

V. FACTORS THAT IMPACT TRAVEL BEHAVIOR/PATTERNS

Since 1960, the growth of the Baltimore region has been driven by ever-increasing suburbanization, as city dwellers relocated to adjacent counties, and “migratory spillover” from suburban Washington, D.C., as well as “migratory spillover” into the Baltimore region from southern Pennsylvania counties such as York and Adams. A look at the recent past helps in understanding the forces that will determine future travel behavior.

LAND DEVELOPMENT PATTERNS

The transportation system of the Baltimore region is increasingly pressed to serve our growing and dispersed patterns of travel. Two factors in particular are stretching the transportation system to its limits: the growth of suburban job centers and suburban housing development.

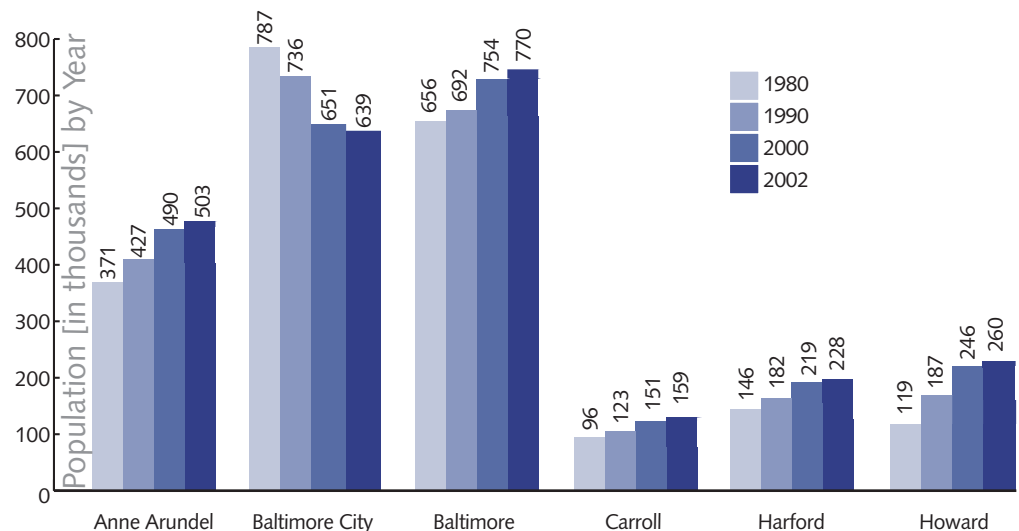
The distribution of population in these areas is even more significant than the absolute numbers, since the effects on trip-making are directly linked to the distribution of residences, employment, and desired services. The dispersal of the region’s population brought on by increasing suburbanization is a major factor in increased trip-making and traffic congestion. Travel is especially heavy along corridors that connect major activity centers:

- I-95 between I-695 and I-495 in the Washington region
- I-695 between I-95 N and I-83 N
- I-83 between Hunt Valley, Timonium, Towson and downtown Baltimore
- I-795/Route 140 between the Baltimore Beltway, Owings Mills and Carroll County
- I-95 between I-895 and MD 24
- I-695 between I-795 and I-95 S

The revised travel patterns resulting from dispersed suburban development are difficult to serve using the existing radial highway and transit network. Traffic congestion, previously limited to peak hours of operation on urban freeways, has spread to the cross-county roadway system and occurs during a larger portion of the day. The rush hour is increasing in both location and duration. Interaction of the Baltimore region with surrounding regions is also projected to become a more significant travel pattern.

DEMOGRAPHIC TRENDS

The Baltimore region’s population increased by 341,300 between 1980 and 2000, from 2.17 million to 2.52 million. This is a net increase of 16 percent which is significantly lower than the 3-county Washington DC region’s 28.5 percent and lower than the state as a whole at 19.3 percent. Much of the rea-



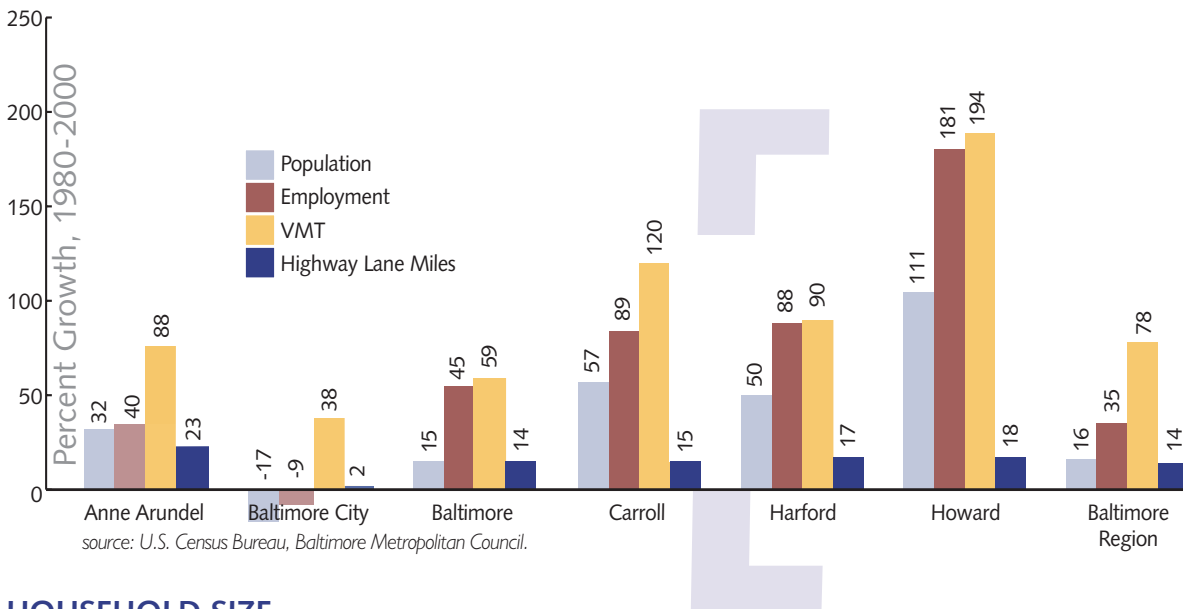
source: U.S. Census Bureau, Baltimore Metropolitan Council.

TRANSPORTATION 2030

son for this has been the continued decline of the City of Baltimore through this period, which lost almost 136,000 people, or 17 percent of its 1980 population of 786,741.

Most of the region's growth occurred in the outer counties, a combination of new growth and out migration of existing residents. Between 1980 and 2000, Howard County grew from 118,572 to 247,842 (an increase of 110 percent), Carroll County from 96,356 to 150,897 (increase of 57 percent), Harford County from 145,930 to 218,590 (50 percent), and Anne Arundel from 370,775 to 489,656 (66 percent increase).

As a result of this out migration to the suburbs, the vehicle miles of travel per person is much higher in these suburban areas. The highest rates of daily VMT per capita are found in Howard County (31.6), Anne Arundel (27.5), Baltimore (26.4) and Harford (25.7). In contrast, the rate in Baltimore City is only 14.9 VMT/person/day.



HOUSEHOLD SIZE

Nationally, household size has been steadily declining for decades, mirroring a trend toward smaller families and more single person households, and this trend is evident in the Baltimore region as well. The number of regional households increased from 757,000 to 960,000 between 1980 and 2000, or 27 percent, compared to only a 16 percent increase in population. Correspondingly, the average household size decreased from 2.87 to 2.62 persons per household, or 9 percent, and was fairly uniform across all jurisdictions.

The emergence of two-income families has also made suburban and rural housing available to a wide range of the region's citizens, contributing to the population shift away from Baltimore City. The dispersion of population and households to the suburban areas of the region has also resulted in longer work trips.

The primary factors that have impacted our transportation system are socioeconomic changes and land development. The locational choices made by individuals and businesses in the region have sent a clear challenge to transportation planners and providers.

DEMOGRAPHIC AND SOCIOECONOMIC FACTORS

Continuing evolution in the gender makeup of the paid workforce, along with different land development

patterns, has radically altered the movement of persons and goods. Continuing reductions in household size, widespread auto availability, and the ongoing suburbanization of population and jobs have resulted in intense use of the region's transportation system. The highway system, in particular, has been heavily impacted due to revised commuting behavior. The challenge to planners and decision makers is to be mindful of the social and economic forces responsible for these changes.

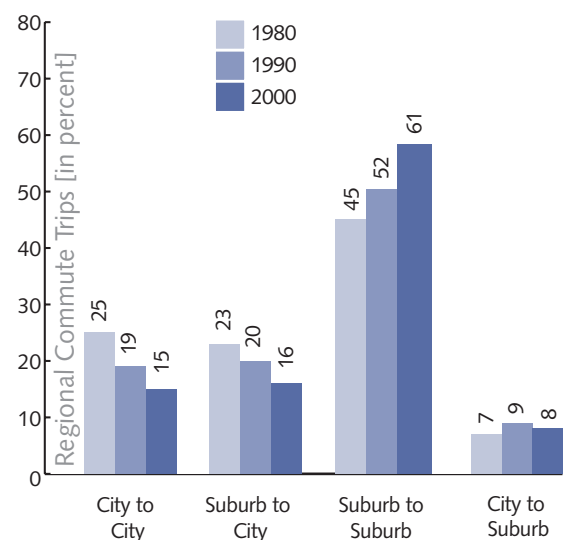
Significant changes in travel behavior during the last 20 years can be attributed to the increased participation of women in the work force. By 1990, 60 percent of all married women in the U.S., and at least that many single women, were members of the paid labor force. Even when engaged in paid employment, women retain most traditional domestic obligations, such as childcare and shopping for the family's needs.

The commute patterns of men and women alike reflect the realities that govern dispersed, suburban lifestyles and two-income families. For all commuters, the need for flexible, easily-adjusted time schedules continues to increase. This may be a reason for the expansion of the morning and evening peak commute periods in large urban areas.

The rapidly growing elderly population will have increasing impacts on travel characteristics and travel needs throughout the region. What began decades ago when many young families moved to the suburbs has now transformed into a widespread in-place retirement phenomenon. This phenomenon, which affects over 90 percent of the region's elderly population, is a result of the desire of elderly residents to continue to live in areas that are familiar to them after they retire. As a result, a growing majority of the region's elderly population will be concentrated in low density suburban areas where transit and paratransit services are limited, and dependency on the automobile is almost universal. Unfortunately, many in-place retirees, especially those living in the suburbs, will have difficulty in using public transportation to meet their travel needs because their present activity patterns and dispersed trip destinations were established years ago when they were not reliant on alternative transportation options. As retirees continued to get older, age-related travel disabilities will increasingly limit their mobility. Under these circumstances, many elderly residents will find it more difficult to continue to live independently and to maintain their quality of life. This regionwide in-place retirement phenomenon and related travel impacts are expected to last until the middle of this century. After that time period, the baby-boom era retirees will decline, but the transportation issues will remain the same.

COMMUTING CHOICES

Mirroring the locational trends in population and jobs, commuting patterns continue to shift from the once traditional city-to-city, or even suburb-to-city, work trip to an ever increasing share traveling from suburban area to suburban area. Baltimore City still remains as a strong anchor for attracting and producing work trips in the Baltimore region. However, a large increase in the percentage of commute trips from suburb-to-suburb has emerged, often to suburbs on opposite sides of the region.

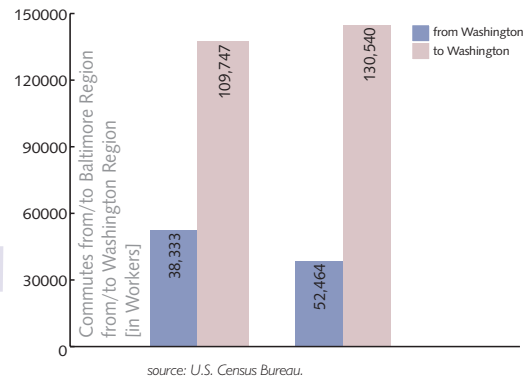


source: U.S. Census Bureau, Baltimore Metropolitan Council.

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- From 1980 to 2000, the share of commute trips originating and ending within the City of Baltimore dropped from 25 percent to 15 percent, and even the suburb-to-city trip fell from 23 percent to 16 percent of the regional share.
- Meanwhile, the share of trips traveling from suburb-to-suburb has gone up from 45 percent to 61 percent.
- The share of “reverse” commute trips from city to suburban areas has remained fairly steady at 7-9 percent.

Another important factor in commute flows is the effect of inter-regional travel. The Baltimore region’s proximity to the Washington region has caused the two areas to gradually become more and more economically interdependent. Historically, the Washington region has had more employment opportunities than the Baltimore region, while the Baltimore region has had the advantage of more affordable housing. This has contributed to a situation where a greater number of Baltimore workers travel to the Washington region leading to heavy traffic flows towards the south. In 1990, 71,414 more Baltimore residents traveled to jobs in the Washington area (includes Montgomery, Frederick and Prince George’s counties, Washington DC, and Northern Virginia), and by 2000 this number had increased to 78,076.



AUTO AVAILABILITY

The availability of automobiles has long been a major factor in determining a population’s travel behavior. Nearly 85 percent of work trips in the Baltimore area in 1990 were made by drivers and passengers in automobiles. This compares to 78 percent in 1970, and 82 percent in 1980. In 1970, public transit was a useful option for commuters given Baltimore City’s employment attraction, and was used by 13 percent of workers regionwide. By 1990, the percentage of Baltimore region commuters using transit was down to seven percent. Walking to work, as late as 1970, commanded a seven percent share of work commute travel, as might be expected when workers and jobs were in fairly close proximity. By 1990, with the population dispersing from the central city, walk trips had diminished to four percent of total work trips.

The share of workers driving alone increased from 59.8 percent to 75.4 percent between 1980 and 2000. Transit use dropped from 10 percent in 1970 to 6.3 percent by 2000 despite the introduction of two new rail transit lines, carpooling dropped from 22.3 percent to 11.5 percent, and walking fell from 5.2 percent to 3.1 percent.

