

Commission Briefing Paper 4A-04

Implications of Regional Migration on Passenger Travel Demand

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Introduction

This paper is part of a series of briefing papers to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. The papers are intended to synthesize the state-of-the-practice consensus on the issues that are relevant to the Commission's charge outlined in Section 1909, and will serve as background material in developing the analyses to be presented in the final report of the Commission.

The past 50 years has seen an unprecedented growth in travel due to several factors, one of which is demographic change. There are a myriad of unforeseeable influences that will shape the future of transportation planning and there are strong indications that the key factors (such as vehicle ownership) that have had a direct relationship on travel demand in the past may be less influential in the future. This paper uses current travel behavior to examine future potential travel demand based on demographic change alone and assumes all other factors are held constant.

This paper presents information on the implications of regional migration on passenger travel demand. Regional migration contributes to the total population growth of an area, and, combined with international immigration, to an area's diversity. The fastest growing areas are in the South and the West. While some areas tend to be experiencing dramatic growth, others are experiencing very slow growth, which has major implications for regional planning and national policy.

Background and Key Findings

The distribution of population in the U.S. is changing dramatically. This paper uses three key sources of information on migration and travel demand, the discontinued Long Form survey conducted as part of the decennial census, the annual Current Population Survey (CPS), and the Highway Performance and Monitoring System (HPMS). The Long Form and its replacement, the American Community Survey (ACS), produce national estimates by asking "*did you move in the last 5 years*". The CPS on the other hand uses a much smaller sample and attempts to understand some of the motivations behind "*why we move*". HPMS provides estimates of vehicle miles of travel (VMT) by state. Taken together, these data sources provide the basis for national data on domestic migration and the potential impacts on the distribution of travel demand.

Some key demographic findings in this paper include:

- Current data tells us that between 1995 and 2000, 43 percent of the population changed residential addresses, including new immigrants, young professionals seeking jobs, and people moving just around the corner.
- The South and the West are leading the nation’s growth, and projections show an increasing uneven distribution of population growth among the states.
- Texas, Florida, California, Arizona, Georgia and North Carolina will account for 63 percent of all projected added VMT by 2030.
- In the coming decades the nation could be divided into states struggling with huge population growth, and states struggling to maintain current levels of population. Each of these scenarios has important implications for transportation planning and the allocation of resources.
- An overwhelming majority of annual moves are within regions and even within counties. They are local moves, primarily for a change in housing, especially by lower-income renters.
- Longer distance moves are dominated by young professionals. Nearly 30 percent of the people aged 20-29 moved last year, and those with a college education were likely to migrate to central cities, rather than suburban areas.

The Historical Perspective on Regional Migration

In the context of this paper, regional migration is treated as the movement of people from one region¹ of the country to another. This discussion focuses on shifts in the location of people across the United States and how future changes may impact the distribution of transportation demand. Other papers in this series focus more specifically on immigration (IVA-03) and moves internal to a region (such as the shift between urban and rural in IVA-05).

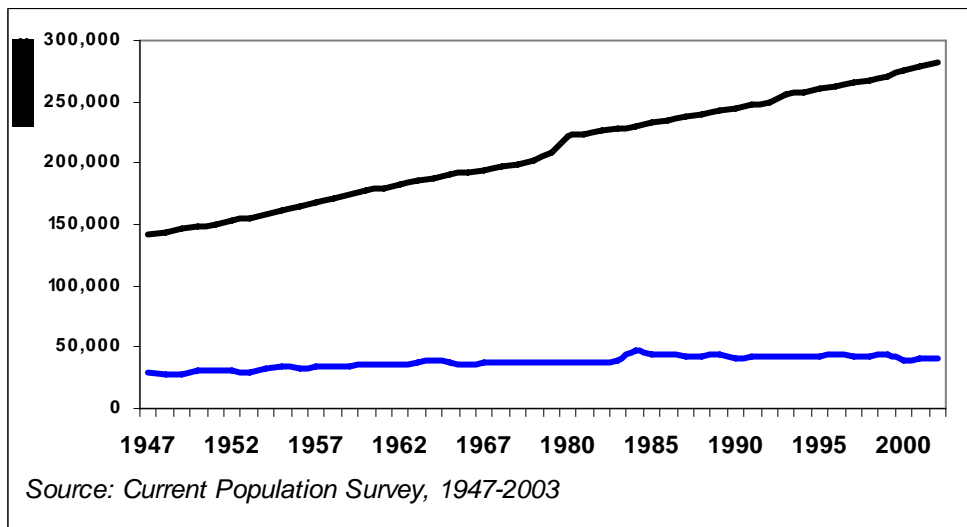
The best way to put regional migration in perspective is to step back and look at the data on migration over time. In examining domestic migration on an annual basis, over time, it is clear that the number of annual moves is relatively constant while the population (and the non-movers) continues to climb. Historically, the number of people who move has been around 40 million annually, while the population has continued to grow in number. Therefore, the overall annual *rate* (measured as percent moved) has been decreasing when compared to the total population. The decline in the moving rate is driven down by the decline in the moves within the same county, whereas the moves to different counties (within the same state or different state) are relatively constant over time – these are the longer distance moves.

43 percent of the population changed addresses between 1995 and 2000 people in the United States move annually

Current data tells us that in the five-year period between 1995 and 2000 forty-three percent of the population changed residential addresses (1). Included in this are new immigrants to the U.S., older adults moving to warmer climates, and renters moving to a different apartment in the same city. The vast majority of the moves counted by the Census are local moves. In fact, the 2002-2003 Current Population Survey (CPS) finds that well over half (fifty-eight percent) of the people who moved relocated to the same county and another nineteen percent who left the county stayed in the same state (2). Frequent movers within an area tend to be low-income renters, and are more likely to use transit and walk modes.

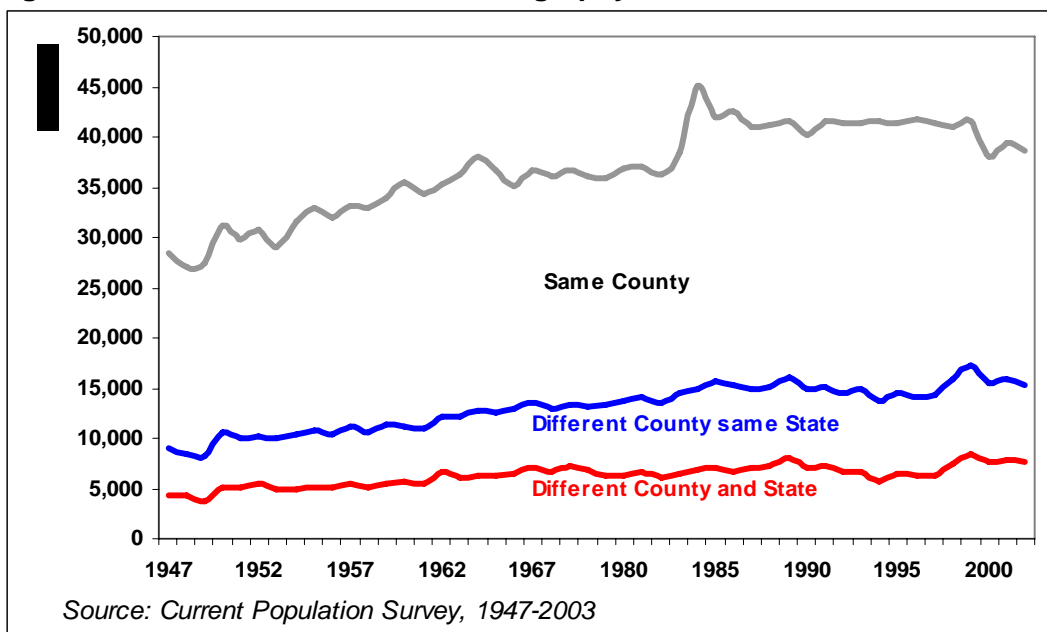
¹ Region is a multi-state group as defined by the U.S. Census Bureau. The Bureau divides the U.S. into nine Census regions.

Figure 1 – Number of People who Moved and Total Population, 1947-2005



The proportion of movers who stay in the same county, and those who switch counties and/or states, has remained relatively the same over the 50+ years for which we have data. For example, those who moved from a different county and state (the regional migration group) varied from 13.6 to 19.3 percent of the total movers over the last 50+ years. In terms of numbers, this group represents almost 8 million people a year, however, this figure could arguably rise to around 13 million since some of the people who moved from a different county but within the same state could also be considered regional migrants.

Figure 2 – Historical Trends in the Geography of Moves in the Last Five Years



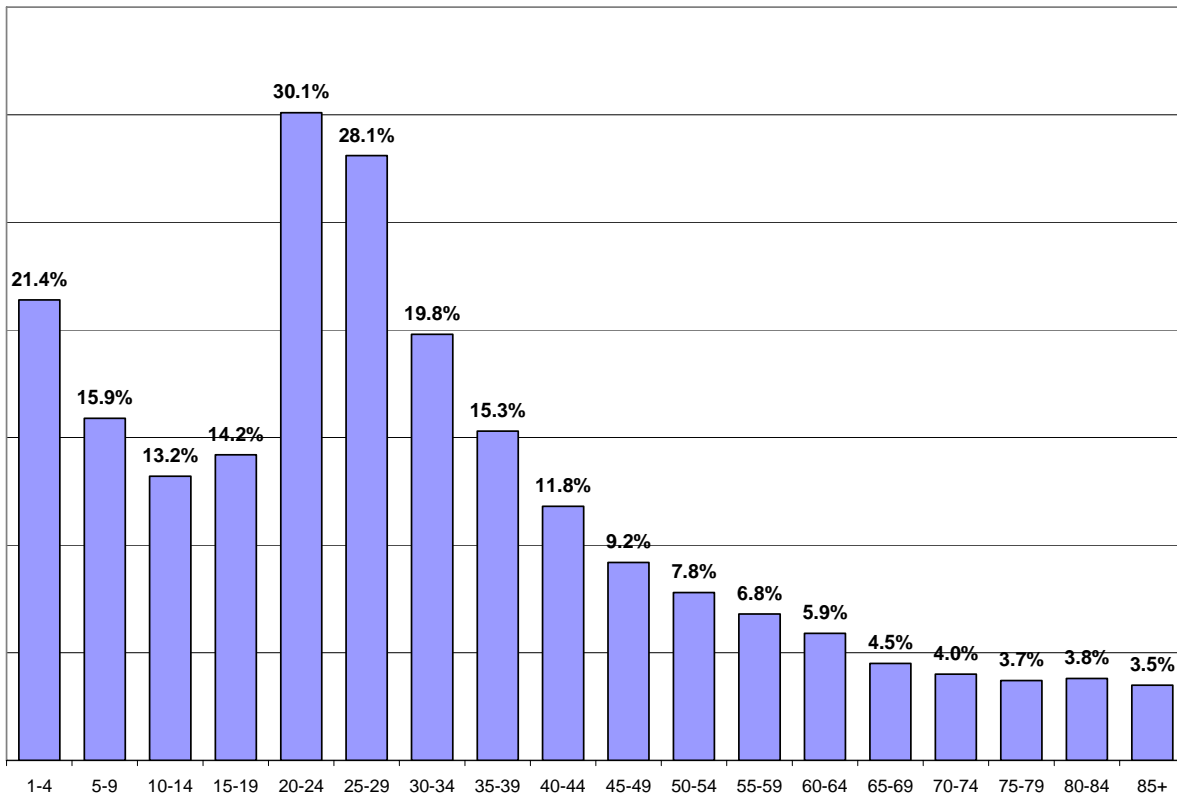
The People Who Migrate

Age is a major determinant of the propensity to move. Nearly one-third of the 20- to 29-year olds have moved in the previous year, more than twice the moving rate of all the population. Since the U.S. population is still dominated by the baby-boomers, the overall slowing rates of change in moving reflect the aging of the population.

Young people move as they find jobs after college. Whether single or married, young people with a college education were more likely to move than those without a college degree, and they represent a higher proportion of people migrating to central cities than to suburbs or non metropolitan areas. This is important as young people have higher rates of travel on all transportation modes. Several states (like NV and GA) that were powerhouses of domestic migration between 1995 and 2000 were also popular destinations for the young, single and college educated group, but even older central cities, like New York and Chicago, that had overall net out-migration attracted new populations of young, single and college educated people (6).

Persons age 20-29 have more than twice the moving rate of all the population.

Figure 3 – Moving Rates by Age: 2002 to 2003
(Percent moved for the population 1 year and older)



Source: U.S. Census Bureau, Current Population Survey, 2003 Annual Social and Economic Supplement

Migration is linked to economics (13). The table at the right provides some insight into why people change residences. The regional migrants (a subset of inter-county movers) show the most diversity in their reasons for moving, but by far ‘job’ is a more important reason than for people with local moves (intra-county), 31.1 percent compared to 5.6 percent. Included in the Job category are retirement moves which we tend to associate with regional migration. For all movers, ‘housing’ is the reason for nearly half of the moves, showing the importance of housing costs and amenities, which are twice as important for local movers as for longer-distance moves.

Table 1 – Reasons for Moving

Why We Move	Family	Job	Housing	Other
All Movers	27.2%	17.6%	47.2%	8.0%
Intracounty	25.9%	5.6%	65.4%	3.0%
Intercounty	26.9%	31.1%	31.9%	10.1%

Source: Current Population Survey, 2005 Annual Social and Economic Supplement

In looking at just those people who moved between regions as defined by the Census Bureau, clear patterns emerge. The South is by far the strongest gainer, almost twice as many people move in as move out--and its gains are coming from all the other regions. The Census projections through 2030² show that, nationally, the South and West will gain 88 percent of national population growth in the period. This represents a small decline in share of growth from the eighties when the South and West garnered in the range of 90 percent of all growth. The highest gross migration between 1995 and 2000, indicating the total movement in and out of an area, was seen in California, Florida, Texas, New York and Illinois (3).

Table 2 – Migration Flows between Regions in 2004

<i>in thousands</i>		Moved to			
Moved From		Northeast	Midwest	South	West
Northeast	625	----	72	404	149
Midwest	574	43	----	339	192
South	675	151	288	----	236
West	504	86	146	272	----
Total Movers	2,378,000	280,000	506,000	1,015,000	577,000

Source: Current Population Survey, 2004, table 21

With an overall 20 percent growth rate, the West grew more rapidly than any other region. The South was the second fastest growing region, increasing 17 percent. The Midwest and the Northeast grew by 8 percent and 6 percent, respectively.

Because of differences in growth rates, the regional shares of the total population have shifted considerably in recent decades. Between 1950 and 2000, the South's share of the population increased from 31 to 36 percent and the West increased from 13 to 22 percent. Meanwhile, despite overall population growth in each

Through 2030, the South and West will gain 88 percent of the national population growth.

² At this time the Census projections to 2050 do not include geographic detail. It would be expected that they would continue the observed trends out to 2050 if they were produced.

of the past five decades, the Midwest's share of the total population fell from 29 to 23 percent and the Northeast's proportion declined from 26 to 19 percent.

Current Census data support this trend with the fact that about half the states so far in this century have shown substantial domestic population outflows. These states, primarily in the Midwest and mountain regions, have a resident population that is aging.

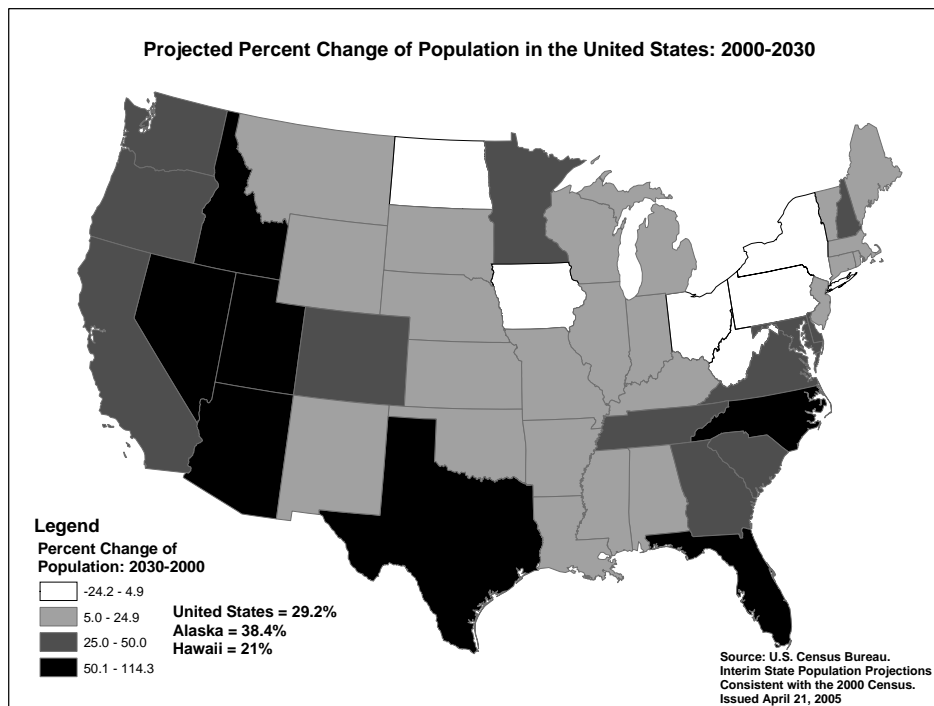
Population Projections

The decade of the 1990's was the only decade of the 20th century when every state gained population. Nevada grew the fastest (66 percent); North Dakota grew the least (0.5 percent). California had the largest numerical population increase, adding 4.1 million people. By 2050, the U.S. population will grow to 420 million, a 40 percent increase over the current level.

Perhaps more important for transportation than the size of the population, will be where that population locates in the nation. The nation's 10 most populous states accounted for 54 percent of the nation's population on July 1, 2003. California, Texas and Florida combined for 42 percent of the nation's numerical population increase between 2002 and 2003. California remained the most populous state in the nation with 35.5 million people in 2003. The second and third most populous states were Texas (22.1 million) and New York (19.2 million).

Projections from the Census Bureau show that Texas, Florida, the mountain states, and North Carolina will see the greatest percent change in population over the next five decades. States in the Northeast will see very low growth. The percent change in the states' population is shown in Figure 4.

Figure 4 – Projected Percent Change of Population



According to America 2050, a national initiative of regional planners, scholars, and policy-makers, America is experiencing shifting dynamics:

While the southern and western regions of the United States are leading the nation's growth, both from immigration and natural births, vast regions like the Midwest, the Great Plains, and the Lower Mississippi Valley will experience flat population growth or decline by 2050. Dense, established regions like the Northeast will also add population, but the constraints of its aging infrastructure systems will limit economic potential. In the Southeast, places like Atlanta are booming but with no end to the expansion of outer suburbs. And at the metropolitan scale across the nation, regions continue to experience the problems of concentrated poverty in the inner city and inner suburbs, while new suburban development consumes land at the urban fringe (8).

In the coming decades the nation could be divided into states and regions with low growth or even population losses and a limited number of states with dramatic, hard to sustain, growth.

Potential Impact on Travel Demand

The projected migration patterns of the U.S. population translate into a continued concentration of people in areas such as Texas, Florida, the mountain states, and North Carolina which are all projected to have growth rates exceeding 50 percent. As travel demand follows population growth, an increasingly disproportionate distribution of travel demand in the nation is projected for the future.

As shown in Figure 5, only six states will experience a growth of VMT in excess of 40 billion miles. Texas, Florida, California, Arizona, Georgia and North Carolina will account for 63 percent of all projected added VMT by 2030. States including North Dakota and West Virginia and the District of Columbia are projected to have no growth in VMT due to population change. The NHTS provides national data on PMT which has historically grown at a similar rate as VMT. Unfortunately, the sample size of the NHTS is not large enough for PMT estimates for all states. PMT, which includes travel by all modes, can be expected to follow population trends and have larger growth in transit and walk orientated environments with high populations and/or transit dependent populations. The unbalanced distribution of demand presents policy and resource allocation challenges as some areas experience significant growth in travel while others exhibit moderate growth. At the same time, all across the U.S. guidance and support is needed for infrastructure improvement and maintenance and future service planning.

Future Trends

A number of trends will have an impact on the migration patterns in the future. One is the balance between domestic migration and international immigration. Overall, areas that experience high immigrant populations show an out-flow of domestic migrants, especially the low-income, less skilled workers (13). For example, the states with high new domestic immigration (FL, AZ and NV) gained many migrants from CA, NY and IL--a trio of "gateway" states that simultaneously lost migrants to other states while gaining migrants from abroad (4).

A second big question is whether, and where, aging baby-boomers will move to. They may age in place, move into city centers or out to the far suburban fringe, or leave their home states and find milder weather in other regions. The bottom line is that even if a portion of the baby-boomers move south and a portion move into the city centers or suburban fringe, the numbers are large enough to make a difference on the demand for transportation services and the amount of VMT generated by older drivers for all these choices.

Even if the rates of annual moving remain the same (as shown in Figure 3), the large increase in the population of people over 65 in the years 2010-2050 means that the number of older people moving will increase dramatically. In 2010 the projection is that 1.4 million people over the age of 65 will move annually, whereas by 2050 the number of annual moves by people 65 and over increases to 3.1 million people.

Migratory patterns and where we locate is driven by housing costs and simple economics, and they are in a constant dynamic flux (12). So, in one respect, current regional migratory patterns, immigration, and normal expected growth coupled with economic and social forces are causing regions to change, sometimes dramatically. This change puts significant pressure on local and regional transportation agencies to measure existing performance, allocate resources, and plan for future transportation services.

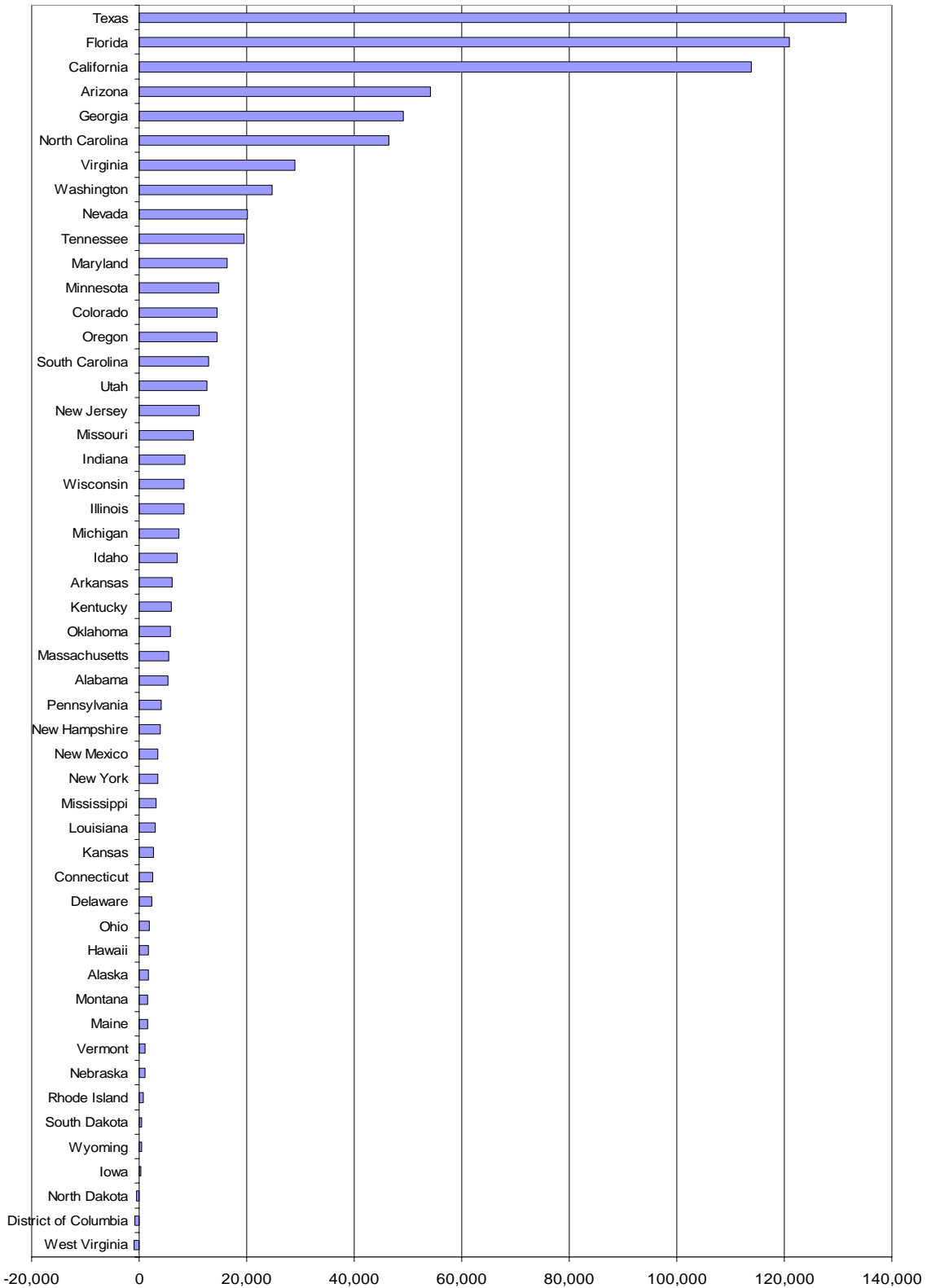
The areas that have experienced the most dramatic changes in the recent past are reviewing demographic forecasts, collecting travel behavior data, and looking at land use and development patterns to determine what transportation system will fulfill the needs of the future population. At the local and regional level forecasting has attempted to look out ahead 20 years but the real emphasis has been on what will be done during the next 3 to 4 years. At the regional level, the focus is not on where to build the next expressway but instead on more visioning, asking what the area should look like in the future.

Many areas, for a plethora of reasons (like congestion) are beginning to reassess their land development plans and patterns and ask if today's development patterns fit tomorrow's growth. Areas like Central Florida (9), Salt Lake City (10) and northeastern Illinois (11) are just a few of the regions where this is occurring. At the Federal level, as regions ebb and flow, our inter-regional travel modes (air, train, high speed train and bus) will need to adapt to the new markets.

In summary, key trends to look forward to over the next five decades include:

- The proportionate decline in population in some states leads to a question of the distribution of resources. Slowing of the growth in population means slowing of travel rates, leading to fewer monetary resources to help maintain and improve the transportation system, and provide safe mobility.
- The proportionate growth in population in some states can overwhelm the transportation system, and lead to congestion, construction delays, and inadequate service.
- As baby-boomers age, whether they age in place, move locally, or across state lines, the number of people and potential impacts will be high.

Figure 5 – Projection of Added VMT 2000-2030 by State



Source: Based on 2000 HPMS total VMT and Census Population Projections by State

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