



Who Will We Be in the Year 2050?

Demographic Changes in Central Florida and Their Implications for Regional Transportation Planning

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Introduction

The State of Florida continues to be among the fastest-growing states in the Nation. In 1950, the state's population was 2,771,305 and we ranked only 20th in population among the 50 states. In 2000, a half-century later, our population was 15,982,378, ranking us 4th among the states (California, Texas and New York are the only larger states). Current projections by the US Census are that we will become the 3rd largest state, surpassing New York, by 2020, and that we will have a total state population of 28.7 million by 2030. **Rapid population growth has been a fact of life in Florida for the past half century and will remain so for the next.**

Within Florida, population growth between now and 2050 is expected to be particularly explosive in the seven-county Central Florida region.¹ In the 2000 Census, the seven-county regional population was 3.05 million. The PennDesign study, *Central Florida: Our Region in the Year 2050*, estimates the 2050 seven-county population to be 7.22 million, well more than twice the current population. At current densities, the region's new population will require the residential development of nearly 1.2 million new acres of land.

A key question for transportation policy-makers, one addressed at some length later in this report, is, What sort of transportation infrastructure will be needed to accommodate this vast expansion of the regional population?

The Central Florida population is not only growing, it is also changing, and will change even more in the coming decades. Amongst a myriad of potential demographic changes, two stand out: the **increasing proportion of elderly** in the nation, state, and region; and the **rapidly increasing Latino population**. Each of these changes will spawn additional changes, many with significant implications for the regional transportation system.

Population Projections: A Cautionary Note

Demographers are well aware of the uncertainties of population projections. As an example, in May 1997, the Census Bureau issued a report entitled *Population Projections: States, 1995-2025*. Just three years before the 2000 Census, the 2000 population for Florida was projected to be 15,233,000, whereas the actual population for that year turned out to be about

¹ Unless otherwise specifically noted, for purposes of this report Central Florida means Brevard, Lake, Orange, Osceola, Polk, Seminole and Volusia Counties.

15,982,000 – almost three-quarters of a million more people than projected. The same 1997 Census Bureau report guessed that by 2005, the population of the state would reach 16,279,000. In fact, as of 2004 (the most recent data available at this writing), the state's population was already at 17,397,161. **In seven years, in other words, the projected population of the state was off by more than a million.**

Why these large inaccuracies? Basically, population growth in a particular area is a result of two factors: the excess of births over deaths and the excess of in-migration over out-migration, and all four of these critical parameters (birth rate, death rate, in-migration, and out-migration) are subject to a variety of influences only some of which are known to a high degree of precision. Major public health developments (e.g., the AIDS crisis, an influenza pandemic) can drive up death rates in the short run; breakthroughs in medical treatment or new health technologies can drive them down. Birth rates are likewise subject to new contraceptive technologies and changing social norms. Migration patterns result from a variety of legal, economic, political, and social factors and can change dramatically in response to unpredictable short-term influences and events. Consider, for example, the possible impact of the death of Fidel Castro on the out-migration of Florida's Cuban-American population.²

The major sources of population growth in the Central Florida region, in approximate order of importance, are: (1) interstate migration, the continued movement of people from the Northeast, Middle Atlantic and Midwestern states into Central Florida; (2) intrastate migration, especially the increasing flow of people moving into Central Florida from South Florida, mainly from the Miami/Dade metro area; (3) international immigration (which may be either legal or illegal), especially from the Caribbean and Central American regions³; and (4) natural increase, the annual excess of births over deaths. Of these, only the last is determined by well-understood demographic forces.

² One survey by the Cuban Research Institute at Florida International University suggests that as many as one in three of Florida's Cuban-Americans would be very or at least somewhat likely to return to Cuba to live "if Cuba changed to a democratic form of government."

³ As a point of clarification, immigration from Puerto Rico to the US mainland is treated as international immigration in all US Census documents and reports. See Matthew Christenson, "Evaluating Components of International Migration: Migration Between Puerto Rico and the United States," Working Paper Series No. 64, Population Division, U.S. Bureau of the Census, Washington, D.C. 20233, December 2001.

Two tables of Census 2000 data for Orange County, FL, the largest county in the region, illustrate the importance of in-migration for overall population growth (see below, Tables One and Two). The first is the year that the current occupants of an Orange County household first moved into their unit. As can be seen, almost 29% of the county population moved into the current unit in the one year preceding the 2000 Census, with another third having moved in sometime in the previous five years. The second is the breakdown of 1995 residences for persons resident in Orange County in 2000. A mere 42% of the county population were in the same unit in 1995 that they occupied as of the 2000 Census. 52% lived somewhere else in the US; the remaining 6% lived overseas in 1995. Of those living somewhere else in the US, only about half lived somewhere else in Orange County. And of the half that came in from outside Orange County, those coming in from other states were slightly more numerous than those coming in from elsewhere in Florida.

In short, in-migration is a **major** determinant of overall population growth in Central Florida and is in turn subject to numerous short-term influences that are difficult to model. The result is a very high uncertainty in regional population projections.

Table One

The Year Orange County Householders Moved into Their Current Dwelling Unit (Source: 2000 Census)

YEAR HOUSEHOLDERS MOVED INTO THEIR CURRENT UNIT	Number	Per Cent
1999 to March 2000	97,041	28.9
1995 to 1998	109,846	32.7
1990 to 1994	50,971	15.2
1980 to 1989	44,417	13.2
1970 to 1979	18,863	5.6
1969 or earlier	15,148	4.5

Table Two

Where Orange County Residents in the 2000 Census Were Living in 1995 (Source: 2000 Census)

RESIDENCE IN 1995		
Population 5 years and over	835,287	100.0
Same house in 1995	352,921	42.3
Different house in the U.S. in 1995	431,983	51.7
Same county	218,994	26.2
Different county	212,989	25.5
Same state	97,349	11.7
Different state	115,640	13.8
Elsewhere in 1995	50,383	6.0

As we have seen, for at least the past decade (and in fact, for the past several decades), the state’s actual population growth, even in the short term, has exceeded Census projections and not by a trivial amount. With that in mind, what can be said about the PennDesign estimate of a Central Florida regional population of 7.22 million by the year 2050?

The PennDesign projections are taken from a publication of the University of Florida’s Bureau of Economic and Business Research (BEBR), *Projections of Florida Population by County, 2005-2030*. The discussion of the projection methodology in the BEBR report occupies about three pages and cautions that the past is an imperfect guide to the future. To emphasize the inherent uncertainties, the BEBR report shows three separate population projections for the state as a whole and for each constituent county, labeled “low,” “medium,” and “high” estimates in the report’s tables. Projections to 2030 are based on various cohort-specific assumptions about birth, death and migration rates and patterns; projections from 2030 to 2050 are (an average of the) simple linear and exponential projections out from the estimated decade-by-decade growth up to 2030.

Table Three shows the low, medium, and high estimates for each of the seven Central Florida counties for 2030:

Table Three
Low, Medium and High Population Projections (in thousands) for the Seven
Counties of Central Florida (Source: BEBR Report)

2030 Population Projections			
	Low	Medium	High
Brevard	584	755	953
Lake	375	480	612
Orange	1,325	1,703	2,162
Osceola	352	487	654
Polk	603	779	984
Seminole	476	614	776
Volusia	546	705	891
Total	4,261	5,523	7,032

It is immediately apparent that all these population projections are highly dependent on the assumptions that generate them, since in several cases the “high” projection is nearly **twice** the low projection. Note also that the “high” projections get the regional population over the seven million mark by 2030, or **two decades earlier** than projected in the PennDesign study (all of whose estimates are based on the BEBR “medium” projections). Extrapolating the high values out to 2050, the mid-century Central Florida population could well exceed 10 million persons, three million more people

than estimated in the PennDesign study and some three times the current seven-county population.

What population estimate should be used for long-term planning purposes? "Medium" projections for the State of Florida have consistently **under-**estimated true population growth at least since the 1980s. Although we employ the PennDesign/BEBR estimates of ~5 million Central Floridians by 2030 and ~7 million Central Floridians by 2050 throughout the remainder of this report, we regard these as historically conservative estimates and caution that the actual regional growth could be much sharper over the next three to five decades than the PennDesign/BEBR estimates suggest.

Managing Growth through Transportation Design

Whatever specific estimate one adopts, it is manifestly obvious that the Central Florida region will be characterized by explosive population growth for at least the next half-century. As former Orange County Mayor Linda Chapin has put it, the question is not "Will we grow?" but rather, "How shall we grow?" And at what expense to our natural environment and quality of living?

The PennDesign study sketches out two scenarios for regional growth. The first, what they call the "trend path," assumes that future growth will occur largely as past growth has occurred. The essential transportation assumption of the "trend path" is that we remain heavily dependent on the automobile, specifically that "the region continues to rely on its road networks for travel and that the proportion of transit riders to drivers remains constant" (p. 31).

This and other assumptions produce a scenario of Los Angeles-like low-density sprawl, with some 1.2 million acres of new suburban development, "sprawling edgeless cities," chaotic land use patterns and a minimal to non-existent sense of place. The scenario predicts a polycentric "series of interconnected [population] nodes without one dominant center. While some sustainable communities [occur] on a smaller scale, low-density development dominates the region's landscape. The continued fragmented and sprawling development will exhaust natural resources, decrease economic competitiveness, and overload the transportation network" (p. 27).

Already, developable land in Orange and Seminole Counties has become scarce, so as the regional population comes to double or even triple, the requisite development pressures will fall disproportionately on the more rural, outlying counties. We see this already in Lake and Osceola Counties, which as of 2005 Census estimates were the two fastest-growing counties in Central Florida. As the metropolitan region continues to sprawl, the average commutation from home to work will increase and traffic congestion will worsen. The region's major arterials, already near or past capacity, will be swamped by population growth far more rapidly than new capacity can be

added. And as the regional population sprawls over a million-plus new acres, the carrying capacity of the natural environment will be challenged and perhaps exceeded.

As detailed in the PennDesign study, in short, the “trend path” leads quickly to environmental disaster, transportation nightmares, and urban catastrophe.

The “Alternative Model,” the second scenario spelled out in the study, is far more benign and vastly less threatening to the regional quality of life. It is based on a series of alternative assumptions about environmental, transportation, economic and development strategies. The key is a series of high-population-density super-nodes, nodes, and micro-nodes built so as to preserve critical habitat and environmental amenities, linked together by an integrated regional mass transit system (along with some expansion of existing highway capacity).

The key insight of the “alternative model,” one shared by generations of urban sociologists and planners, is that the form, structure and function of cities are largely determined by extant systems of transportation. Residential and commercial development necessarily follows transportation modes and corridors, so to an important extent it is possible to direct and manage growth, even explosive growth, by forward thinking on the transportation front – i.e., by developing transportation systems that essentially force development to happen where and how we want it to happen.

And surely, as the regional population burgeons into a major multi-million-person population center, improved systems of mass transit **must** be part of the overall development equation. In particular, a regional mass transit system built around passenger and commuter rail and supplemented by expanded bus transit, as envisioned in the PennDesign study, designed and implemented **now**, would soon become a principal determinant of where and how regional growth occurs. Consider how dramatically urban life was transformed by BART in the Bay Area or by the Metro in Washington.

That said, it must also be added that a regional mass transit system along the lines of the PennDesign model would represent an investment in transportation infrastructure that would doubtlessly run into the tens of billions of dollars. Finding the capital to finance such a system would be a daunting challenge. On the other hand, continued reliance on private automobiles in a region containing two or three times as many people as today would presumably require two or three times the existing highway capacity, and that too would carry a multi-billion dollar price tag. A final factor that demands consideration is the long-standing American love affair with cars. Getting people out of their cars and onto the trains and busses is at least as daunting a proposition as finding the funds to build mass transit. As we have said in a different context:

"Many commentators have written about America's love affair with cars. But 'love affair' hardly captures our hot, lustful, passionate fixation, an obsession really, with these mechanical Chariots of Fire. Cars embody, express and even enable all the great American values: freedom ("the faster I go, the freer I feel"), mobility, independence, self-sufficiency, status, leisure, control, speed, mastery, sensuality, affluence, power. Is this not what cars are all about? What America is all about?" (Jim Wright, *Fixin' to Git: One Fan's Love Affair with NASCAR's Winston Cup*, Duke University Press, 2002, p. 33).

Communicating the need for and directive power of a mass transit system to regional publics and policy-makers should be a top priority for the coming years. Transportation policy-makers cannot afford to let transportation systems develop in reaction to population growth, as has historically been the case. Rather, developing sensible, forward-thinking transportation policies can and should lead the growth process.

Demographic Changes and Their Transportation Implications

Not only will the Central Florida population continue to grow, it will change dramatically in demographic composition, and these changes will have further implications for the region's transportation system. While many possible demographic changes might be discussed in this connection, two of the most certain and most consequential are (1) the so-called "graying of America" and its implications for the age structure of the population and (2) the continuing growth of the Central Florida Hispanic population (often called "Latinization").

Age. The "graying of America" has become a virtual cliché in the past few years but expresses a profoundly important point, namely, that the elderly portion of the population will grow dramatically in the next half century.

Today, about 13% of the national population is over age 65 and 6% are over age 75. In forty years, or by 2045, 22% will be over 65 and 12% will be over 75. Thus, in the next four decades, the elderly proportion will nearly double.

There are three main reasons for the expected increase in the number and percentage of older Americans:

- Continuing increases in life expectancy that result from medical breakthroughs (new life sustaining treatments and drugs), behavioral change (less smoking and drinking), increased access to health care, and the like.
- The continued movement through the life cycle of the Baby Boomers, those extra-large generations born in American society between 1946 and 1964. The front end of the Baby Boom, the 1946 generation, turns 65 in 2011; the tail end, the 1964 generation, will be 86 in 2050.

The demographic havoc, in other words, will commence in just a few years and will not end until sometime near mid-century.

- A rapidly falling birth rate, which means fewer new people coming into the denominator and a population near the zero population growth value. It is not yet widely appreciated, but the key demographic crisis in the advanced societies this century is the falling birth rate, with the US nearly the only western society still reproducing at the replacement value.

The result of these demographic inevitabilities is what demographers refer to as an "inverted" age structure. Normally, a population forms a pyramid, with the young as the broad base and the elderly as the tip of the pyramid, which is good since it leaves plenty of young wage-earning taxpayers to pick up the tab for a small number of dependent older people. When older people become as numerous as young taxpayers, or in other words, when the age structure resembles a column more than a pyramid, social disaster can quickly follow.

Another way to express the problem is through what demographers call the "dependency ratio." The dependent population is comprised of the young who are too young to work to support themselves, and the elderly, who are too old. The "dependency ratio" is thus the sum of those ages 0-14 plus those over 65 per 100 persons ages 15-64. Right now, the American dependency ratio is 49.3, i.e., we have 49.3 dependent children and elderly for each 100 people in their prime labor force years. In other words, every earned income must support 1.493 people. By 2045, the dependency ratio will be 66.9 and will top 71.0 by century's end. The increased tax burden this will impose on the working population, and the possibility for social upheaval, can only be imagined.

These trends will impact upon Florida even more strongly than the rest of the nation. Florida is already the "oldest" state (i.e., has the highest percentage of residents over age 65) and will become even more so in the coming decades. By 2030, the elderly portion of the state's population is projected to exceed 27% (vs. the current 19%); and while we have been unable to find an independent estimate for 2050, a straight line projection would suggest a Florida elderly proportion in excess of one in three by mid-century. In absolute numbers, the state's over-65 population numbered 2.81 million in 2000 and is projected to number 7.77 million in 2030, a 177% increase.

Even more dramatic is the projected growth of the "oldest of the old," those over 85, whose ranks will also be swelled by projected increases in life expectancy and the "aging out" of the Baby Boomers. In 2000, Florida residents over age 85 numbered ~331 thousand, 2.1% of the state population. By 2030, this group will number ~944 thousand and will comprise 3.3% of the state population.

There are, it seems, three possible lines of implication for the region's transportation systems that flow from the "graying" of Florida: (1) a possibly sharp increase in the number and percentage of **elderly drivers**; (2) a sharp increase in the state's **disabled population**; and (3) a changing urban ecology resulting from the housing preferences of the aging population.

*Elderly Drivers*⁴: In today's America, one in eight motorists is over age 65. By 2030, the figure will be one in five. With the highest percentage of elderly of any state, the Florida numbers are commensurately different: roughly one in six or possibly one in seven today, maybe one in four by 2030, and one in three by 2050.

The good news: Elderly drivers drive less frequently and go shorter distances than drivers in other age groups. The bad news: The only group of drivers more dangerous than seniors is teen-agers. Consider:

- The death rate per mile traveled for drivers over 85 is four times higher than the rate for those 30-59 (the safest driving cohort).
- A 2002 study by the Florida Department of Highway Safety and Motor Vehicles found that about one out of five drivers age 85 or older suffers from dementia; drivers with dementia have crash rates 7.6 times higher than unimpaired drivers.
- A series of recent, well-publicized incidents involving elderly drivers has highlighted the safety problem: ten dead and dozens injured when an 86-year-old lost control of his car and plowed through the Santa Monica Farmer's Market (2003); one dead and one seriously injured when a 99-year-old Wisconsin woman driving the wrong way at night on the interstate collided head-on with a pick-up truck; and right here in Florida, six people injured, several seriously, when a man in his 70s drove into a farmer's market in Flagler Beach.

Older people are not only more likely to be involved in automobile accidents; they are also more likely to die from crash-related injuries that younger drivers would likely survive.

Add a sharp upturn in the number of elderly motorists to an increasingly stressful and congested highway system and the possible implications for highway safety are disturbingly obvious. And yet, without an adequate

⁴ All the following information is taken from "Too old to drive?" by Debora Vrana, downloaded on 10 March 2006 at:

<http://moneycentral.msn.com/content/Insurance/Insureyourcar/P146625.asp>

system of public transit in place and functioning, Florida's seniors will be hard to get out from behind the wheel. At present, the seven-county region is for all practical purposes impossible to navigate without a car and as the population sprawls further into the hinterlands, this will become increasingly true.

At the same time, the driving habits and patterns of the retired are surely different from those of the economically active, most of all as those patterns pertain to the daily commute to and from work. That anticipated sharp upturn in the percentage of elderly drivers relative to non-elderly drivers, that is, may partially relieve rush-hour traffic congestion even as it also raises new highway safety issues.

Disabilities: Physical and cognitive disabilities are concentrated among the elderly, especially among the oldest of the old, so as these populations increase in absolute numbers and percentages, so too will the demand for services for our transportation-challenged population.

"Disability" is a relative term. There are degrees of functional impairment ranging from moderate to severe. As the sociologist Irving Zola pointed out many years ago, "disability" derives from a set of characteristics that everyone shares to varying degrees. So it is difficult to state a precise percentage of "disabled" persons in any age category.

Granting the definitional difficulties, data from the National Health Interview Survey suggest an overall disability prevalence rate of about 13%. This rate increases regularly with age up to about 65, where the prevalence is about one in four, and accelerates rapidly thereafter. Among those over 80, nearly three in four have some sort of disability that limits basic functional activity.

At present, the region's principal response to the transportation needs of the elderly and disabled is the door-to-door paratransit (ACCESS LYNX) van service that people use to get to and from work, doctors' appointments, dialysis, etc. If we assume (1) that the need or demand for this service is strictly proportional to the number of persons over age 65 in the population and (2) no significant changes in regional mass transit options, we can project a 177% increase in the usage of the paratransit service between now and 2030, with still further increases out to 2050. Even at current demand levels, of course, the paratransit service is struggling, so this is an area that will definitely require attention in the coming decades.

Urban ecology: Housing consumption and preferences vary with age, and as the largest generation in the nation's history moves inexorably into its retirement years, the changing housing preferences of the Boomers could well alter the urban housing ecology considerably.⁵

⁵ What follows is taken from "Downtown Boomers," by Rick Barry, downloaded from the Tampa Tribune website:

For more or less obvious reasons, many people choose to “downsize” their housing in their later years, especially when stairs become more difficult to navigate and when driving is no longer safe, particularly at night or over long distances. Some have speculated that this will result in a “migration of the aging into the cities,” i.e., wholesale abandonment of the “dream house in the suburbs” for something smaller, more manageable, and nearer the services and amenities of the urban core.

The possible implications of a large migration of aging Boomers into the inner cities are numerous. Already, we see a proliferation of new condo projects in the downtown areas, many of them being marketed specifically to elders. This might offset to some extent the expected proliferation of elderly drivers and the consequent safety hazards and increase the demand for more efficient, “user friendly” public transportation systems in the urban core. At the same time, an influx of elderly people with plenty of cash into the downtown housing market will drive less affluent populations out of the urban core and into the hinterlands seeking affordable housing, which could increase sprawl and the pressure on major traffic arteries that serve downtown.

At the same time, Barry and other commentators acknowledge that the Boomers have been an independent and feisty bunch throughout the life cycle and persuading them to give up their cars “will be a challenge.” Certainly, better public transit systems will help, but it is well-established that if these systems are not “convenient, comfortable, responsive, and a generally pleasant experience,” they won’t be used by aging Boomers or anyone else.

Some other thoughts about the growing elderly population in the region:

(1) Given Florida’s highest-in-the-nation elderly percentage, the regional “dependency ratio” (the ratio of economically active to economically inactive persons) is already relatively unfavorable compared to other states, and as the elderly proportion grows, the ratio will become progressively less favorable. The Florida future will be fewer wage earners supporting more dependent elderly people. Thus, the tax burden on the economically active will increase sharply, making funding of **any** public policy initiatives more problematic, whether in transportation or any other policy arena. So the time to act is now, while the dependency ratio is as favorable as it will ever be anytime in the next half century.

(2) There is a sharp difference in life expectancy between men and women, with women averaging about seven more years of life than men. Thus, women comprise a disproportionate number of the elderly and as the elderly

<http://www.tampatrib.com/MGBMOYBH7LE.html>

population grows, the gender balance will also change. The transportation implications of the projected increase in elderly female motorists have been noted by Vrana (see note 2): "This [Baby Boom] generation is expected to also be the first with a large number of elderly female drivers, accustomed to the same independence as men. Like men, they will be reluctant to relinquish their mobility, meaning more old, small and frail drivers on the road."

The Graying of America: Summary: A recent report from the federal Administration on Aging, "Aging into the 21st Century," adequately summarizes what will easily be the most significant demographic fact of this century:

"[D]uring the next 3 to 4 decades, there will be a very significant increase in the number of elderly persons, particular the older aged; a sharp increase in the share of elderly persons in the population; and changes in overall age composition of the elderly population. (...) Moreover, there will be large increases in the numbers of some very vulnerable groups, such as the oldest old living alone, especially women; elderly racial minorities living alone and with no living children; and unmarried elderly persons with no living children or siblings...

"The rapid growth of the elderly, particularly the oldest old, represents in part a triumph of the efforts to extend human life, but these age groups also require a disproportionately large share of special services and public support. There will be large increases by 2030 [and even larger increases between 2030 and 2050] in the numbers requiring special services in housing, **transportation**, recreation, and education, as well as in health and nutrition."

Or, as the political commentators Richard Scammon and Ben Wattenberg put it forty years ago, "demography is destiny."

Latinization: A second major demographic development over the next half century, one particularly relevant to the Central Florida region, is "Latinization," the increasingly large percentage of Hispanics in the nation, state, and region.

As of 2003, the US Census estimated the Hispanic population of the nation to comprise 39.9 million persons, 13.7% of the nation's total population. (In Census 2000, Hispanics surpassed African Americans as the nation's largest ethnic minority.) Projections to 2050 put the total Hispanic population at ~103 million, which would constitute 24% of the total projected population at that time. Thus, nationally, **the proportion of Hispanics will nearly double by mid-century.**

The disproportionately rapid growth of the US Hispanic population arises from two sources:

(1) Birth rates among US Hispanics are among the highest of any identifiable subgroup. "Higher fertility has been a major source of population growth among minority groups. Hispanics have the highest fertility rate of any U.S. minority, with the average Hispanic woman giving birth to three children in her lifetime. The African-American fertility rate is 2.2 lifetime births per woman. Non-Hispanic whites have the lowest fertility rate of 1.8, about 14 percent below the 'replacement rate' of 2.1" (Population Resource Center, A Population Perspective of the United States, 2000).

(2) Hispanics comprise a disproportionately large percentage of foreign immigration into the US. The US immigrant population is currently growing 7.2 times faster than the native-born population and as a result immigration is now the principal determining factor in US population growth. Just over half of the legal immigrant population and at least three-quarters of the illegal immigrant population are Hispanic (Population Resource Center, Immigration to the United States: 2004 Update).

At present, the breakdown of the national Hispanic population by national origin is 58% Mexican, 10% Puerto Rican, 4% Cuban, and the 28% dispersed over other Caribbean, Central American and South American origins.

As of Census 2000, Florida's Hispanic (Latino) population numbered 2,682,715 persons, 16.8% of the total state population. (In contrast, African Americans made up 14.6% of the state population.) Florida is one of only seven US states with a million or more Hispanic citizens. The breakdown of Florida Hispanics by national origin is radically different from that for the country at large: 31% Cuban, 18% Puerto Rican, 14% Mexican, and 37% from the remainder of the Spanish-speaking Western hemisphere.

According to the report by Fishkind and Associates, *Hispanic Communities of Central Florida* (prepared for the 2005 Hispanic Summit organized by the Orlando Regional Chamber of Commerce), "The Hispanic community in Central Florida is growing rapidly. Between 1990 and 2000, the Hispanic population of Central Florida increased by 175 percent. Statewide the Hispanic community increased 70.4 percent from 1.6 million in 1990 to 2.7 million in 2000."

State and county projections of the Hispanic population out to 2030 are available in the BEBR report, "Population projections by age, sex, race, and Hispanic origin for Florida and its counties, 2004-2030." See Table Four, below. Statewide, the Hispanic percentage is projected to increase from 18.5% to 24.6% between now and 2030; in the seven-county Central Florida region, the projected increase is from 14.5% to 23.7%, a more rapid rate of increase than for the state as a whole. (Thus, the projected state and regional Hispanic percentages for 2030 are very close to the projected national Hispanic percentage for 2050.) The Hispanic proportion will increase in every one of the seven counties. In Polk County, the proportion will more

than double (from 8.7% to 20.5%). In Osceola, nearly half (48.3%) will be Hispanic by 2030. In less than three decades, Central Florida’s Hispanics will number nearly 1.3 million persons.

Table Four

Projections of the Hispanic Population for Florida and the
Seven Counties of Central Florida, 2004-2030
(Source: BEBR Report)

	Hispanic Pop’n 2004		Hispanic Pop’n 2030	
	Number*	Per Cent	Number*	Per Cent
Entire State	3,247	18.5	6,376	24.6
Brevard	29	5.6	65	8.7
Lake	19	7.5	56	12.2
Orange	229	22.6	572	33.9
Osceola	82	36.3	230	48.3
Polk	46	8.7	155	20.5
Seminole	53	13.2	121	19.8
Volusia	39	8.1	86	12.4
7-County Total	497	14.5	1,285	23.7

*in thousands

We have not been able to locate equivalent state- or county-specific projections of the Hispanic population out to 2050, but given our location and overall growth patterns, there is every likelihood that the growth of the Hispanic population in the state and in the Central Florida region will outpace the growth in the nation at large. Based on linear extrapolation, our “best guess” is that the state and regional Hispanic populations will easily exceed 30% by mid-century.

Interestingly, the largest growth component in the Central Florida Hispanic population is neither natural increase (excess of Hispanic births over deaths) nor in-migration from other countries and territories, but in-migration of Hispanics from other Florida regions and from elsewhere in the United States, principally the Northeast. To illustrate, as of the 2000 Census, 61% of Hispanic in-migration to Orange County originated from elsewhere in the US; and likewise, 56% of Hispanic in-migration to Osceola County and 76% of Hispanic in-migration to Lake County.

What are the transportation implications of the rising Hispanic population? One is obvious: While well more than half the national Hispanic population say they speak English “very well,” a sizable fraction does not. Spanish-

language street and highway signage, already common in some Hispanic neighborhoods, will need to become more common and perhaps a necessary element in traffic signage throughout the region. And likewise for signage, schedules, fare messages, etc. in whatever mass transit systems are developed for the region.

Historically, poverty rates are much higher among ethnic minorities than among the majority population. In 2003, the national poverty rate stood at 12.1%. The Hispanic poverty rate was nearly twice that: 22.5%. With rising educational levels among the US Hispanic population, this disparity may narrow in coming decades, but then again, it may not. In turn, poor people of all ethnicities are over-represented in the transit-dependent population (persons whose housing and living costs and hourly wages tend to preclude owning their own automobiles). So one predictable consequence of an increasingly large Hispanic population is a corresponding increase in the need for mass transit services.

The large recent increases (and even larger projected increases) in the Hispanic populations of more rural, outlying counties such as Osceola and Polk presumably reflect the lower housing costs in those areas (not a preference for rural living among Hispanics). As housing costs in the urban core soar, the outward flow of persons seeking relatively inexpensive housing can only accelerate, contributing directly to sprawl, adding to commutation times and distances, and increasing arterial congestion. Not only will the need for mass transit increase, the transit lines will need to extend further and further into the regional hinterlands as Central Floridians seek relief from the relentless escalation of housing costs in the more centrally located counties.

Other Demographic Trends of Possible Significance

- Hispanics are not the only rapidly growing ethnic group. In terms of percentage increase, Asians are growing even more rapidly. And the African-American percentage is also projected to increase somewhat (from 12.7% in 2000 to 14.6% in 2050). By 2050, non-Hispanic whites will have ceased being the majority and will simply be the largest minority.
- The history of 20th Century America was one of rapidly rising education levels, especially after 1970. Once the privilege of an exclusive elite, higher education became the modal experience of the nation's young people. However, as the number of people with a college degree has increased, the relative value of a college education in the labor market has declined – even as the cost of obtaining that education has escalated.

As we have indicated elsewhere in this report, the growing number of dependent elderly will put strong pressures on governments at all

levels to increase spending on elderly programs. A recent discussion of these coming demographic changes (Kurtz, "Demographics and the Culture War") cites Congressional Budget Office estimates suggesting that "the combined cost of Medicare and Medicaid alone will consume a larger share of the nation's income in 2050 than the entire federal budget does today. By 2050, the combined cost of Social Security, Medicare, Medicaid, and interest on the national debt will rise to 47 percent of gross domestic product — more than double the level of expected federal revenues at the time. Without reform, all federal spending will eventually go to seniors."

In *The New Demographics of Higher Education*, George Keller comments on these demographic trends and their implications for university budgets and tuition. The basic argument is that governments will fund new or expanded programs for the elderly "by reducing their funding for public education and driving up tuition rates," in which case the economics of higher education become even less favorable. Based on these and related lines of argument, many experts are now forecasting a leveling off of educational attainment rates, with obvious labor force implications.

- The older population spends a much larger proportion of its money on health care than any other age group. Health care expenditures are exempt from sales tax. In addition, pension and Social Security income is typically taxed at a lower rate than other income, and capital gains, which will become an increasingly important source of income for the elderly, are taxed at a lower rate still. Many jurisdictions also offer special homestead exemptions to the elderly to keep their property tax bills low. As the elderly population grows larger and larger, the revenue effects of these facts will become more important, especially in states like Florida which depend on sales tax for more than half their total revenues.
- Latinization and the graying of America can be expected to transform the nation's workforce. As the Boomers retire, labor shortages are anticipated in many fields, notably in education, government, farming and nursing. (Worsening matters, the aging Boomers will also increase the need for nursing services.)
- The demographic trends discussed here will have implications for the numbers and types of households, the rate of household formation, and therefore the number of types of housing units that are demanded and supplied. Changes in housing patterns might then have further implications for transportation. Housing trends as well as population trends will need to be monitored over the coming decades.

For example, an aging population such as we have projected here will imply smaller households on average and therefore smaller (and

possibly more densely built) housing units. As an aging population “downsizes” its housing, in other words, there may be an increasing demand for smaller, more densely built units, which might in turn decrease sprawl and sprawl-related transportation issues.

On the other hand, immigrant families tend to be larger in size and so will demand larger units. Inevitably, this will lead to disproportionately large increases in the immigrant presence in suburbs, which might in turn increase sprawl and sprawl-related transportation issues.

- Finally, the demographic changes we have discussed will also transform the American political landscape, as the political influence of the elderly and Hispanics increases. Senior citizens in particular are very active voters and will be readily mobilized to thwart any effort to reduce spending on elderly programs, however badly the funds might be needed to shore up other aspects of our national infrastructure, transportation systems assuredly included.