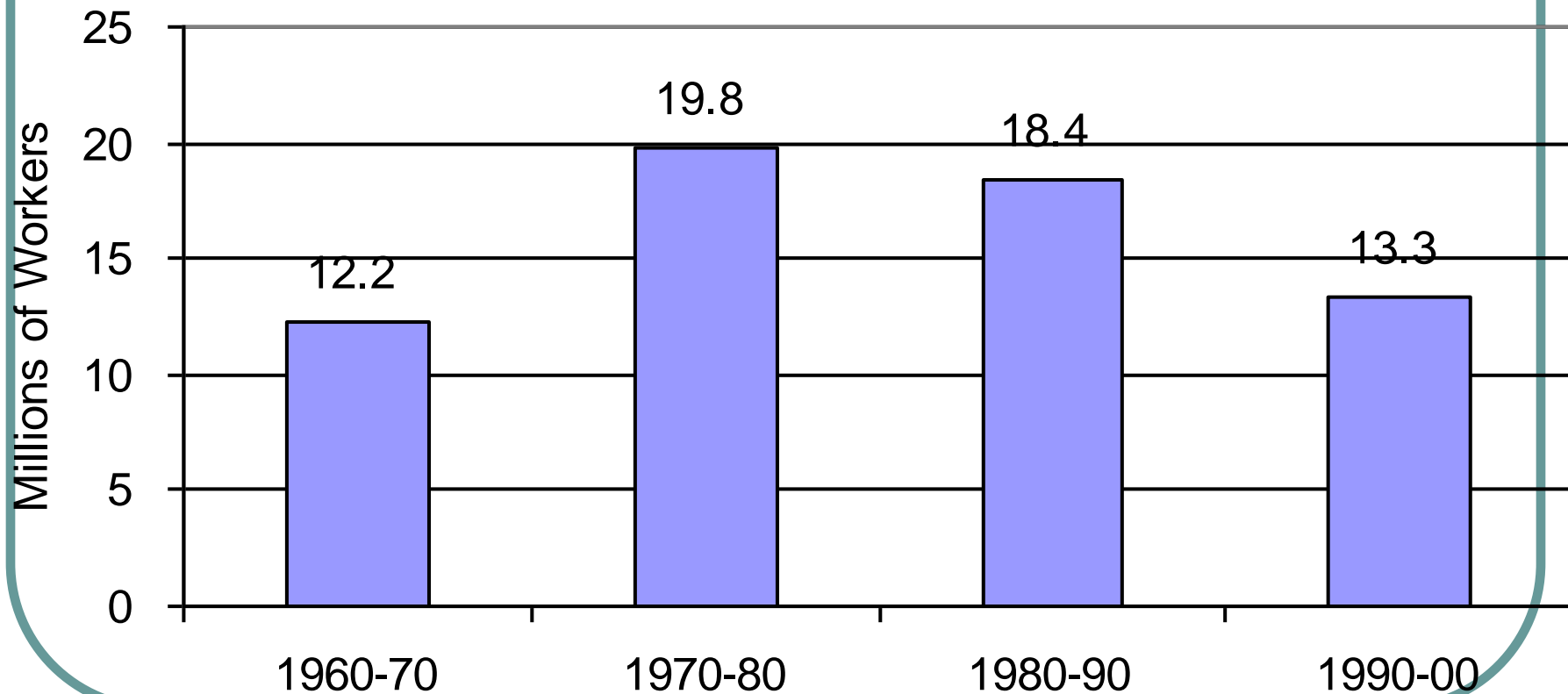


— Persons per HH — Vehicles per HH — Workers per HH

Base : 2001 NHTS, series of NPTS

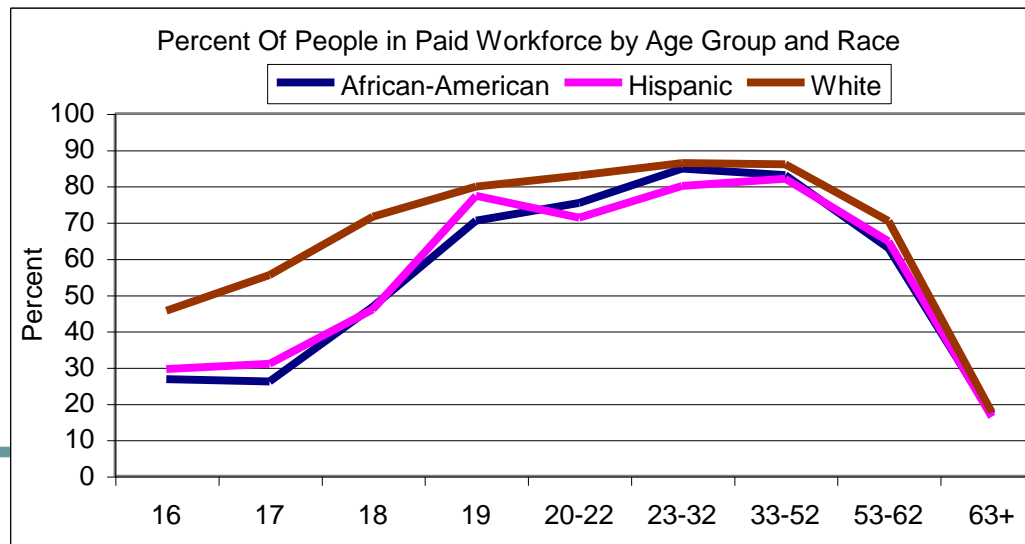
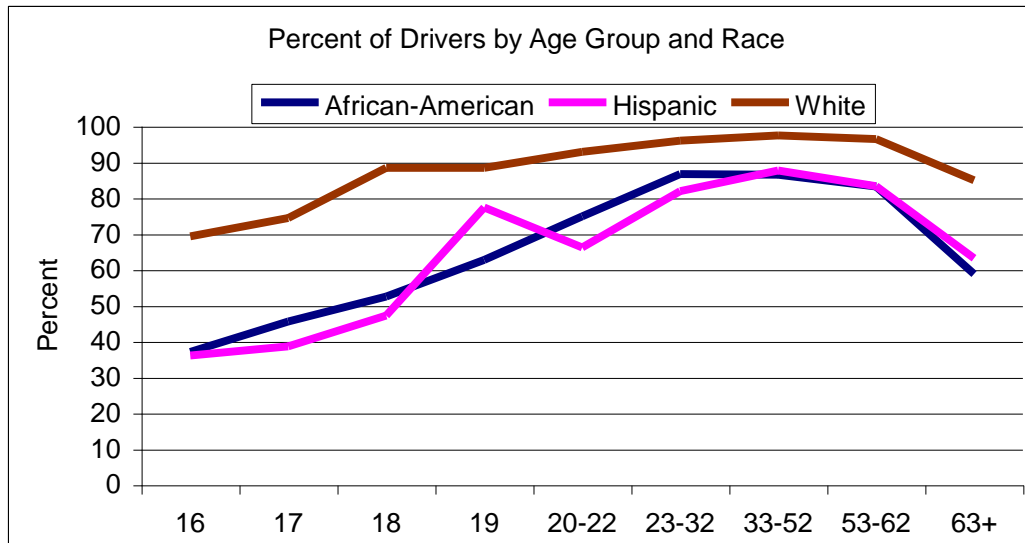
And Fewer Workers = Fewer Commuters

Workers Added Per Decade

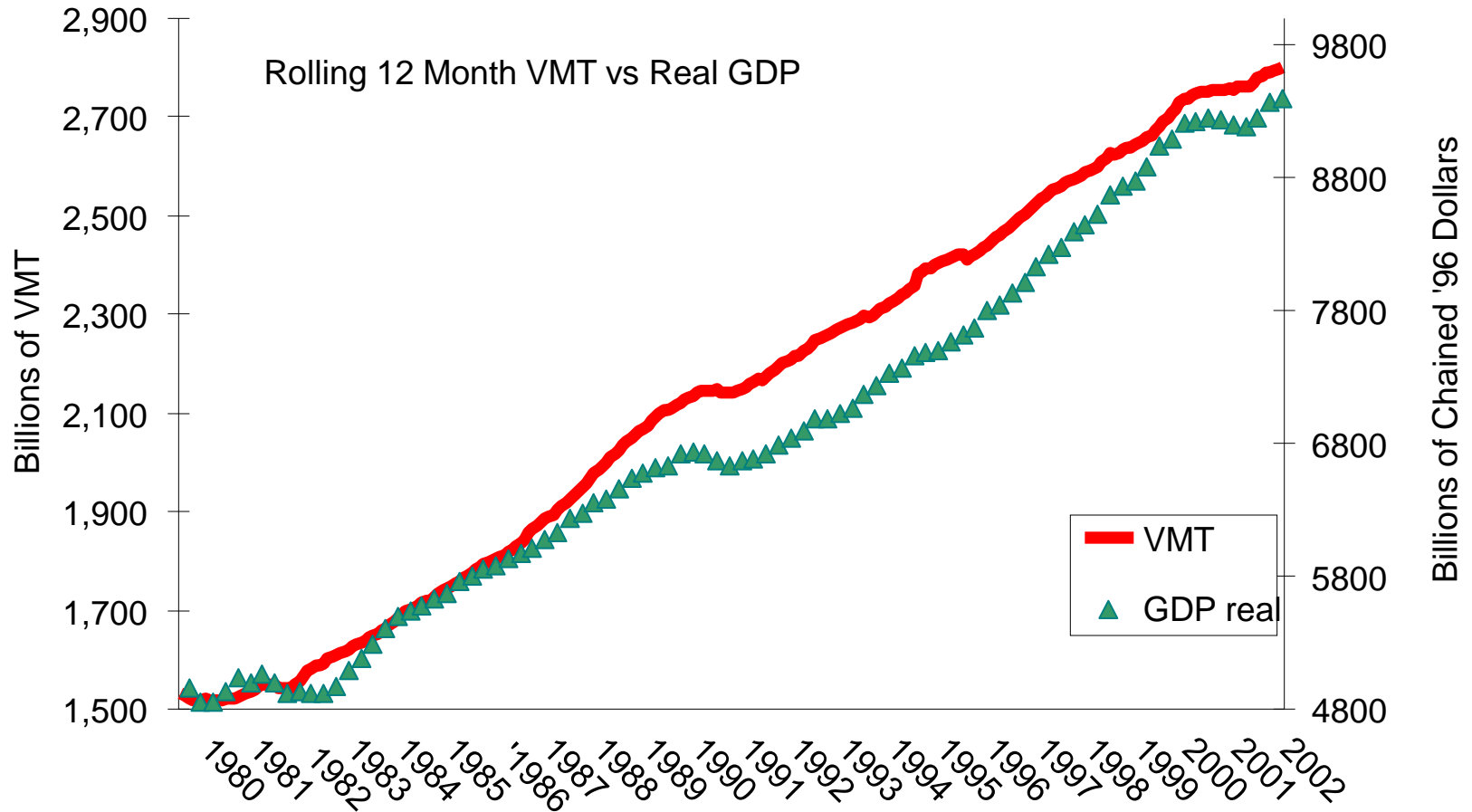


Base : Decennial Census 2000, US Census Bureau, Workers 16+

And that different populations have different patterns of driving and working



But let's not forget that travel is an economic activity...



Understanding the causes of congestion...

- Congestion is not just about the work trip, more than half of am peak travel is not related to work
- In the AM, non-work trips are dominated by serve passenger and the majority of these are mandatory (80% to take children to school). But other purposes add more miles during the peak
- Retired people are going to the doctor, people in household with kids are taking them to school, and men are shopping/getting a meal during the peak
- And both higher-income workers and lower-income non-workers are over represented in peak non-work travel



Thank You!



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