

**A Quick Scan of
Commuting in America III,
Fuel Costs and their Diversity
Implications**

WTS

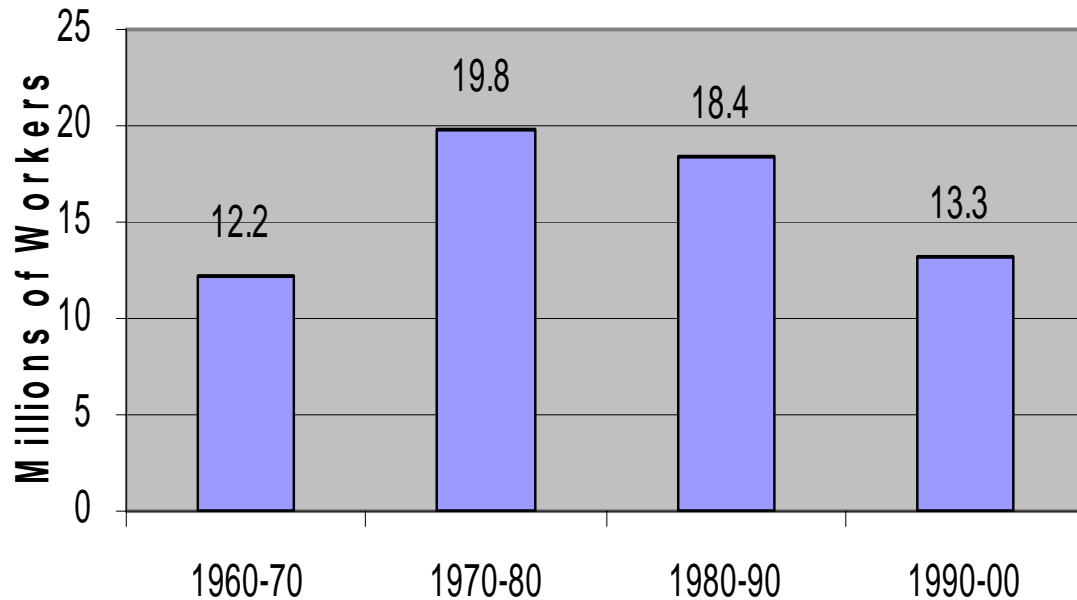
**Alan E. Pisarski
10/23/08**

The Demographic Back-story

- 1. The Commuting in America series has been the history of the working years of the baby boom generation**
- 2. The Boomers are now moving off stage creating a new phase in American commuting.**
- 3. The key question will be where will the workers come from?**
- 4. Advent of the immigrant workforce will be just one of the challenging concerns**

END OF THE BOOM

WORKERS ADDED PER DECADE



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1980-90

- 18.5 Million

1990-2000

- 13.3 Million

2000-2010

- Maybe as many

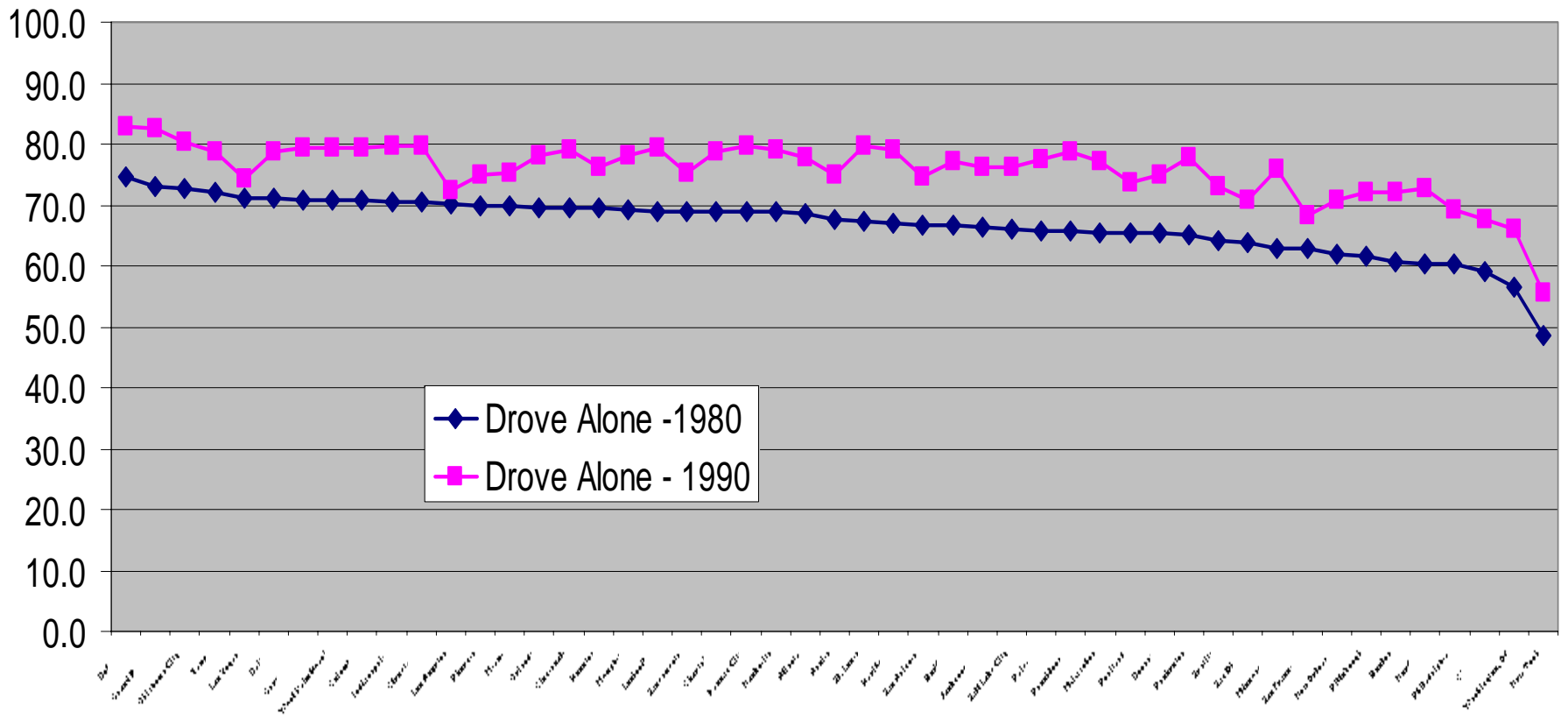
- **Our problem may be too few commuters not too many!**

ALAN'S TOP TEN

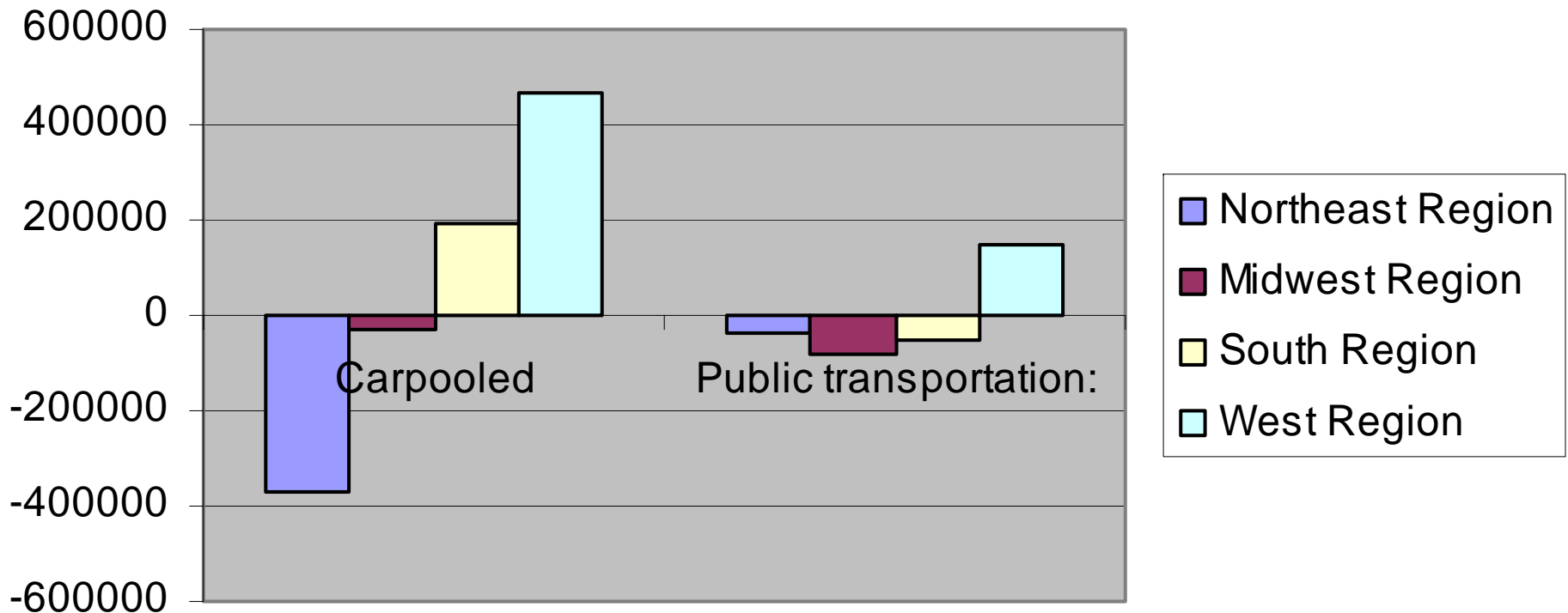
- 10 SOV Growth slows
- 9 variable Carpool & Transit trends
- 8 Af-Am Auto growth
- 7 Immigrant role
- 6 Older Workers
- 5 Extreme commutes
- 4 “Donut” Metro
- 3 Working at home
- 2 TLH before 6am
- 1 workers leaving home county

Metro Stability re Driving Alone?

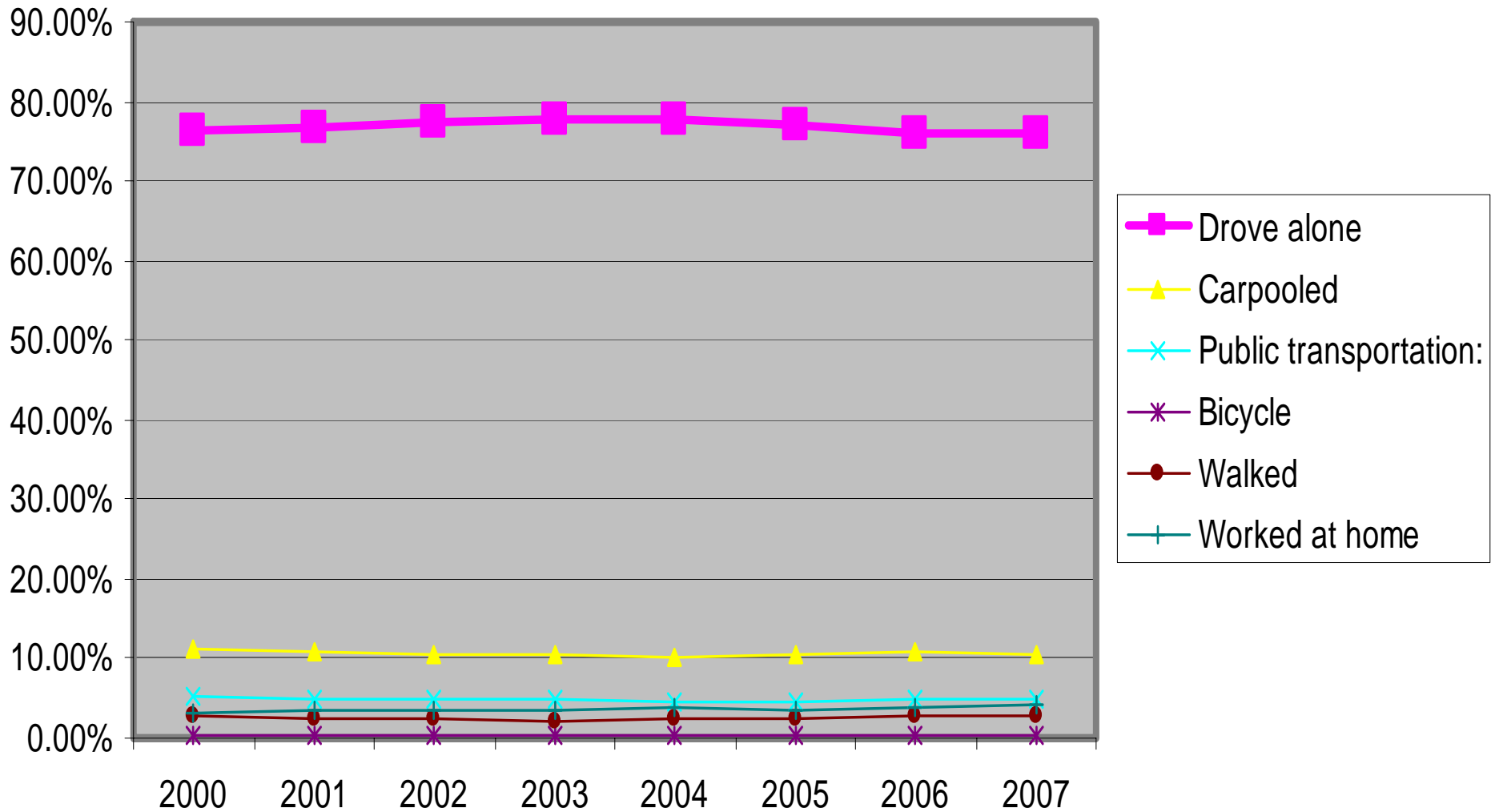
Drive Alone Growth 1980-2000



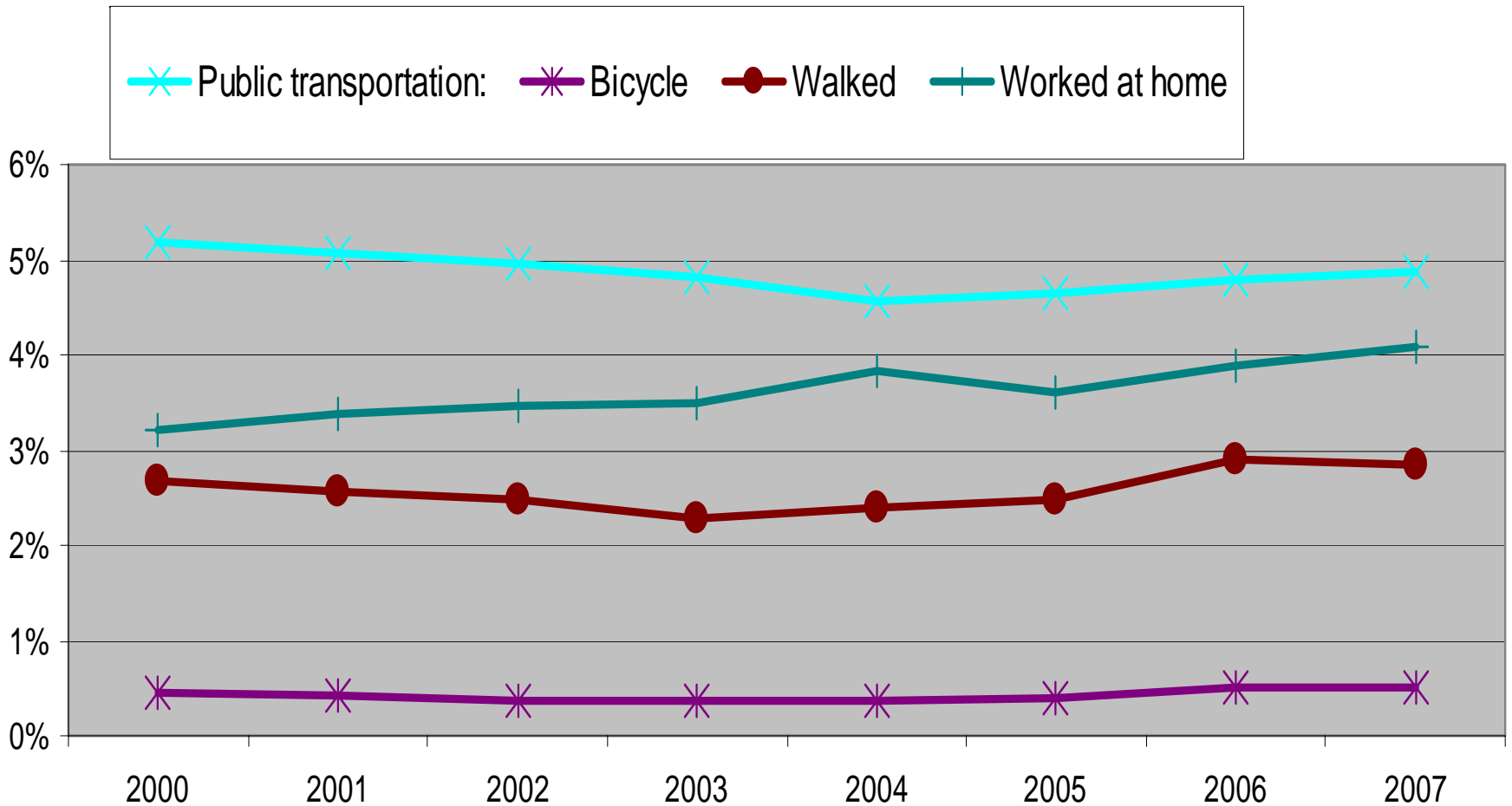
#9 REGIONAL SWINGS IN CARPOOLING AND TRANSIT 1990-2000



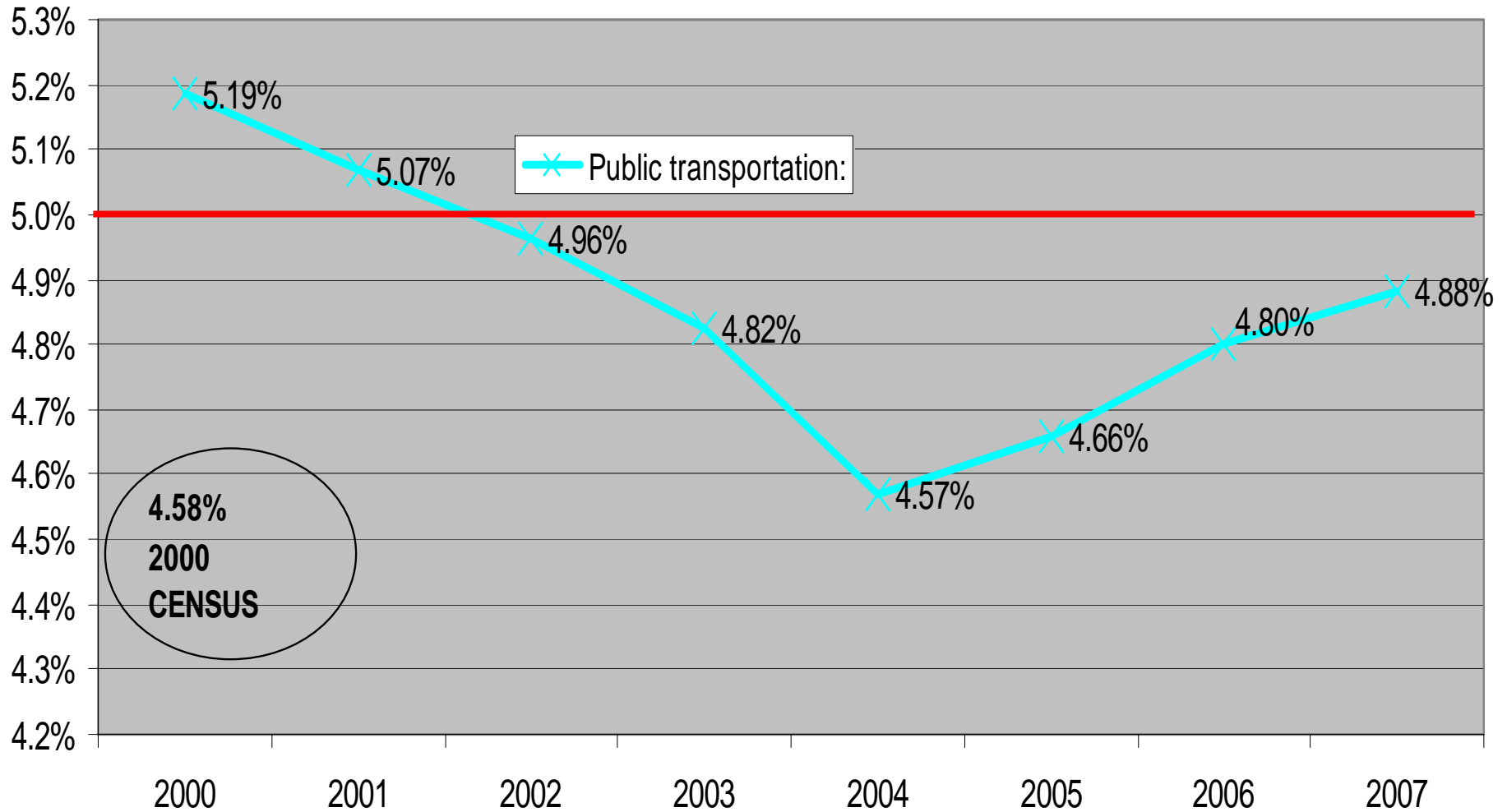
Mode share trends 2000's



Mode share trends 2000's

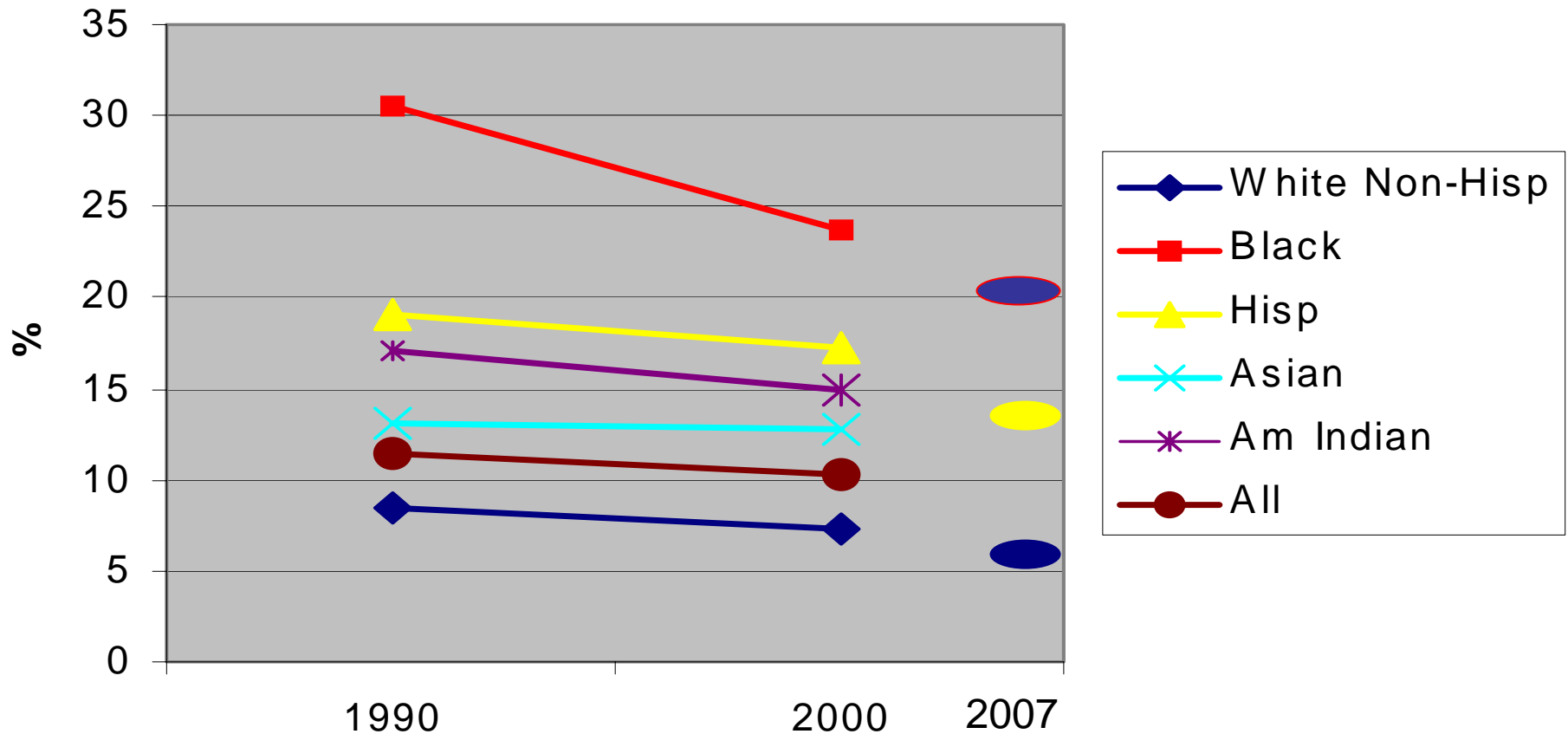


Mode share trends 2000's

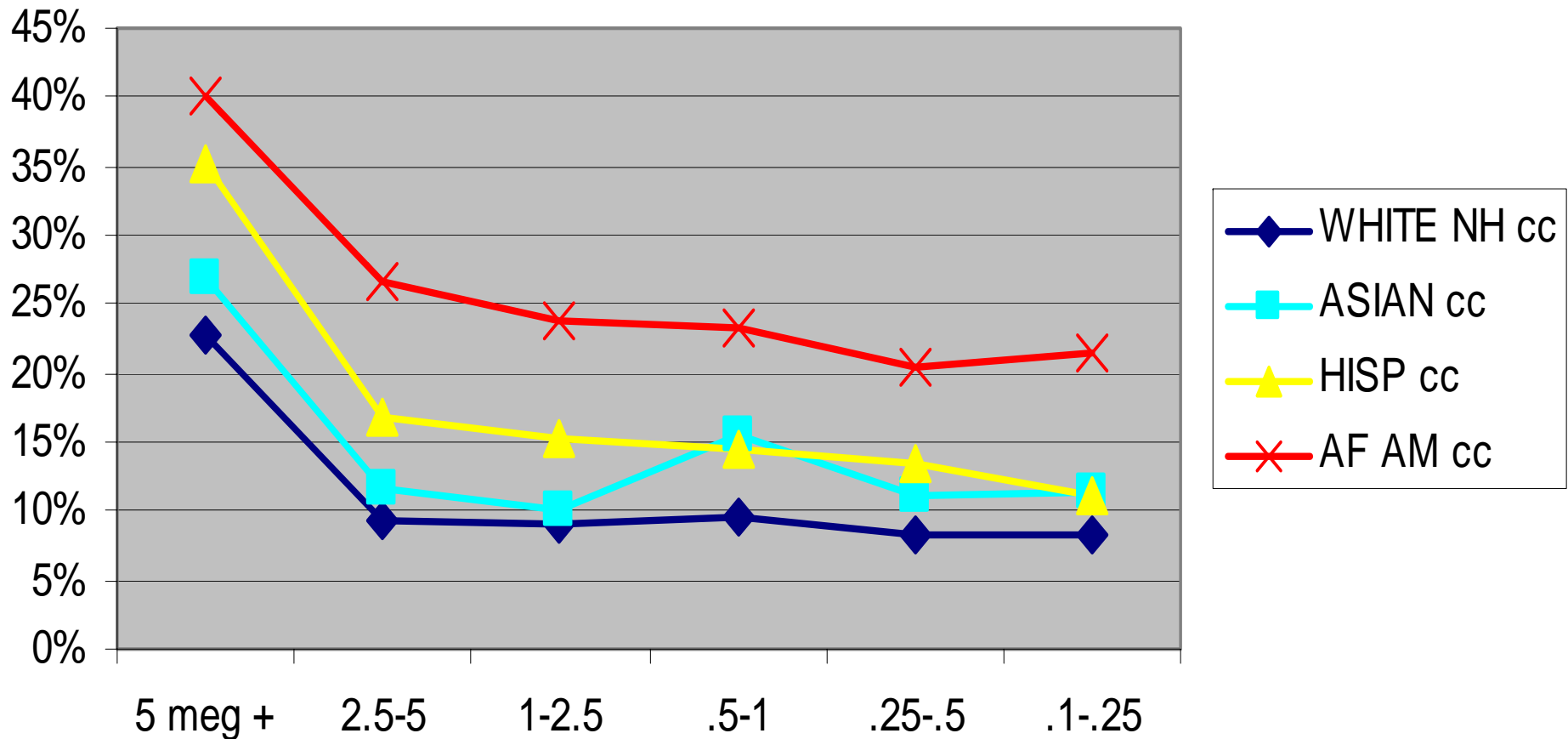


#8 AFRICAN-AMERICAN VEHICLE OWNERSHIP SURGES

zero vehicle households by Race and Ethnicity

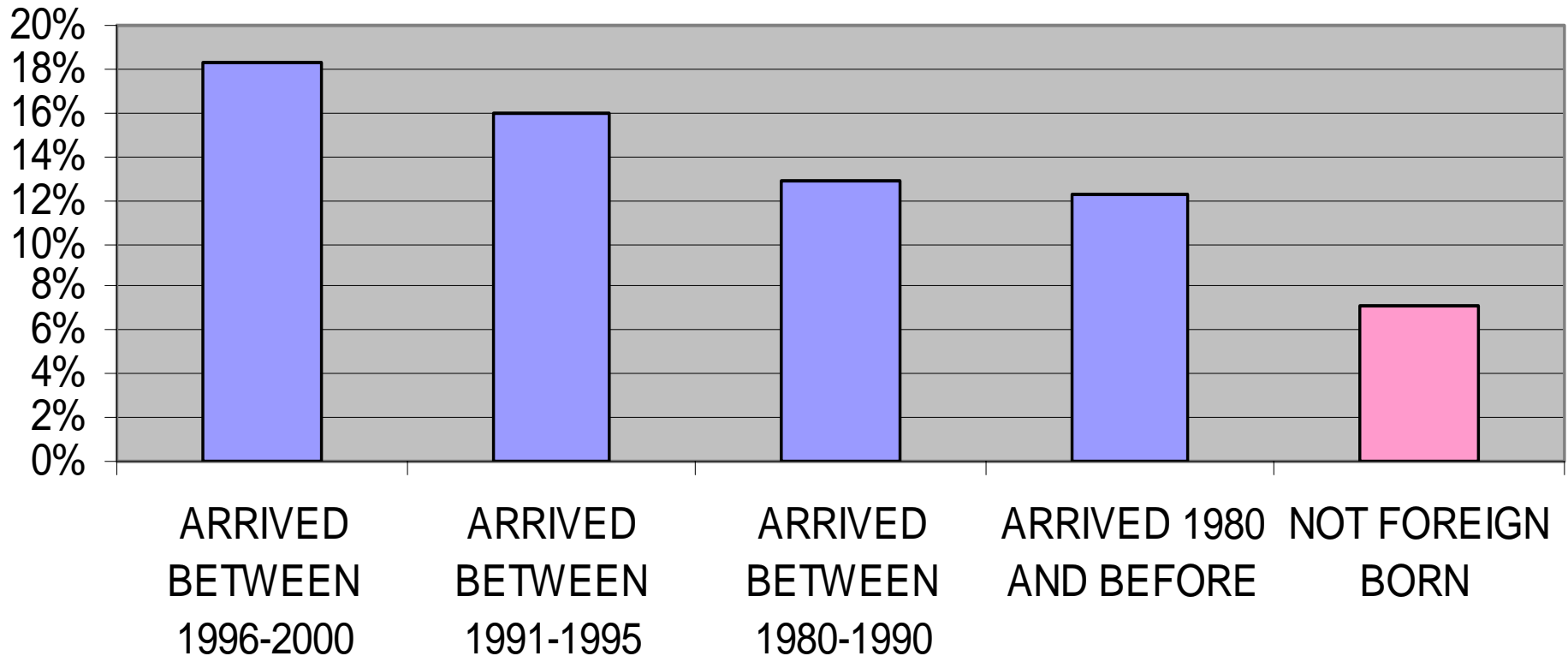


% HH without vehicles in central cities by metro area size 2000



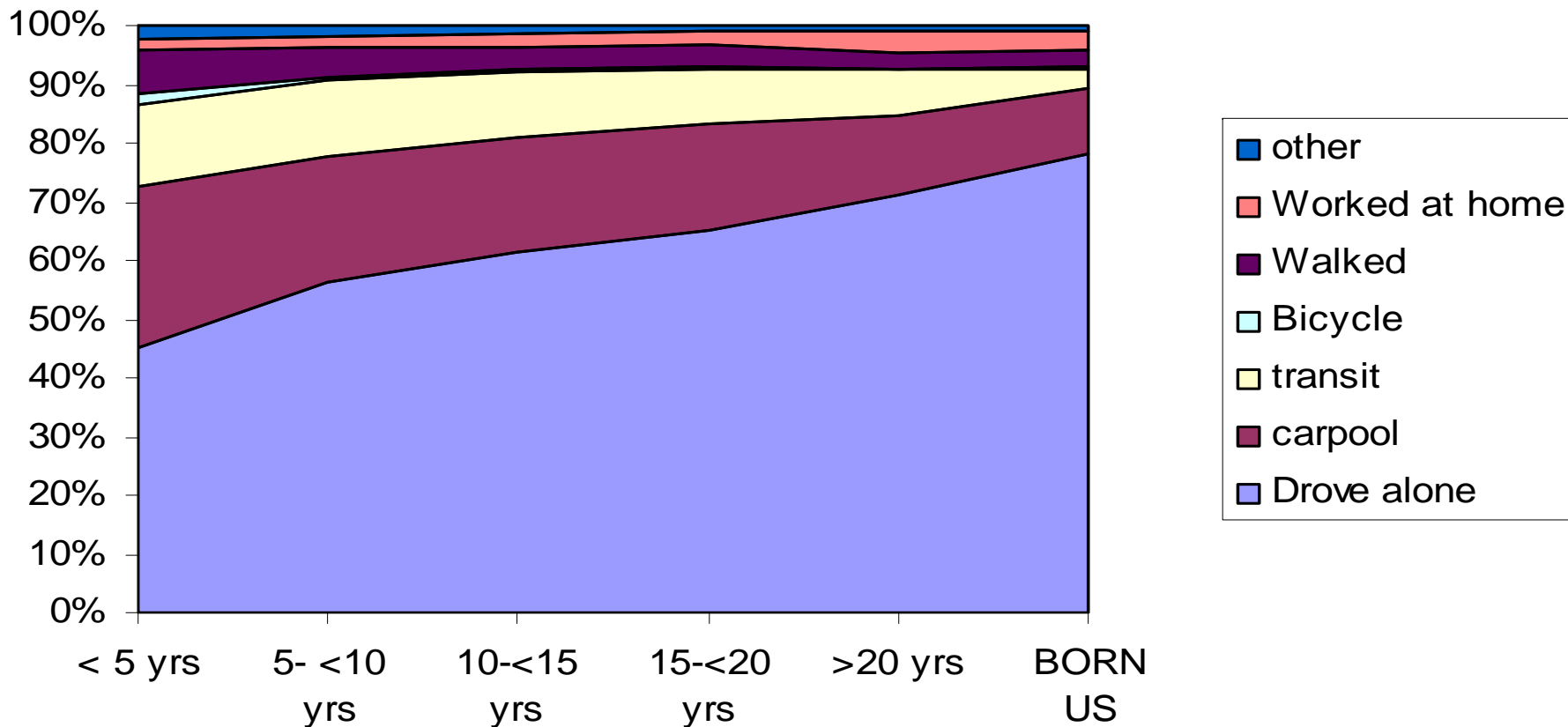
Another key

**Foreign-born persons in households without Vehicles
by Year of Arrival**



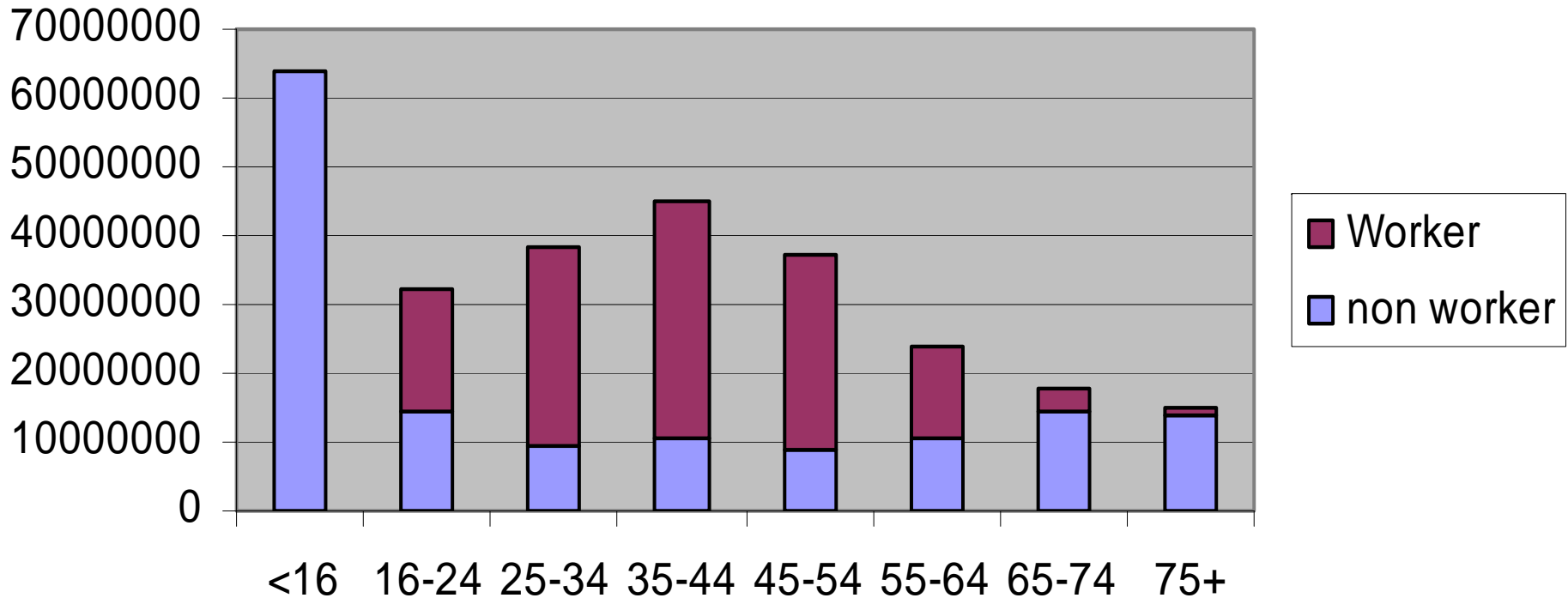
#7 IMMIGRANT ROLES AND PATTERNS

Mode Use by Years in US



#6 OLDER WORKERS ROLE

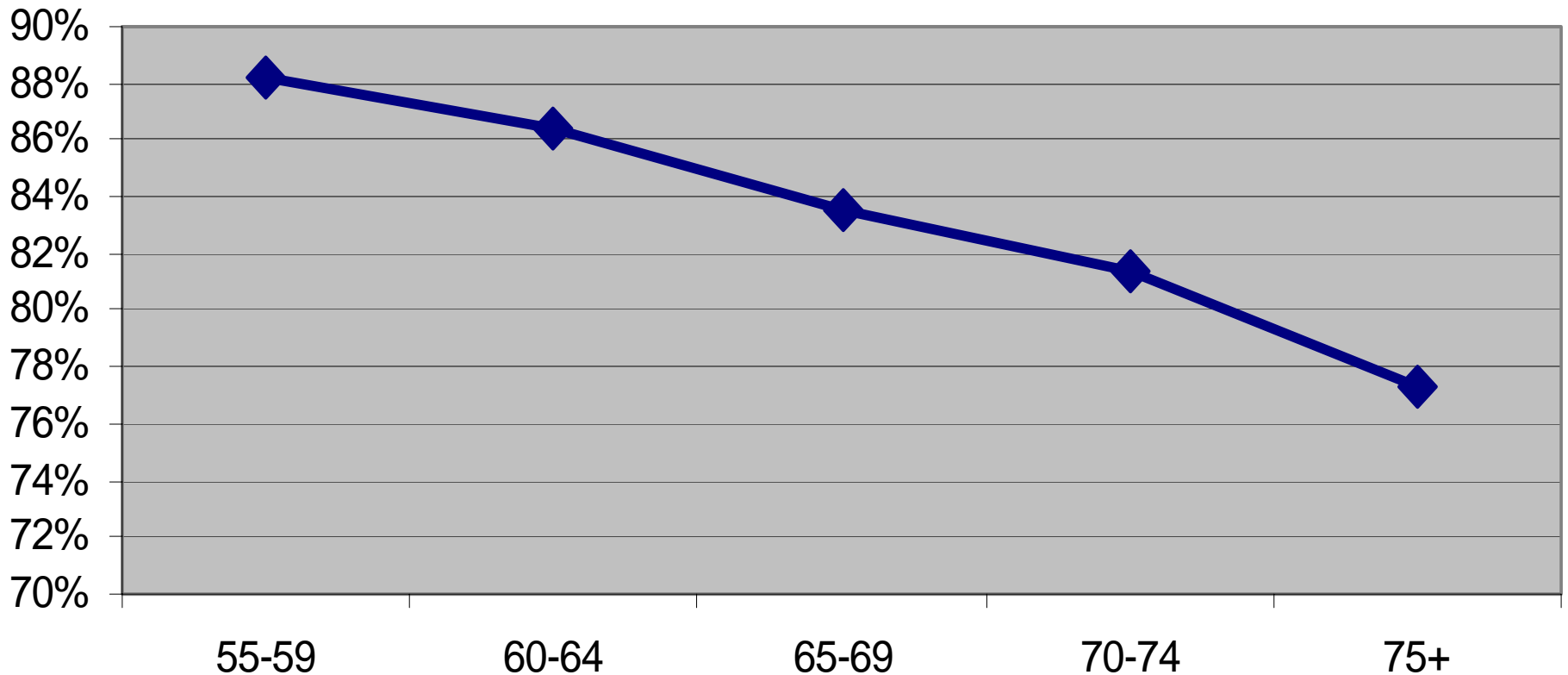
workers by age group 2000



Over 55

Aging out of the Boomers

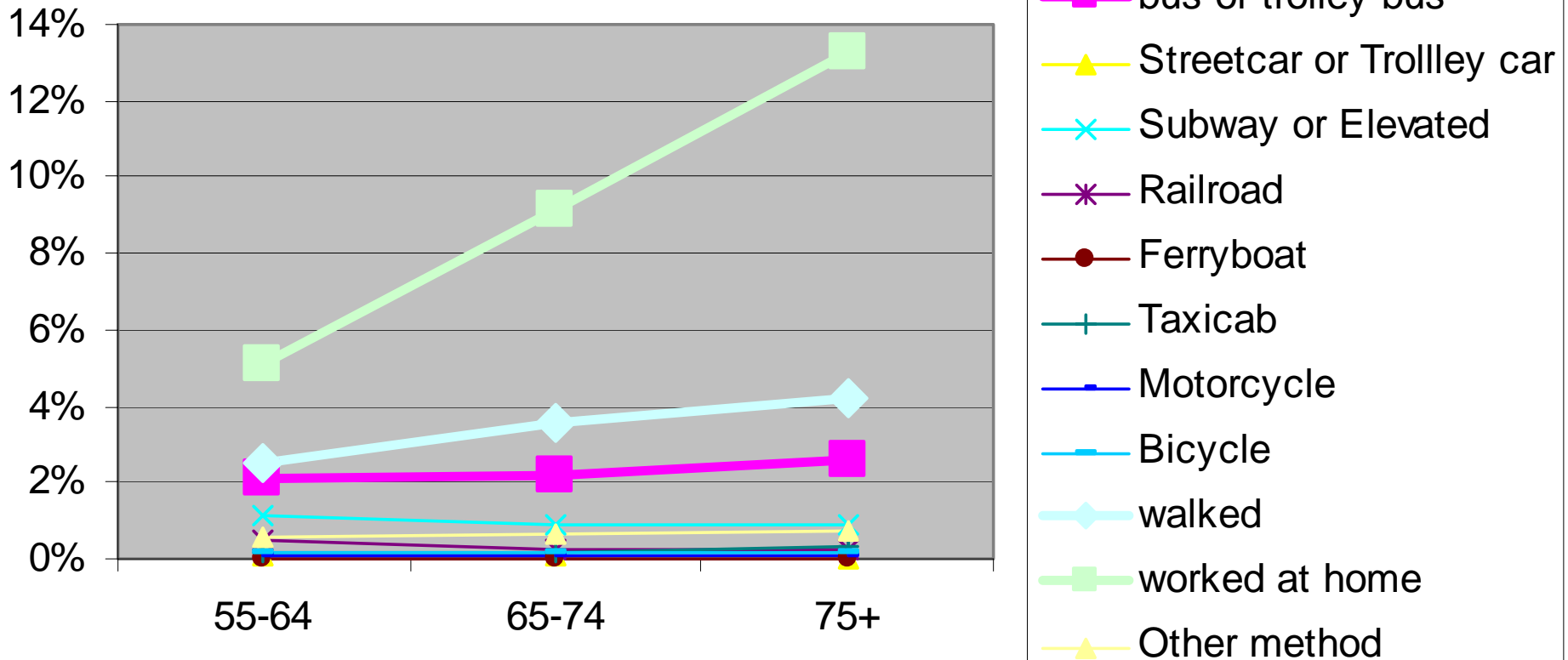
Car, truck, or van



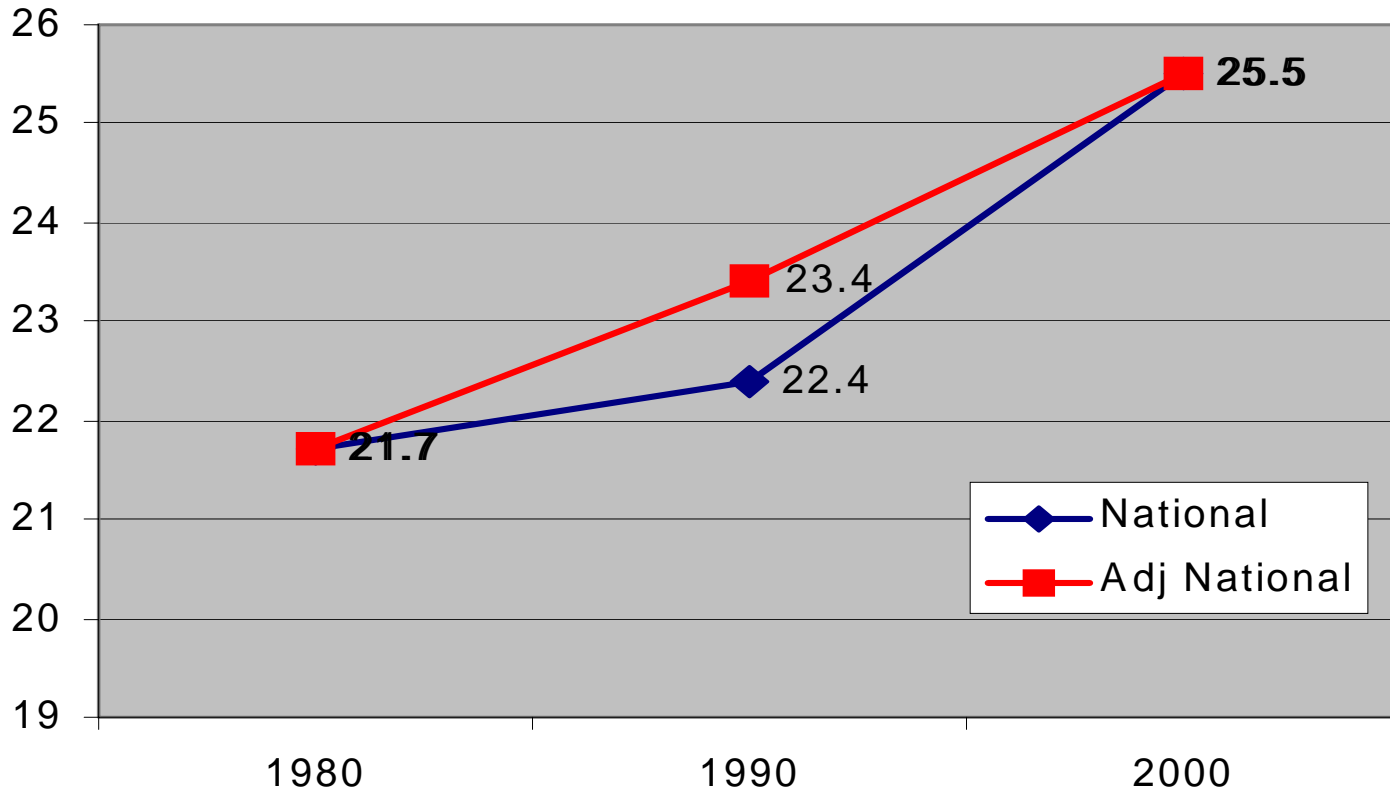
Over 55

Aging out of the Boomers

Over 55 patterns in mode use of other modes



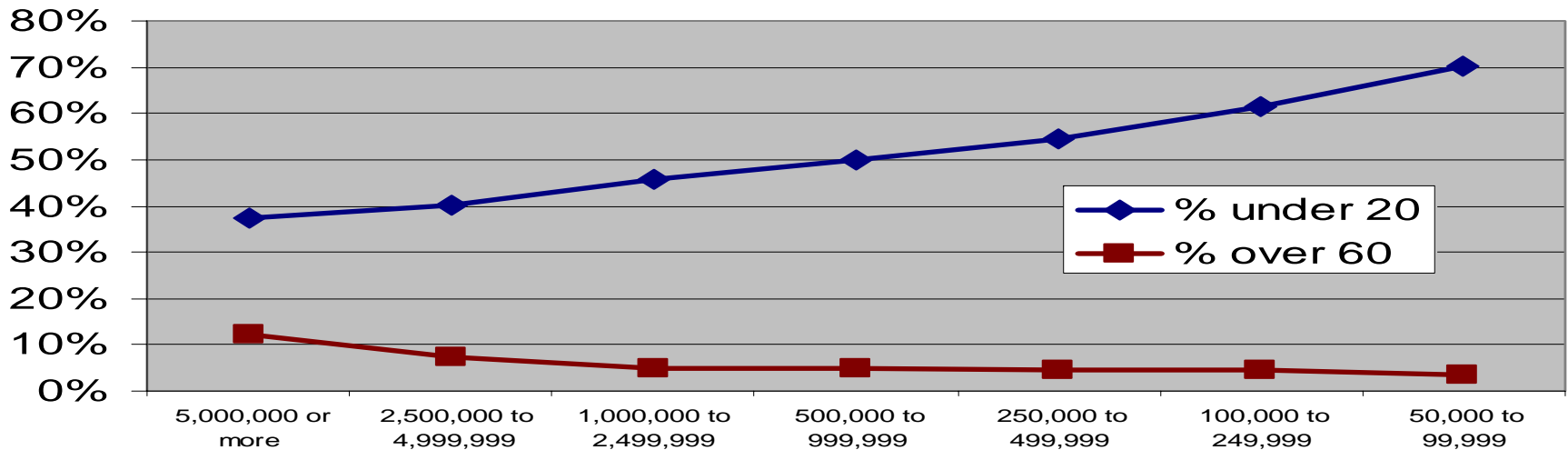
#5 INCREASES IN EXTREME COMMUTES



Extreme Commutes

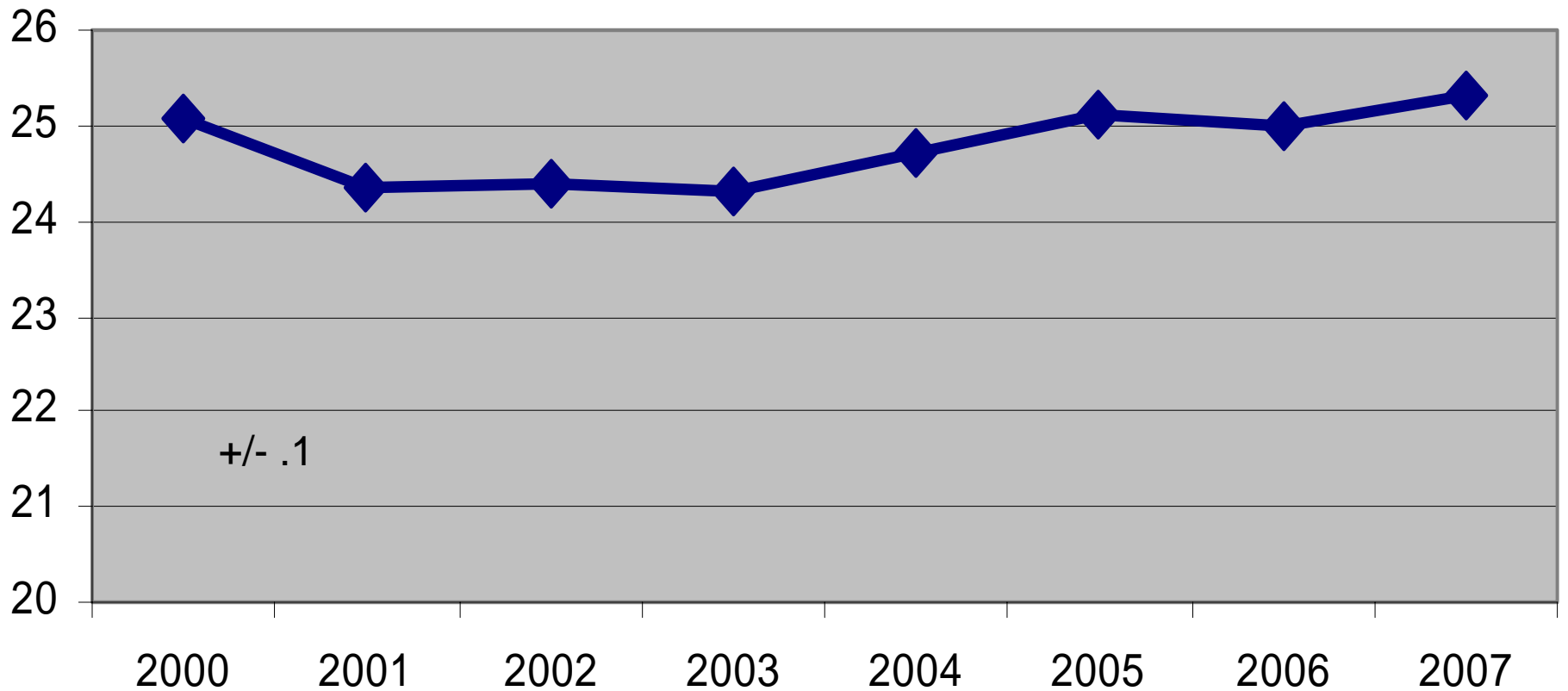
- 2005 10 million over 60 min; 1/3 90+; av 80 min
- 60-90 minute commute grew 2x average
- 90+ minute commute grew 5x average

Percent of workers commuting over 60 minutes and under 20 minutes by metro size

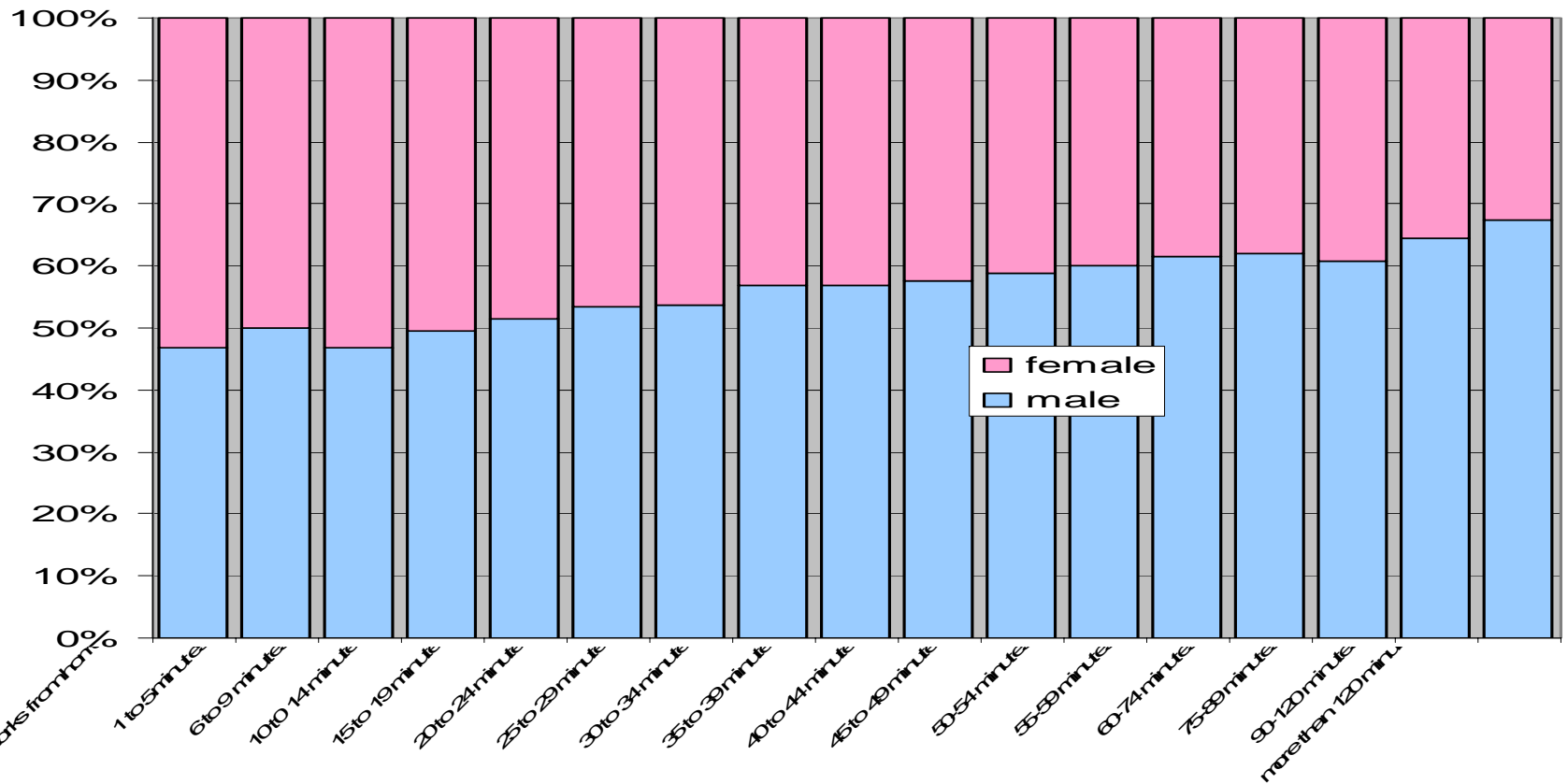


Travel times very stable – ACS data

Travel Time 2000-2007



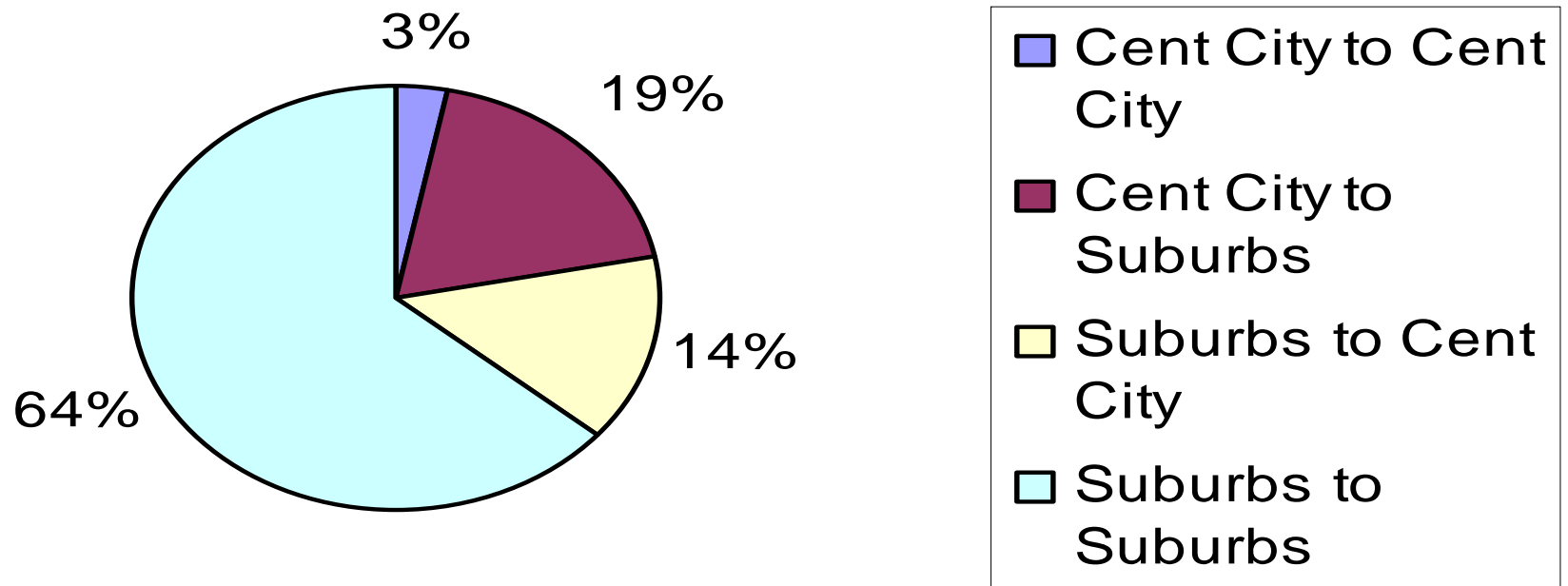
Male/female split by travel time



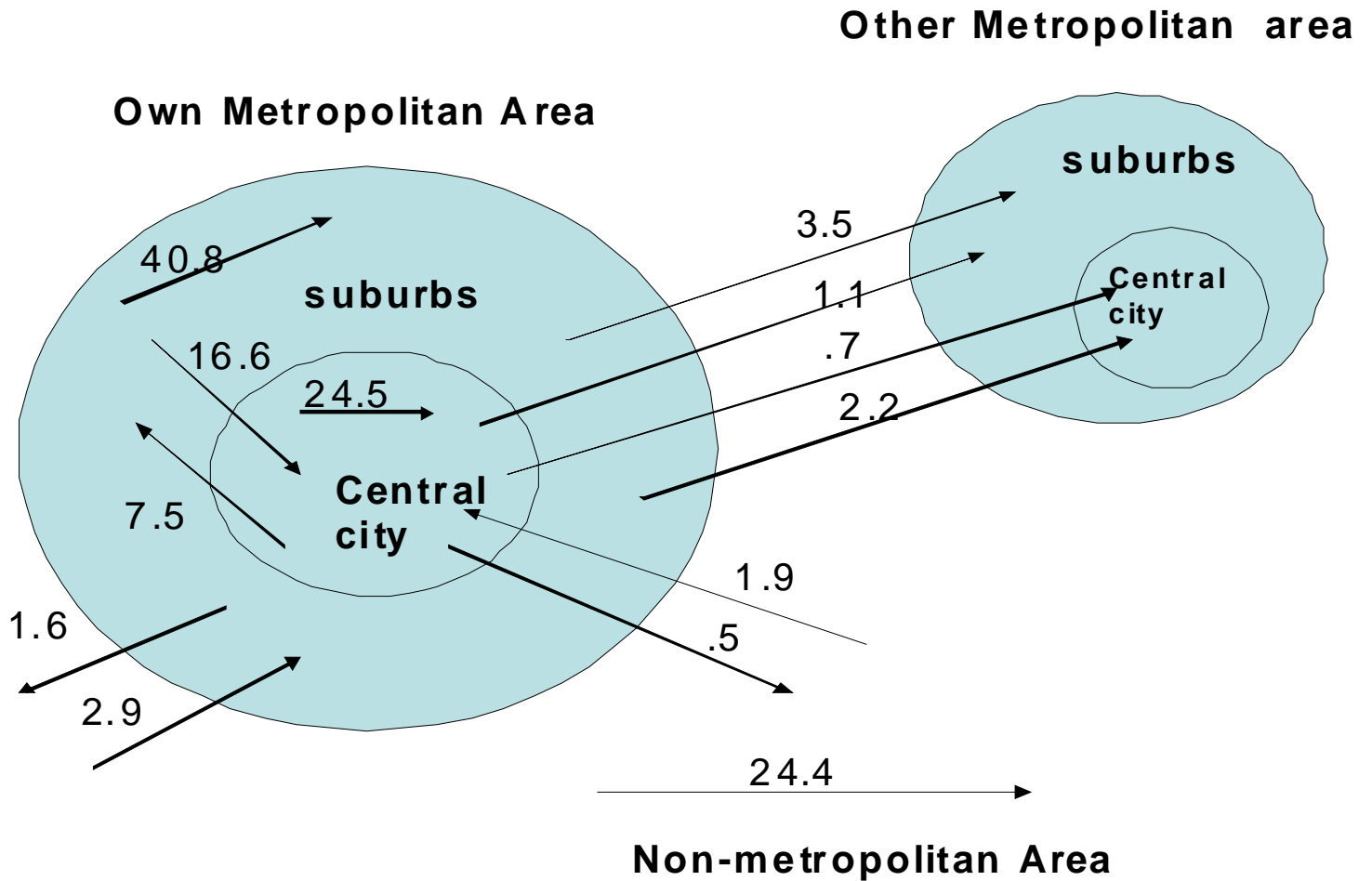
#4 The “Donut” Metro

- Jobs and workers centered in suburbs
- 46% of commutes;
- 64% of growth 90-00
- 7.5 million coming in to the subs from exurbs and other metros each day
- 7.5 million going out to the subs from central cities
- CC to subs > Subs to CC in share of growth

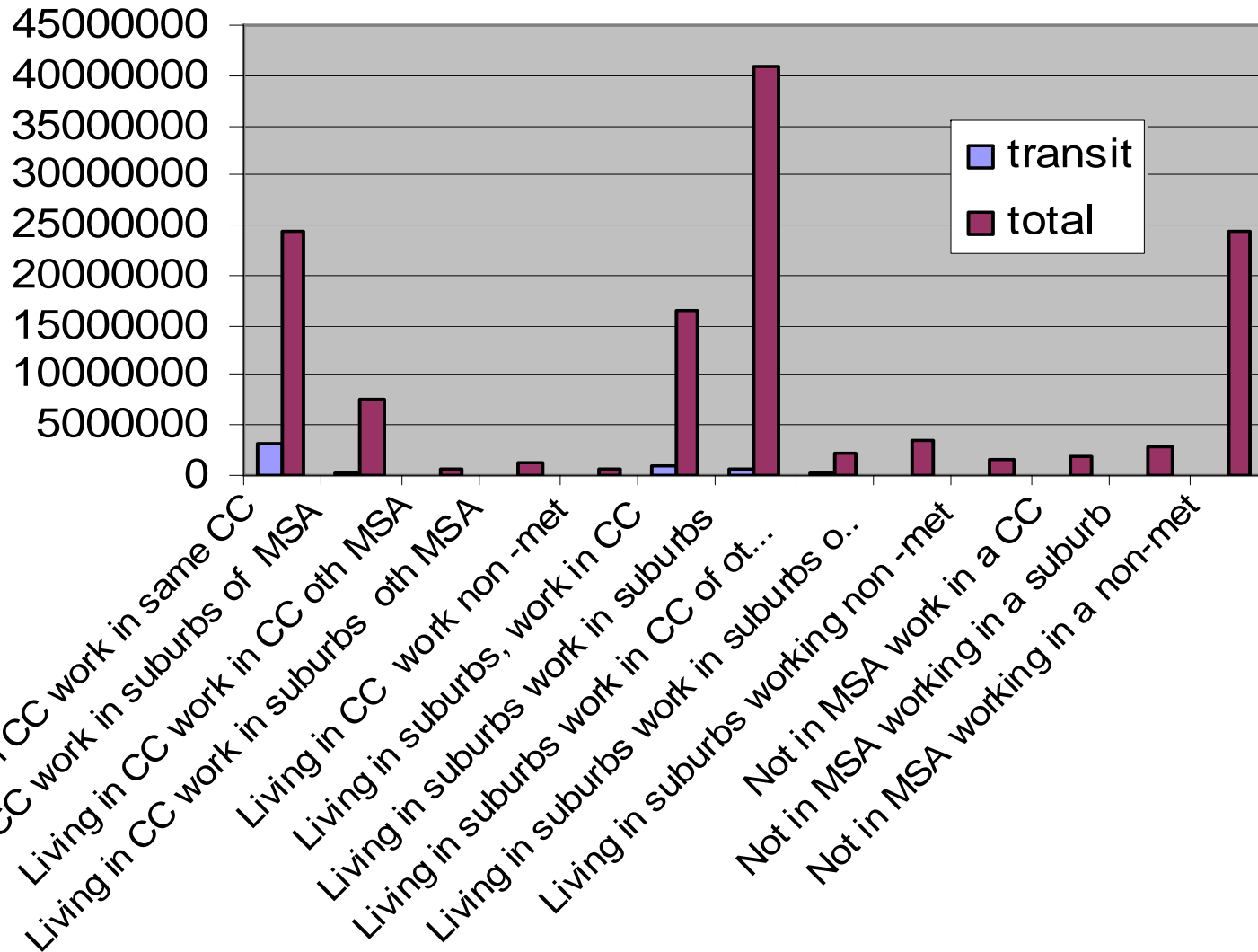
Share of Increase in Commuting Flows 1990-2000



2000 METRO FLOW MAP



National commuting flows



The Focus will be on Big Metros

◆ metros over a million

- 1960 34 areas
- 1990 39 areas
- 2000 50 areas
- 2005 53 areas
- Probably 60 areas by 2020
- 60% of population

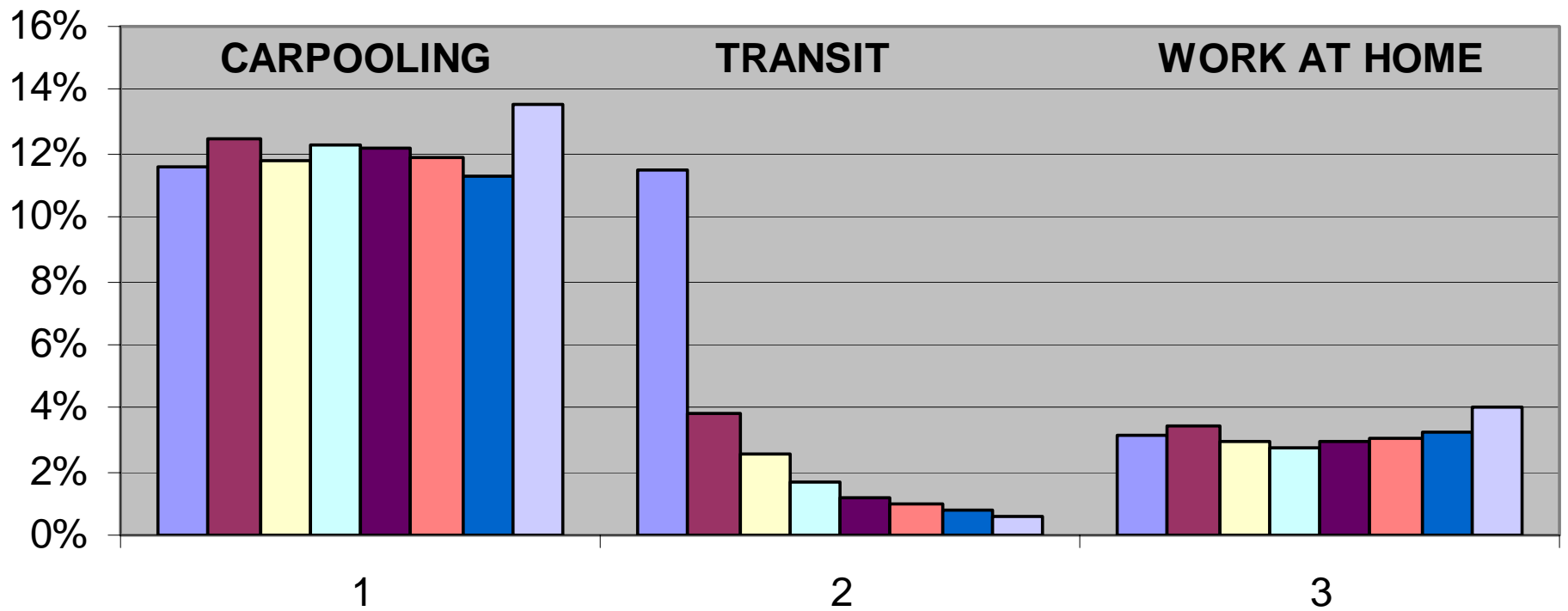
◆ 12 areas with more than 5 meg.

◆ 100 meg.

◆ 1/3 of national pop.

#3 CONTINUING GROWTH IN WORKING AT HOME

- Only work “mode” with Driving Alone to see continuous growth since 1980
- ALL Metros over a million saw increases except three with heavy military components
- Work at home added 2 million from 1980 to 2000 – almost doubling
- Added another 600,000 by 2005
- **2007 share 4.1%**



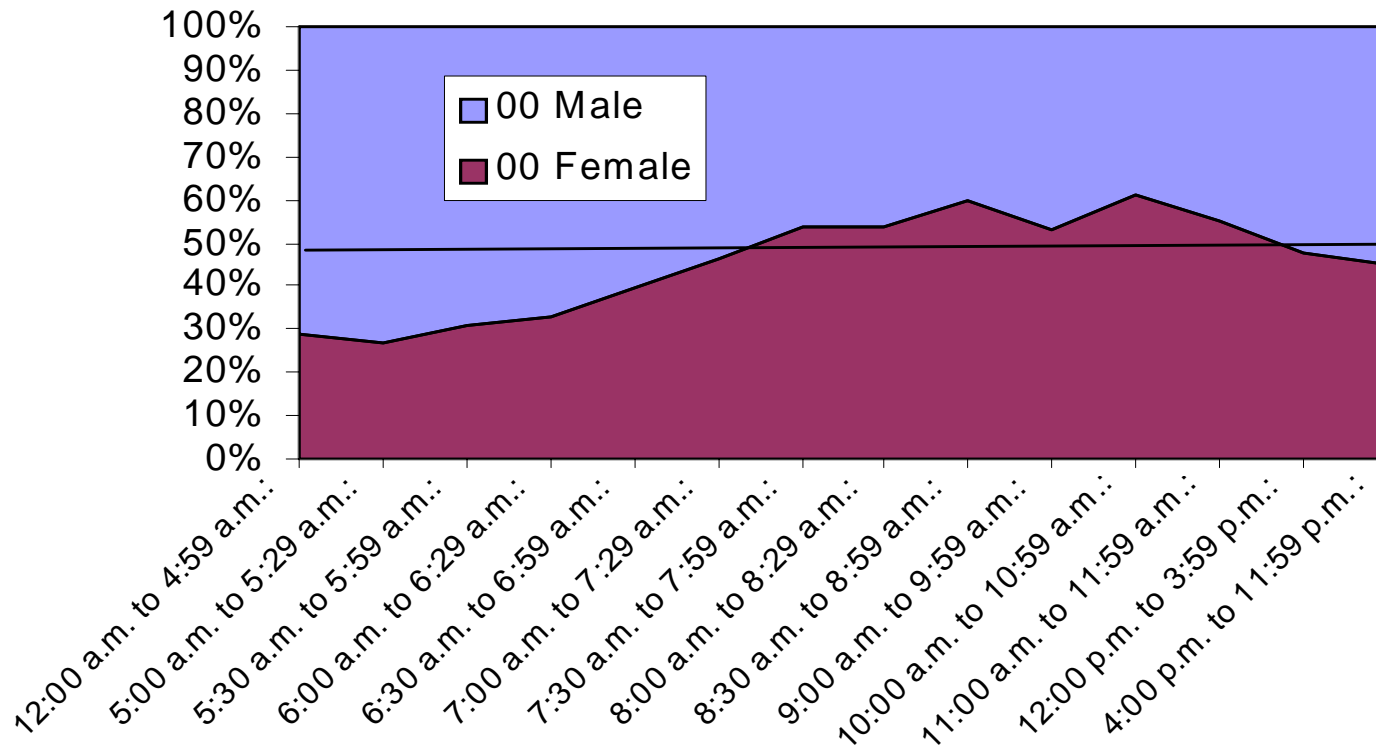
- In met area -- 5,000,000 +
- In met area -- 2,500,000 to 4,999,999
- In met area -- 1,000,000 to 2,499,999
- In met area -- 500,000 to 999,999
- In met area -- 250,000 to 499,999
- In met area -- 100,000 to 249,999
- In met area -- 50,000 to 99,999
- Not in metro area

#2 WORKERS OUT BEFORE 6AM

- 5-6am rose from 6.4% 1990 to 7.6% in 2000 (**8.5% in 2005**)
- Those starting before 5 AM were only 2.4% of travel in 1990 but gained 11% of all growth 1990-2000
- Peak period (6-9 AM) decline continues: 69% 1990; 66% in 2000;
- below **64% in 2007**

Before 8 it's a guy-thing!

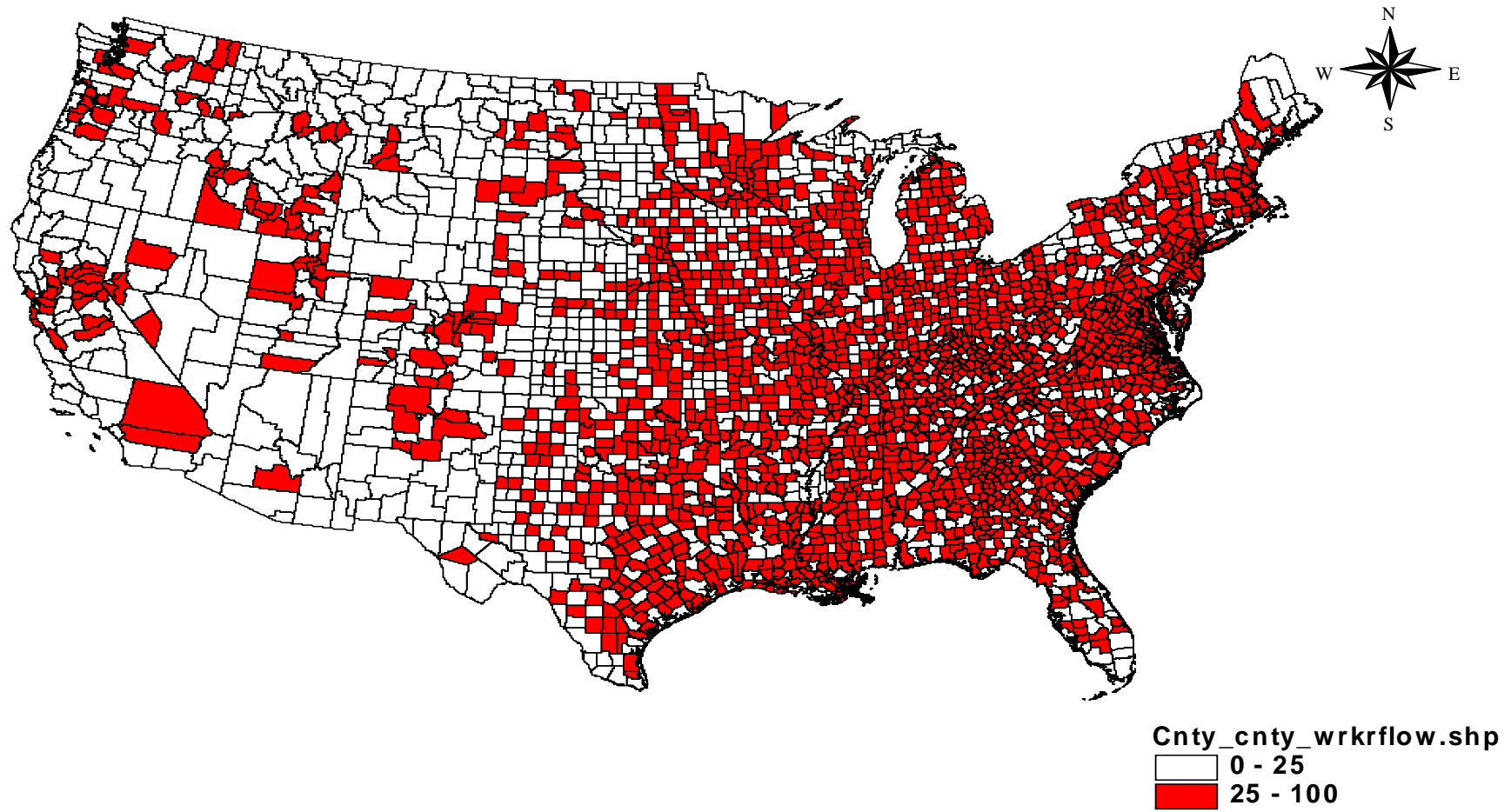
male-female commuting distribution by hour of the day
2000



#1 GREAT INCREASES IN WORKERS LEAVING HOME COUNTIES TO WORK

- **1990** 23.9% of workers left home county
- **2000** 26.7% (**2007** almost 28%)
- **90's** - 13.2 meg. new Workers 51% Left home county (6.7 Meg.)
- **00's** - Of 5 meg. new workers 55% left home county (2.6 Meg.)
- **Wash DC Area leads nation!**

County-to-County Worker Flow Percentage: 2000

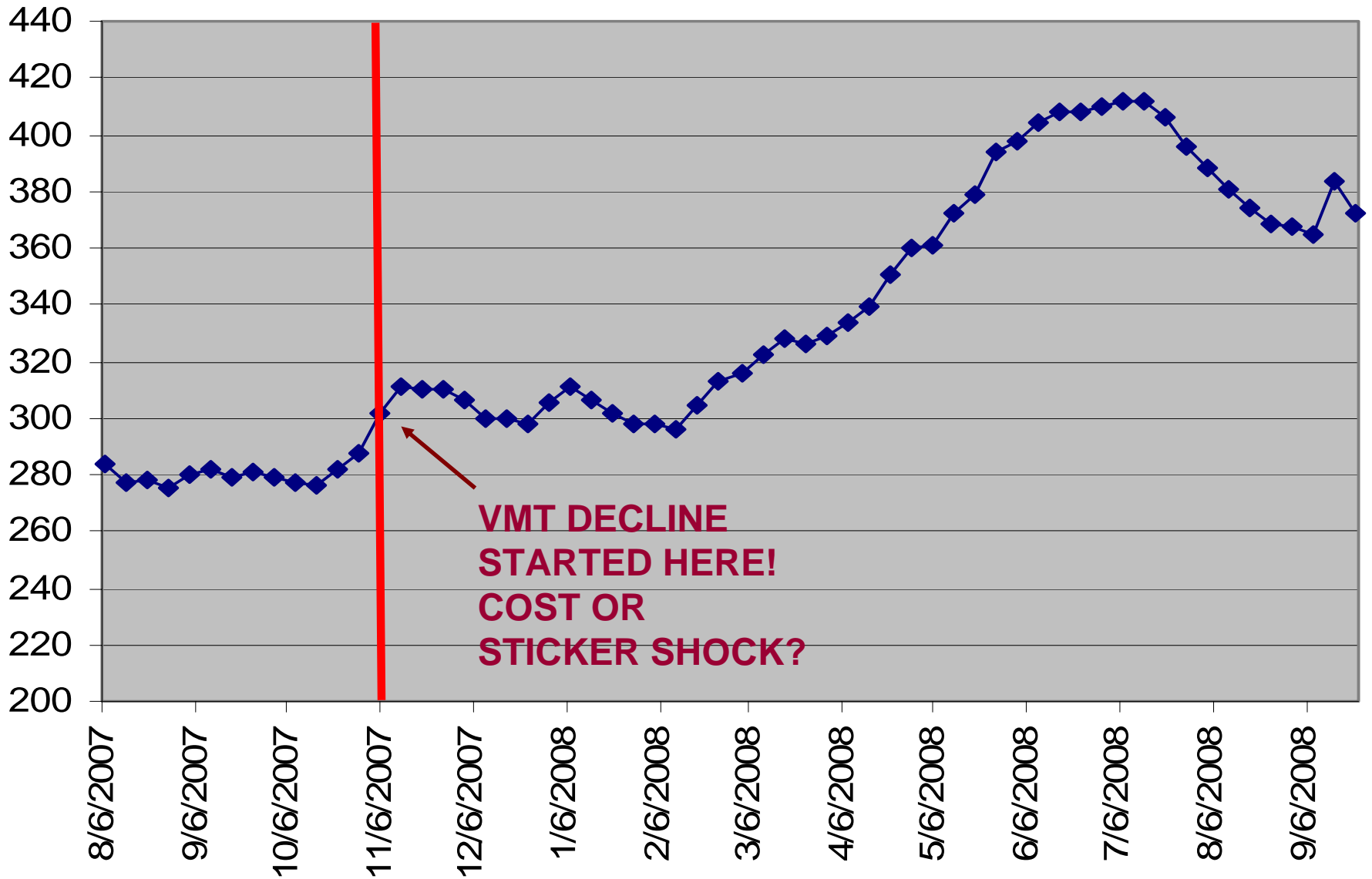


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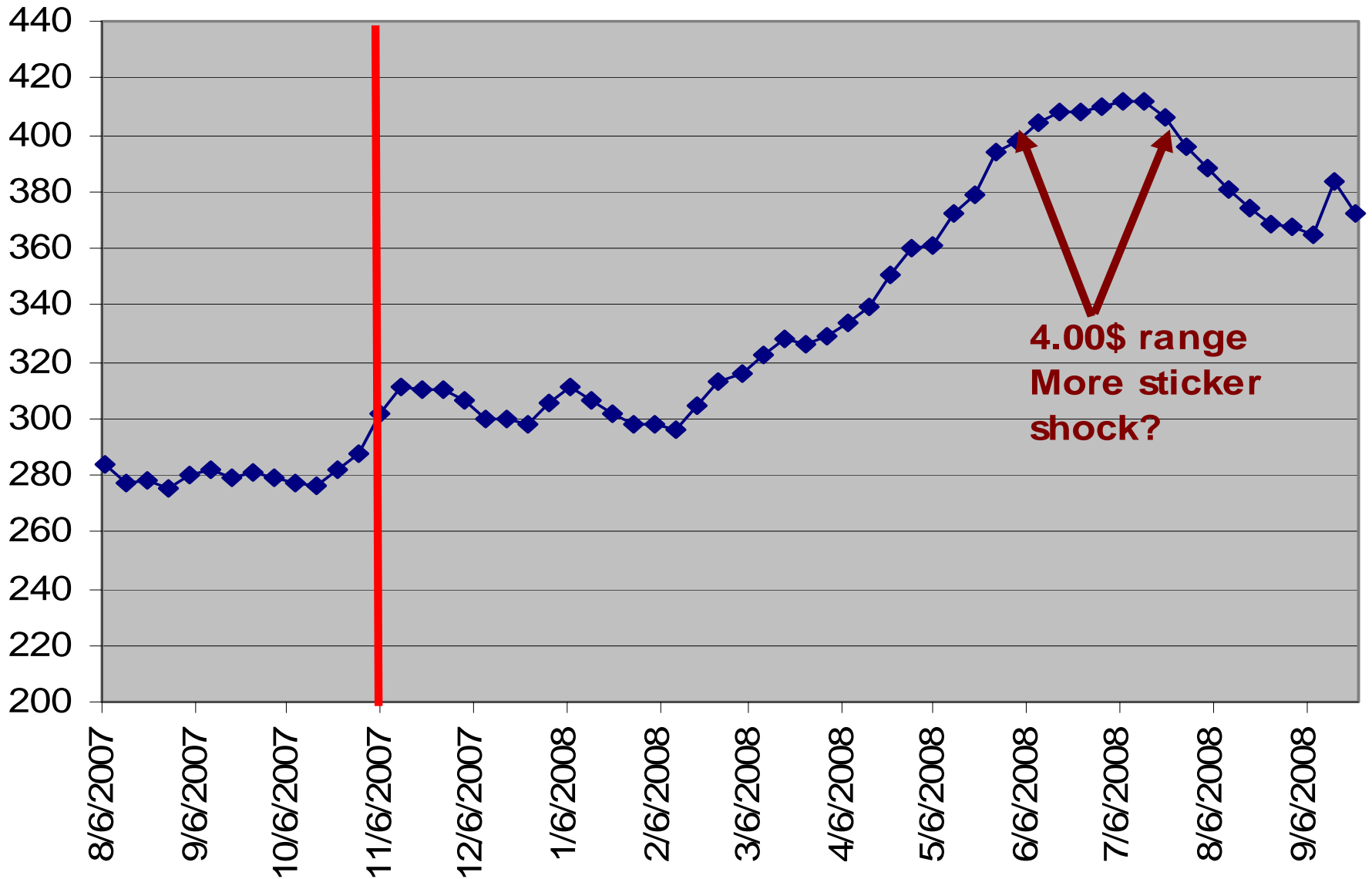
4\$ a gallon has come and gone

- Will it be back? When?
- Who is affected?
- What happened to vmt?
- What happened to commuting?
- Are there answers:
 - Short Term ?
 - Long Term ?

WEEKLY GAS PRICES 1 YEAR

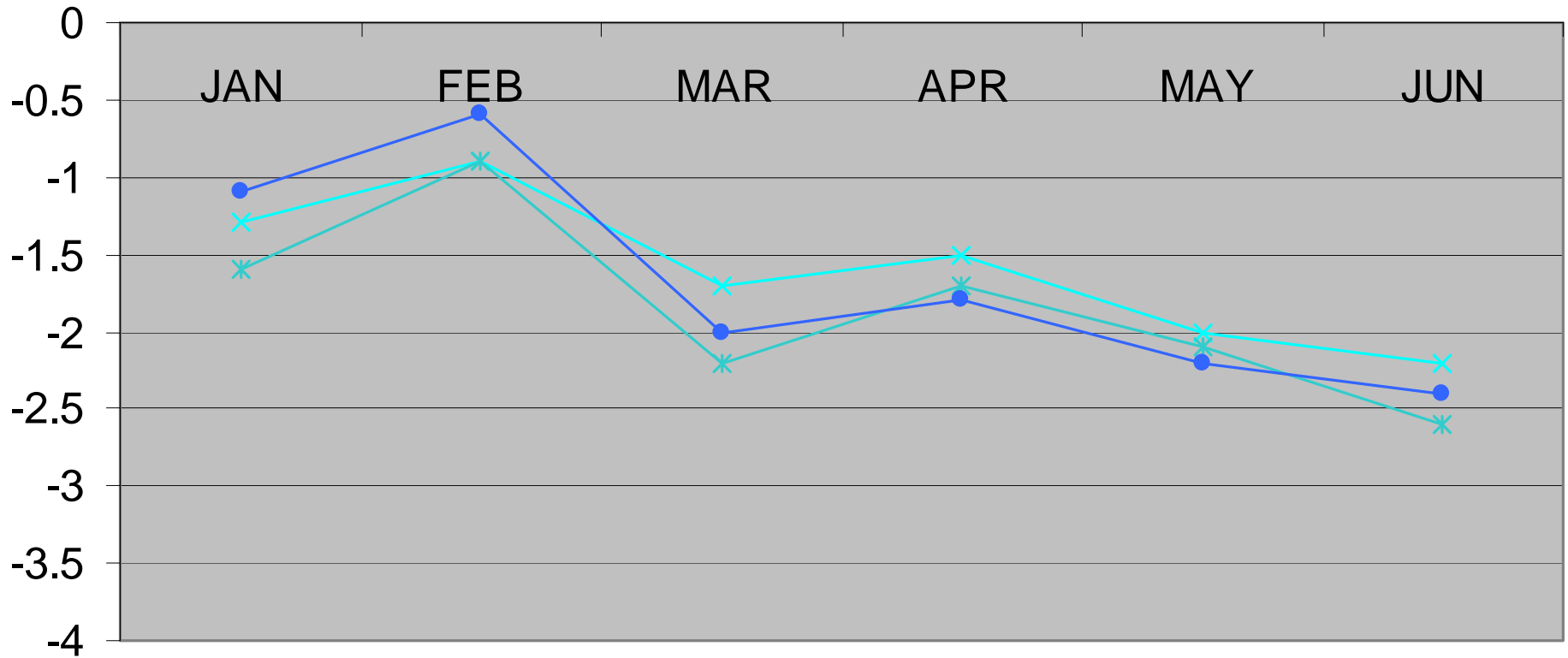


WEEKLY GAS PRICES 1 YEAR

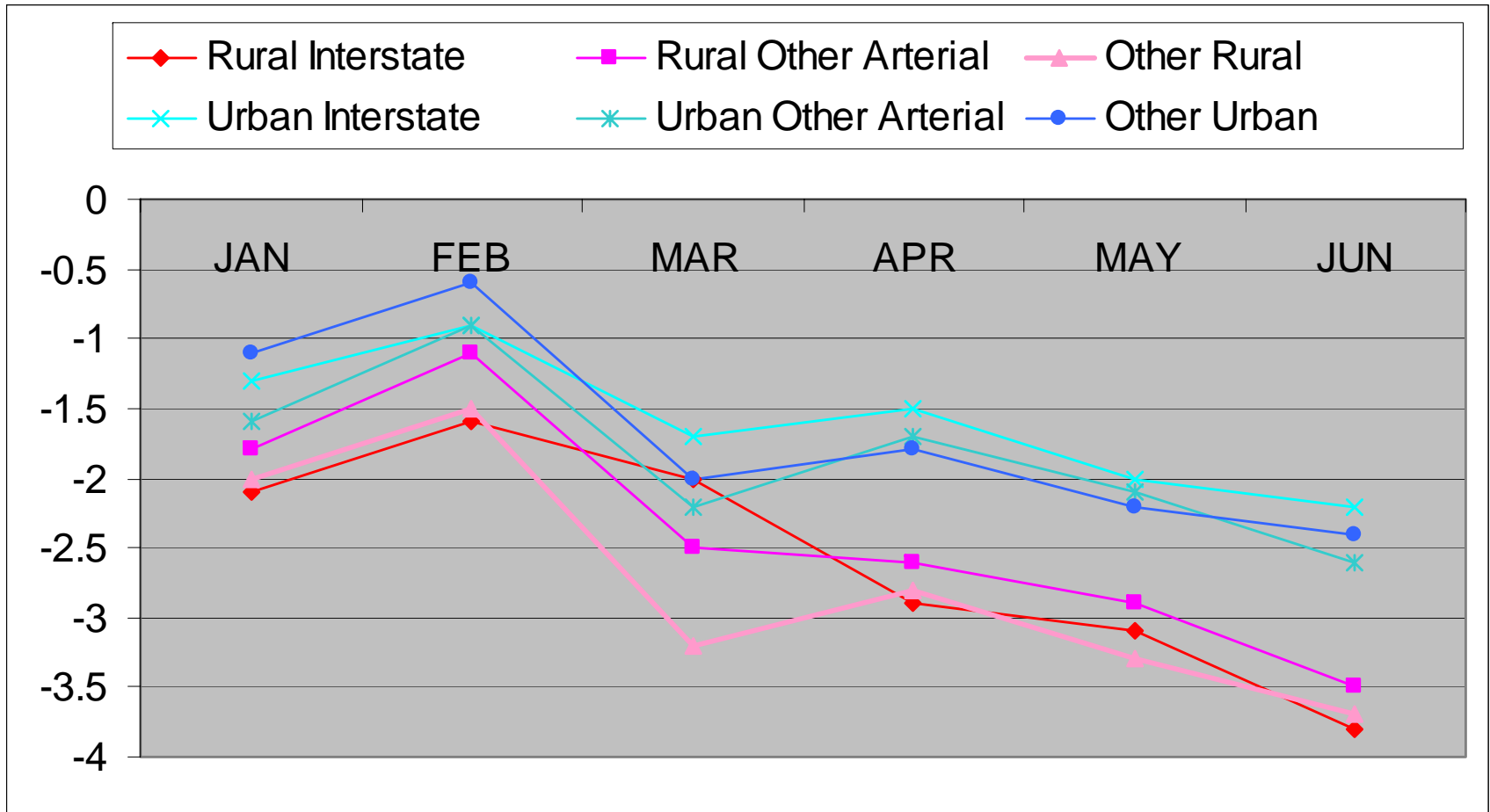


% Decline in VMT by Month 2008-2007

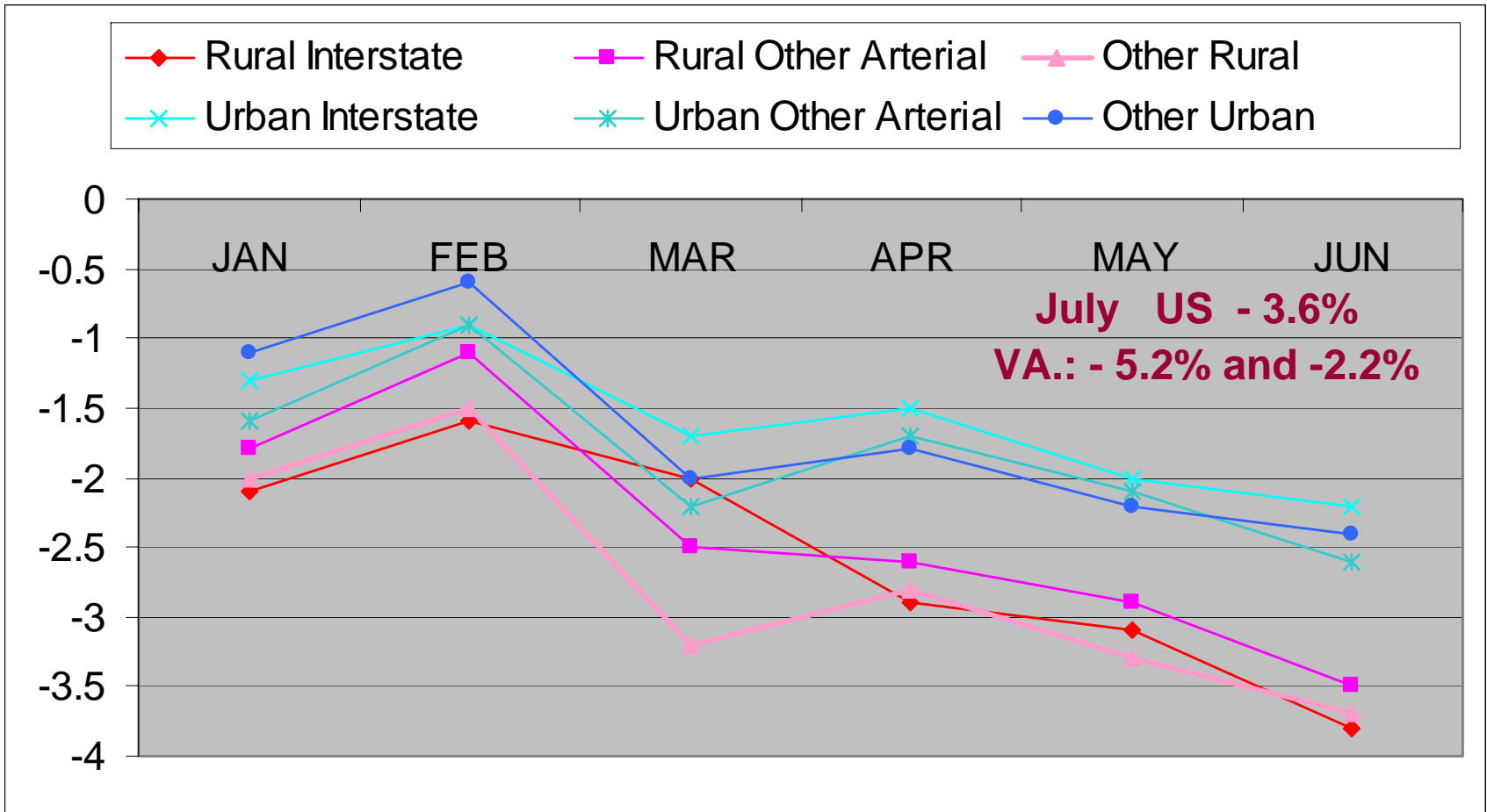
—x— Urban Interstate —*— Urban Other Arterial —●— Other Urban



% Decline in VMT by Month 2008-2007



% Decline in VMT by Month 2008-2007



TWO REACTIONS

HURRAY!

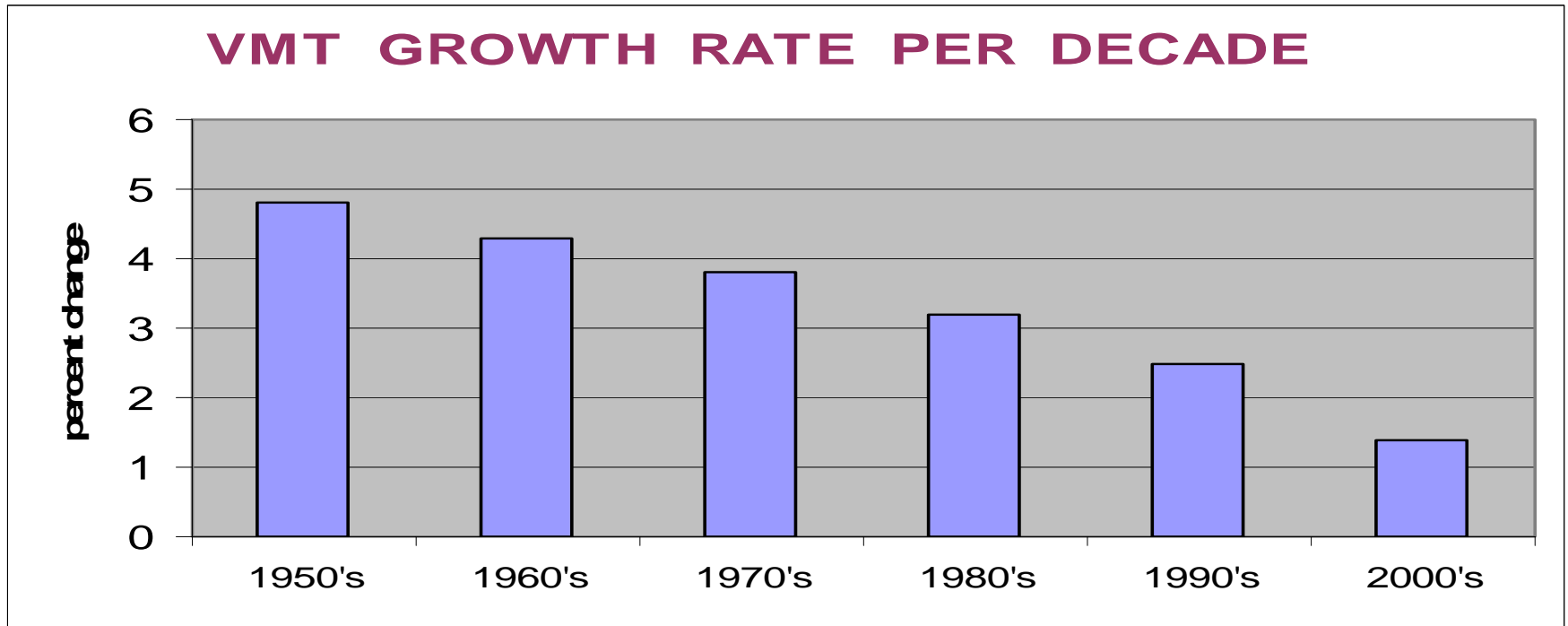
- **Schadenfreude!**
- **Those suburbanites had it coming!**
- **At last we are at “the Tipping Point”**
- **Now there will be a rush to the center for people and jobs**

BOO !

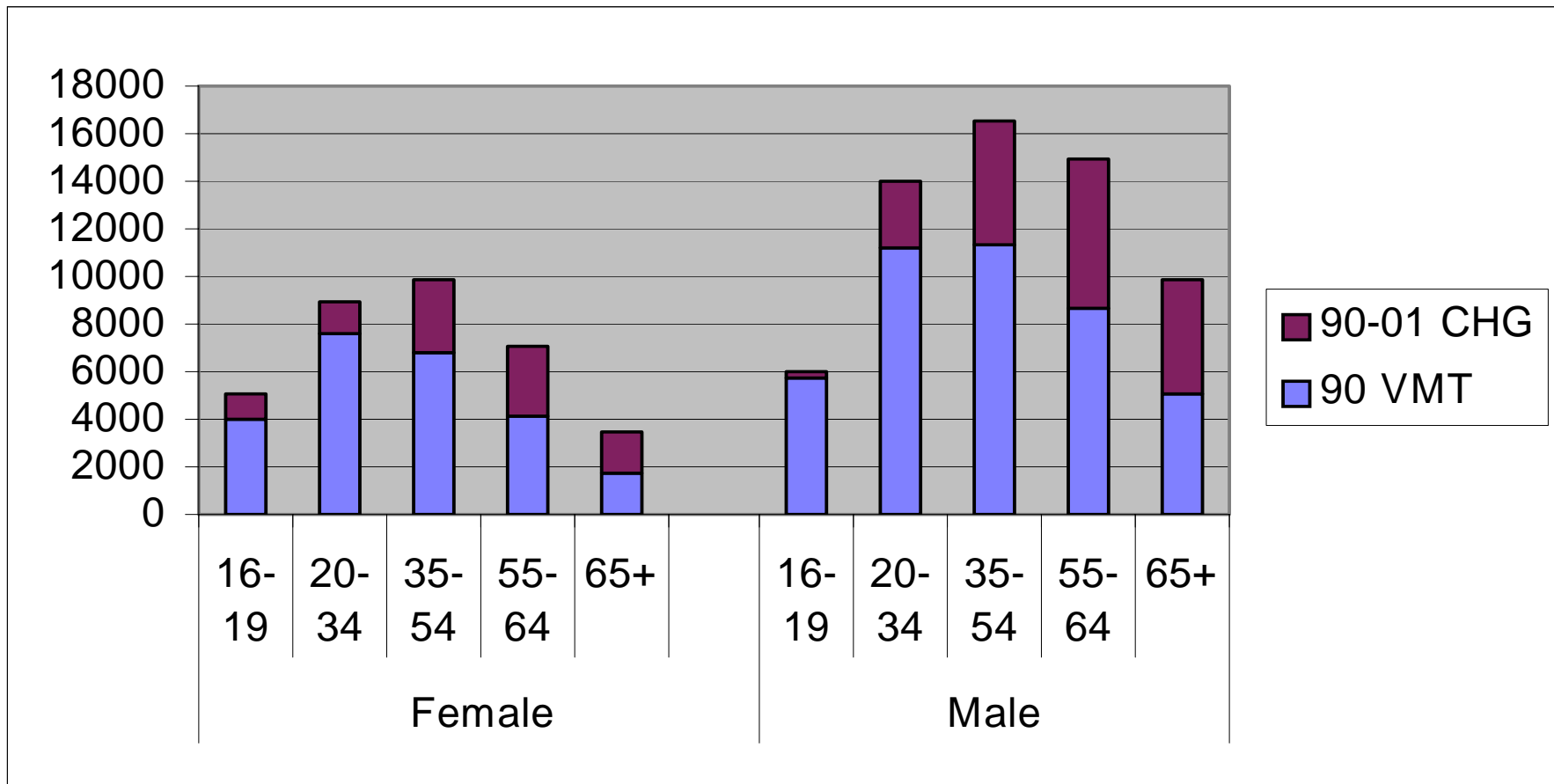
- **Less VMT = trips not taken; less economic activity**
- **Now is the worst time to be cutting economic activity**

VMT effect is not just gas prices

- WEAK ECONOMY
- Vacation Season – discretionary trips
- DEMOGRAPHY - a long term trend



TREND IN PERSONAL VMT – by age-sex



A little Perspective Here!

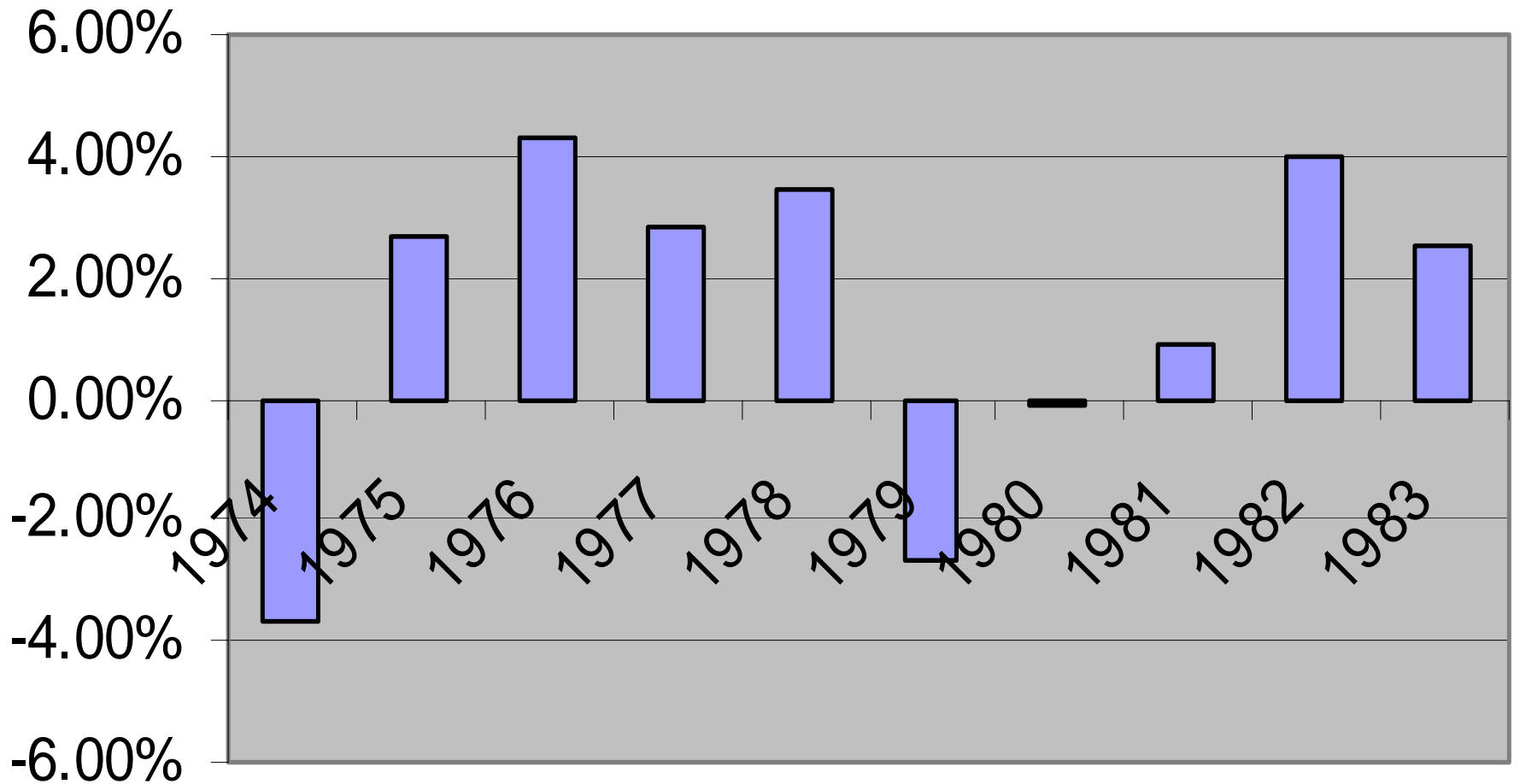
How much are we really talking about?

3.0% drop for year =

- Last year I drove 300 miles a week
[15,000 miles/yr]**
- This year I drove 290 miles a week**

= 1 five mile trip lost per week

Historical Passenger Car VMT change rates 1974-1984



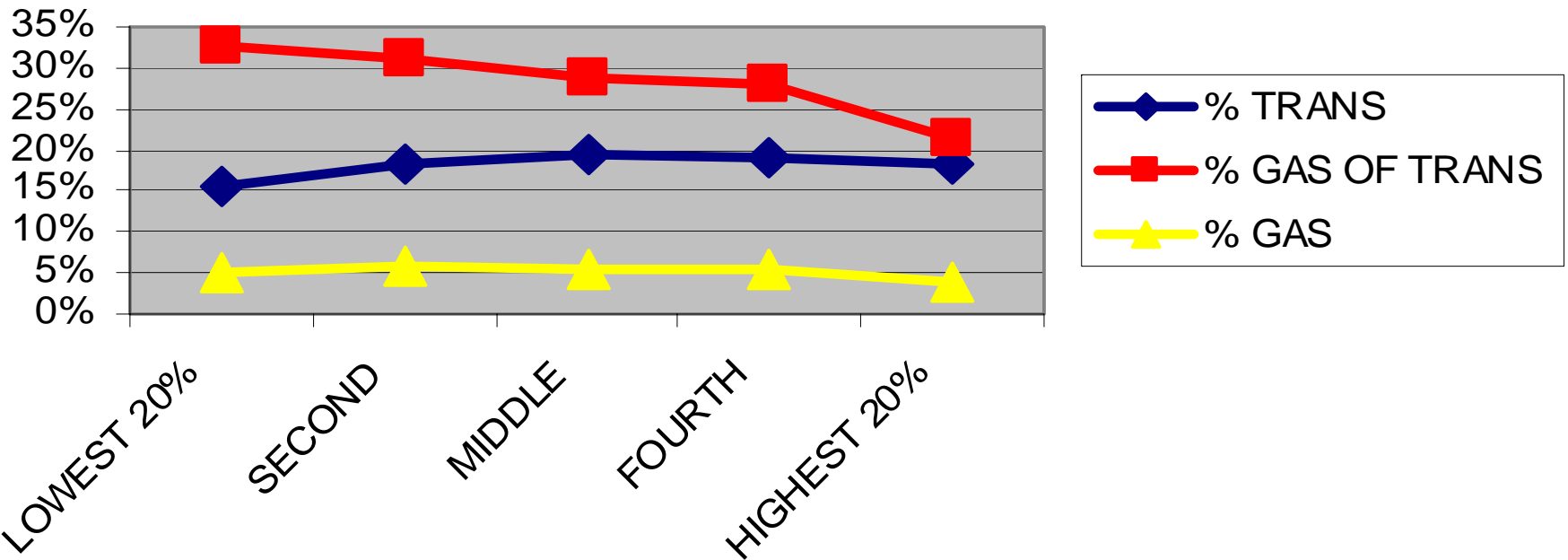
IS FUEL CHEAP AT 4\$?

| | <i>Cost/ gal</i> | <i>Fuel Efficiency</i> | <i>Cost/ mile</i> |
|-------------------------|----------------------|----------------------------|-----------------------|
| 1981 2007\$ | 3.09 | 16.4 | 18.8 cents |
| 2007 | 2.85 | 22.4 | 12.7 cents |
| 2008 approx. | 4.00 | 23.7* | 16.8 cents |

PLUS WE ARE 20% RICHER THAN THEN!

Lowest Income Group spends less for transportation as a % of all spending; but gasoline is a bigger part of their transportation spending

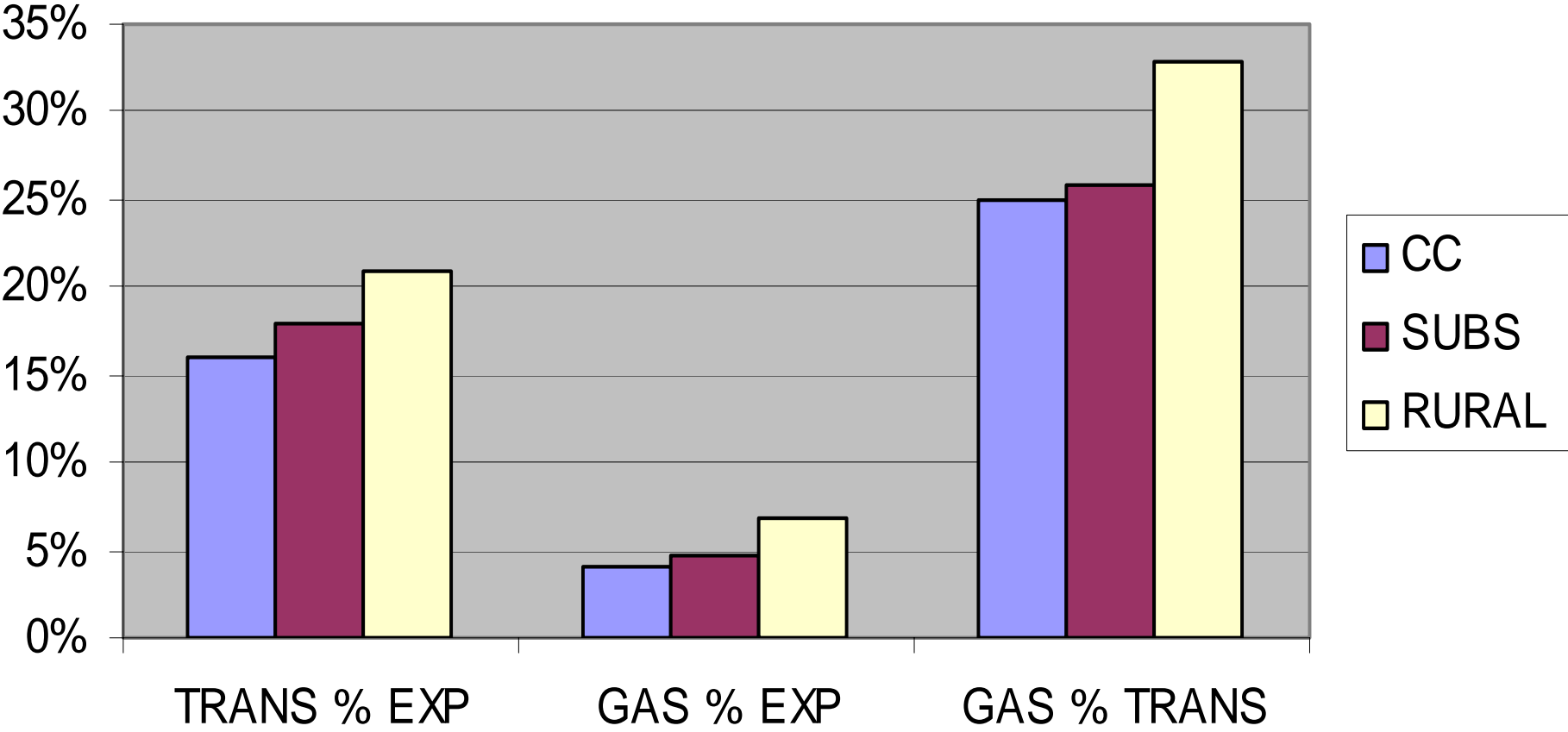
Gas Spending by Income Group



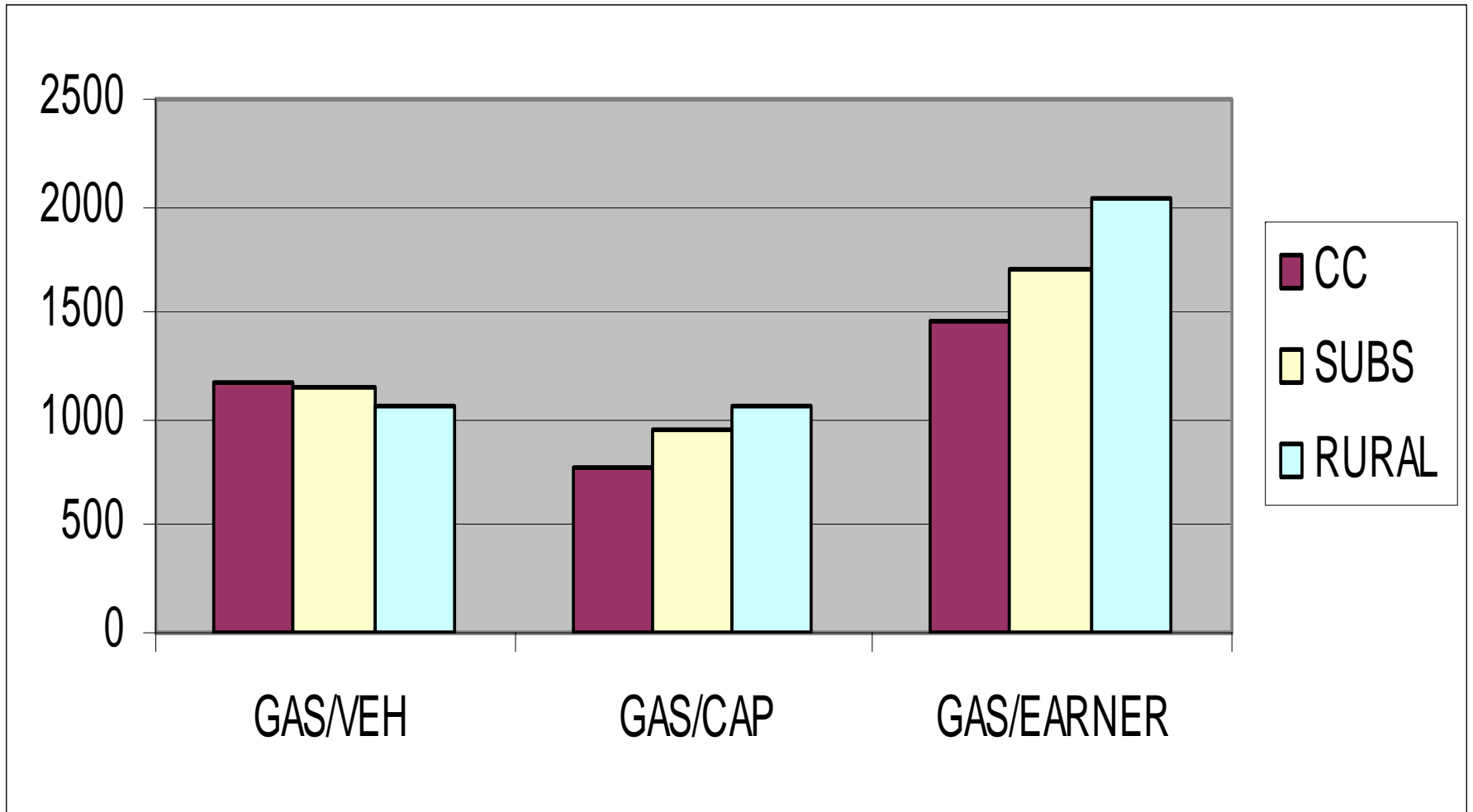
VMT Response: Where did it go?

- **TRIP CHAINING** – Big payoffs
- **CARPOOLING**
 - Work – some gains
 - Non-work – more
- **CUTS IN TRIP LENGTH**
- **CUTS IN TRIPS MADE**
- **SHIFTS TO TRANSIT?**
 - Maybe 2%
- **FREIGHT**
 - Local Distribution opportunities
 - Load changes
 - Big Fleet gains

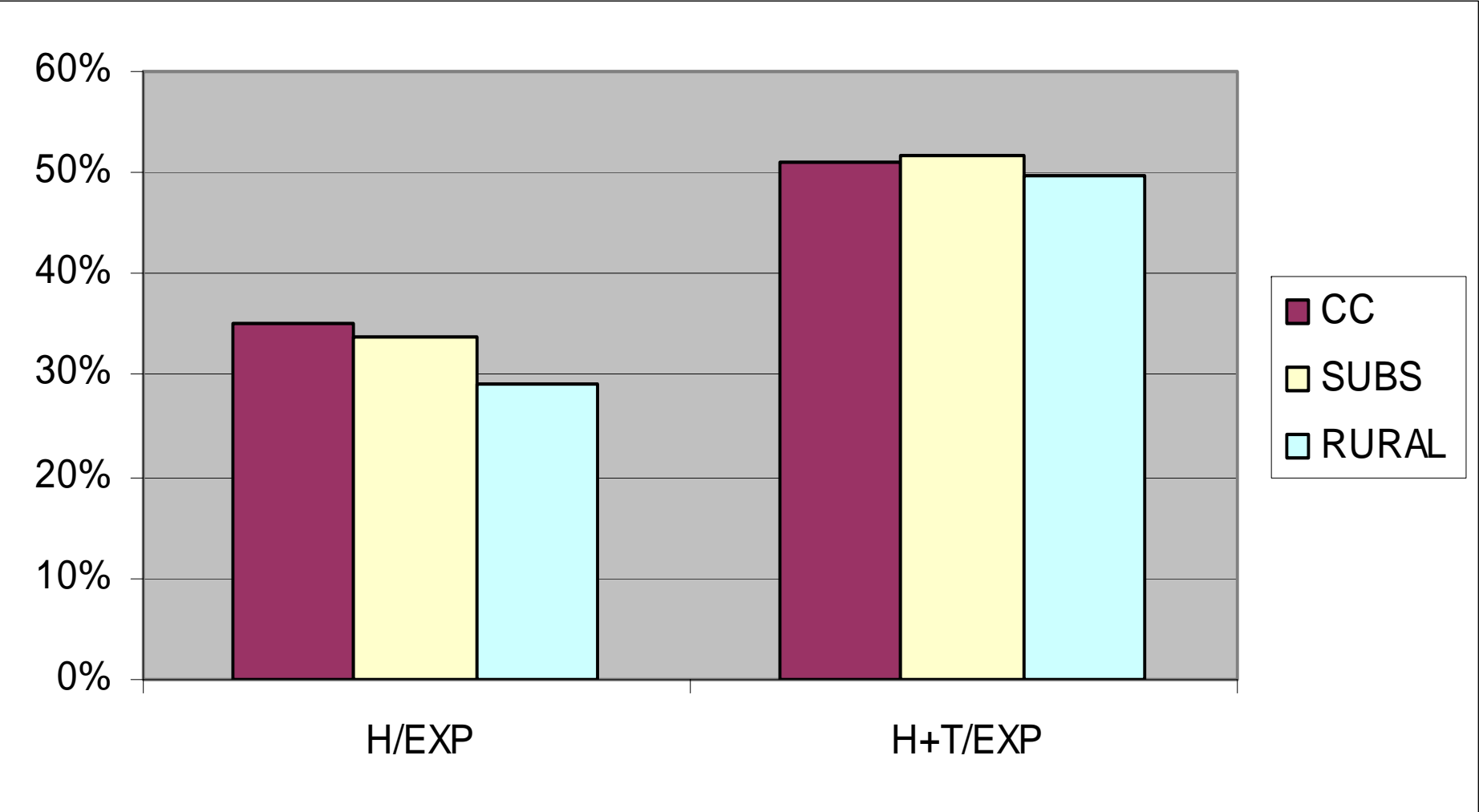
Key Percentages



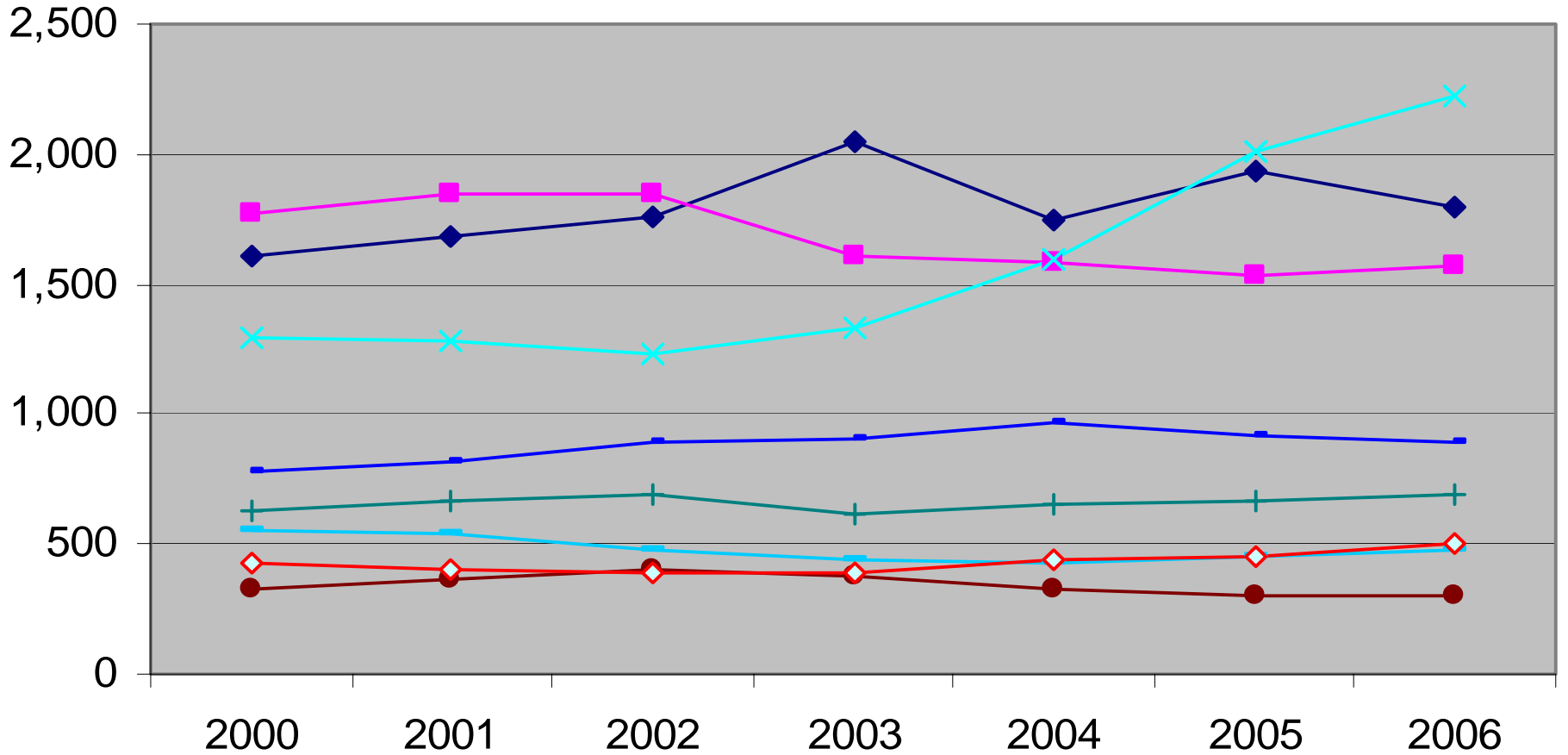
Spending for Gas



Housing and Transportation Cost Trade-offs



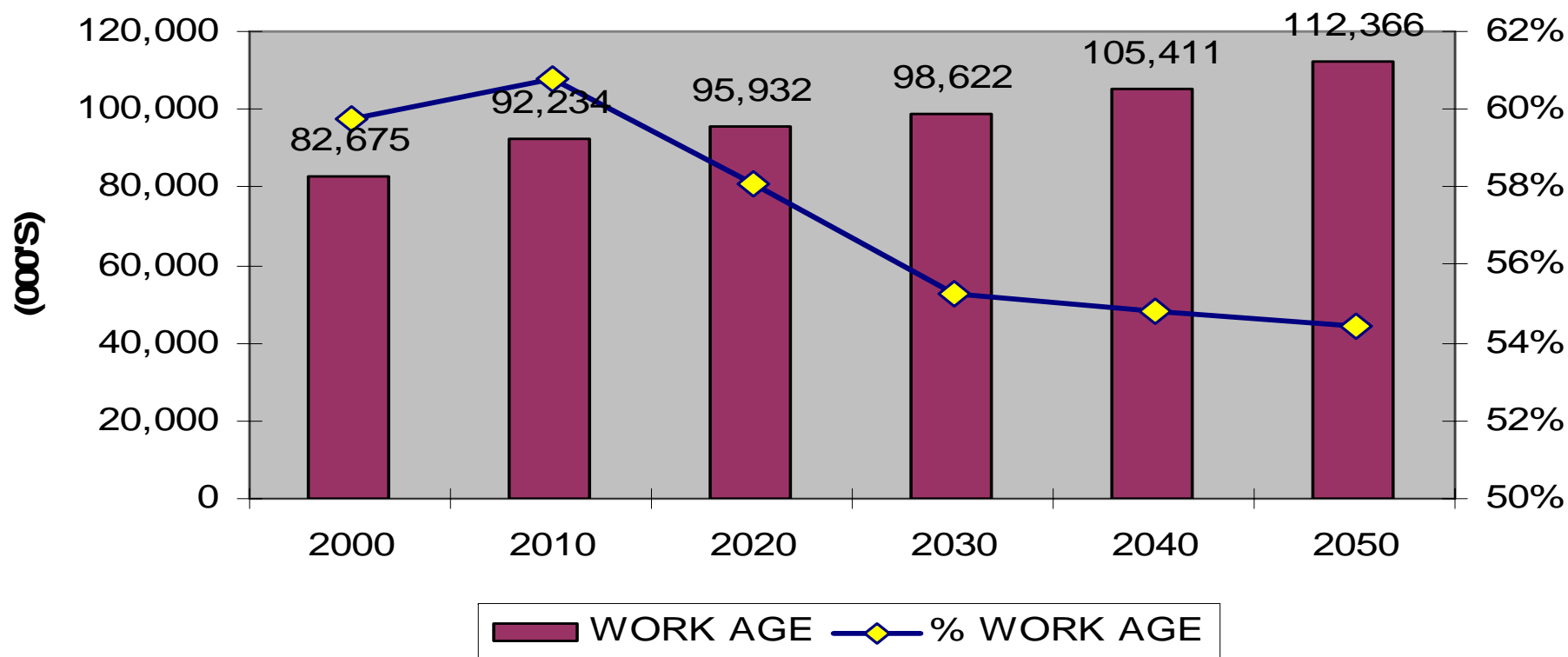
Detailed Transportation Expenditure Trends 2000-2006



- ◆ Cars and trucks, new
- ✕ Gasoline and motor oil
- + Maintenance and repairs
- Veh. rent., leas., licen., oth. c
- Cars and trucks, used
- Vehicle finance charges
- Vehicle insurance
- ◇ Purchased transportation

A critical decline in population of working age!

MALES OF WORKING AGE & AS SHARE OF POPULATION



The big issue – Access to Workers

- **Broadening Opportunities**
- **Promote Employer Flexibility**
- **Center city to suburban jobs**
- **Rural to suburban jobs**
- **Older/Retirees access to old/new jobs**
- **Part time opportunities**

Thank you

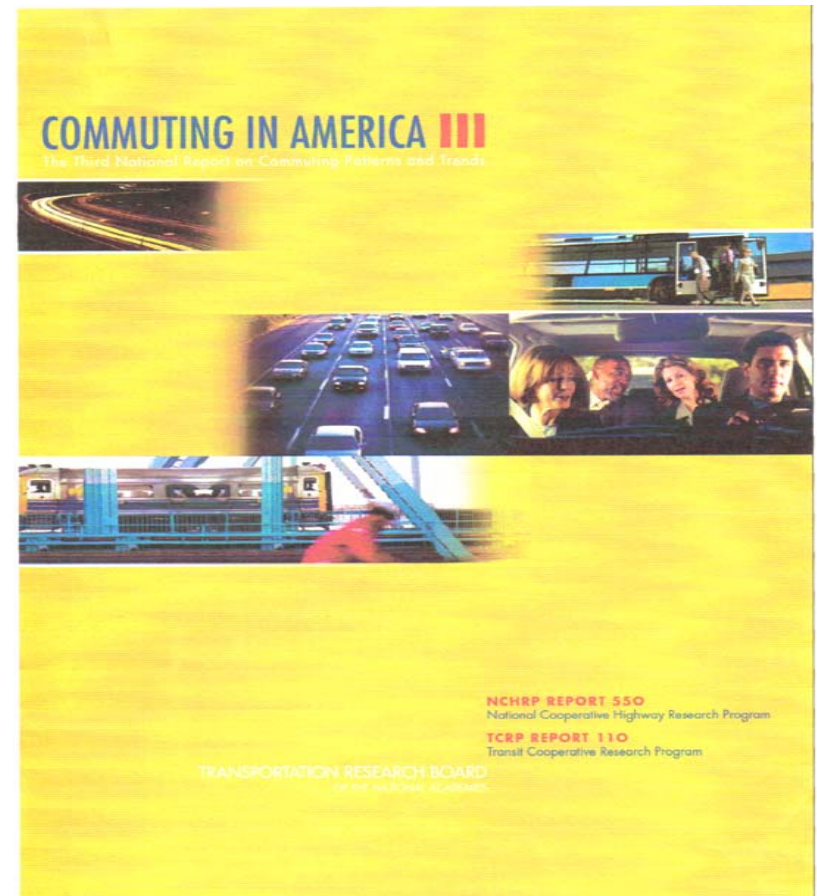
- **Transportation Research Board; Internet at <http://www.TRB.org/CIAlll>**

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Special Transit Study of Trips Downtown

| | % metro | | | |
|-------------|------------|--|--|--|
| Wash DC | 9% | | | |
| New York | 25% | | | |
| Seattle | 7% | | | |
| Dallas Ft W | 1.8% | | | |

Special Transit Study of Trips Downtown

| | % metro | % cc | | |
|-------------|-------------|-------------|--|--|
| Wash DC | 9% | 21% | | |
| New York | 25% | 45% | | |
| Seattle | 7% | 12% | | |
| Dallas Ft W | 1.8% | 2.6% | | |

Special Transit Study of Trips Downtown

| | % metro | % cc | % “Downtown” | |
|-------------|-------------|-------------|-----------------|--|
| Wash DC | 9% | 21% | 38% | |
| New York | 25% | 45% | 77% | |
| Seattle | 7% | 12% | 37% | |
| Dallas Ft W | 1.8% | 2.6% | 14% | |

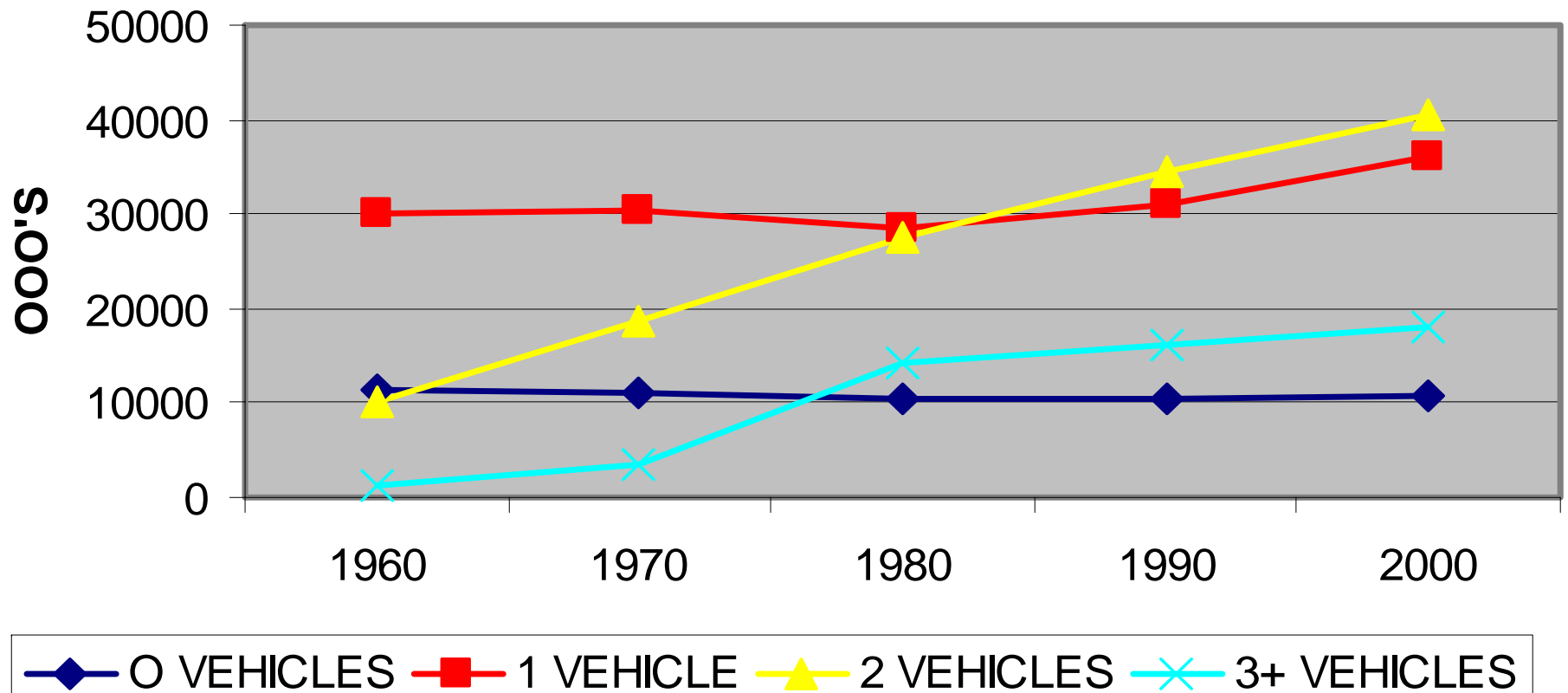
NATIONAL SUMMARY MODE SHARES

| United States | 1980 | 1990 | 2000 | 1980 | 1990 | 2000 |
|----------------------------|-----------------|-----------------|------------------|---------------|---------------|---------------|
| Total: | 96617296 | 115070274 | 128279228 | 100.00% | 100.00% | 100.00% |
| Car, truck, or van: | 81258496 | 99592932 | 112736101 | 84.10% | 86.55% | 87.88% |
| Drive alone | 62193449 | 84215298 | 97102050 | 64.37% | 73.19% | 75.70% |
| Carpool | 19065047 | 15377634 | 15634051 | 19.73% | 13.36% | 12.19% |
| 2-person | 13303701 | 12078175 | 12097346 | 13.77% | 10.50% | 9.43% |
| 3-person carpool | 3360781 | 2001378 | 2159151 | 3.48% | 1.74% | 1.68% |
| 4-person carpool | 1400527 | 702222 | 766012 | 1.45% | 0.61% | 0.60% |
| 5-person+ carpool | 1000038 | 595859 | 611542 | 1.04% | 0.52% | 0.48% |
| Transit | 6007728 | 5890155 | 5867559 | 6.22% | 5.12% | 4.57% |
| Bus | 3924787 | 3445000 | 3206682 | 4.06% | 2.99% | 2.50% |
| Streetcar, LRT | *** | 78130 | 72713 | *** | 0.07% | 0.06% |
| Subway | 1528852 | 1755476 | 1885961 | 1.58% | 1.53% | 1.47% |
| Railroad | 554089 | 574052 | 658097 | 0.57% | 0.50% | 0.51% |
| Ferry | *** | 37497 | 44106 | *** | 0.03% | 0.03% |
| Taxi | 167333 | 179434 | 200144 | 0.17% | 0.16% | 0.16% |
| Motorcycle | 419007 | 237404 | 142424 | 0.43% | 0.21% | 0.11% |
| Bike | 468348 | 466856 | 488497 | 0.48% | 0.41% | 0.38% |
| Walk | 5413248 | 4488886 | 3758982 | 5.60% | 3.90% | 2.93% |
| Other | 703273 | 808582 | 901298 | 0.73% | 0.70% | 0.70% |
| Work at home | 2179863 | 3406025 | 4184223 | 2.26% | 2.96% | 3.26% |

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Cars per Household – 40 year trend

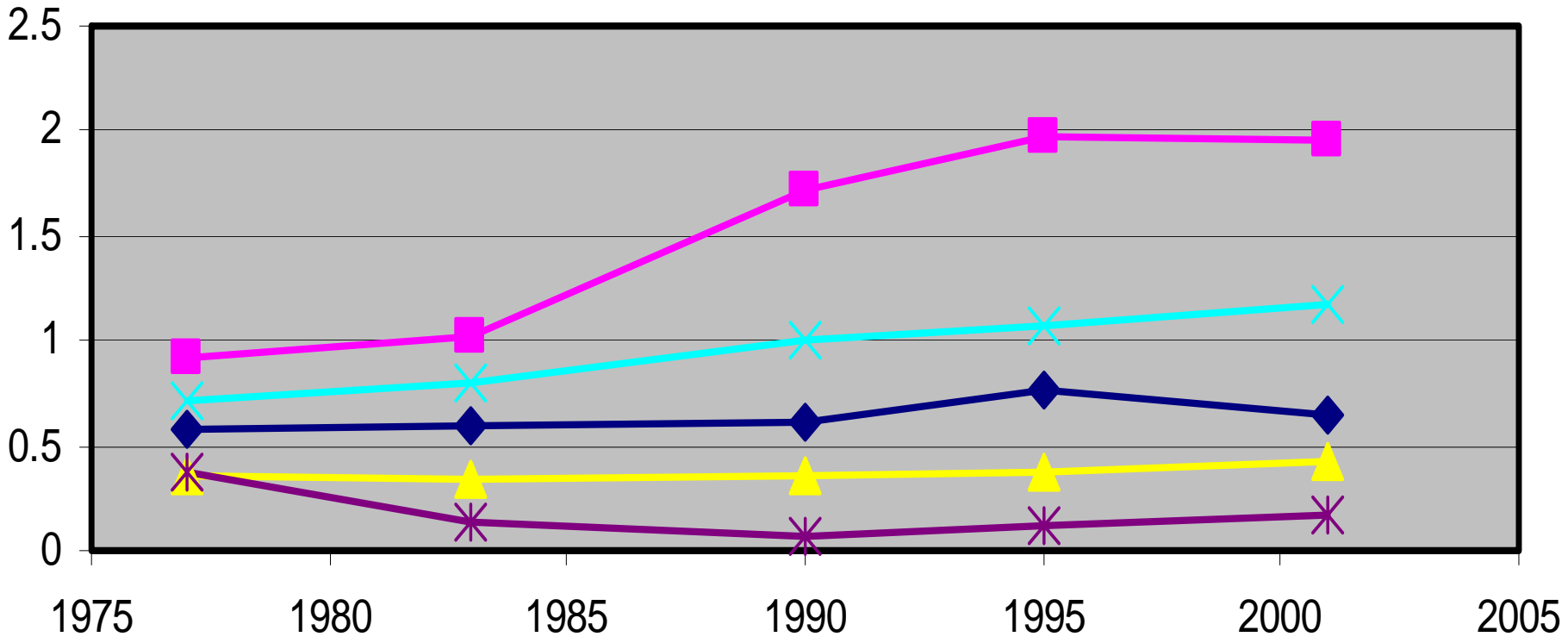
NUMBER OF HH BY VEHICLES OWNED



| TOP TEN | TRANS | ECON | SOC |
|-------------------------------|--------------|-------------|------------|
| 10 Sov Slows | X | x | x |
| 9 Variable Transit | X | x | x |
| 8 Af-Am Auto growth | x | x | X |
| 7 Immigrant role | X | X | X |
| 6 Older Workers | X | X | X |
| 5 Extreme commutes | X | x | x |
| 4 “Donut” Metro | X | X | X |
| 3 Working at home | x | x | x |
| 2 TLH before 6am | X | x | x |
| 1 Workers leaving home county | X | X | X |

Daily trips per Capita

◆ WORK ■ FAM/PERS BUS ▲ SCHOOL/CHCH ✕ SOC/REC * OTH



8 O'clock and all's well

