

*a report on*

# FLORIDA TRANSPORTATION TRENDS AND CONDITIONS



## TRAVEL DEMAND

Travel Demand and Travel Behavior Trends



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## Travel Demand: Travel Demand and Travel Behavior Trends

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### Introduction

There are three major contributors to transportation demand: person travel by the resident population, person travel by tourists, and commercial and freight transportation. This report explores trends and conditions regarding resident travel, the largest of these three components of travel demand. Several data sources including the Census Bureau and the Federal Highway Administration (FHWA) are noted. Current conditions are compared with national conditions and historic data to provide an indication of trends and context. The Census Bureau conducts the Census every ten years. In between the Census surveys, the Bureau administers the American Community Survey (ACS) - an annual, more detailed survey of a small sample of households. The FHWA publishes Highway Statistics every year and conducts the National Household Travel Survey (NHTS) every five to eight years with the most recent completed in 2009.

This collection of information provides an understanding of how Florida's resident population influences the demand for travel. Information is included to give the reader a richer understanding of how and why Floridians travel.

### Travel Demand and Travel Behavior Trends

Just as population is the principal driver of travel demand, its characteristics also influence demand. This report examines age, income, auto ownership, and other factors to explain how they affect travel demand or how they are highly correlated with it.

Table 1 illustrates household size distribution, a contributing factor to travel demand, for the U.S. and Florida. Typically, larger households include some youth and often contain more shared vehicle trips and, hence, less total vehicle travel per person. Additionally, some trips are reduced; for example, shopping may be carried out for a group by one person rather than each individual making a trip. However, multi-person households often are active consumers and socially engaged creating travel demand - offsetting some of the travel economy possible in larger-size households.

**Table 1 - Distribution of Households by Household Size**

Household Size	Florida	U.S.
<b>Family Households</b>	<b>65.0%</b>	<b>66.5%</b>
2	31.1%	28.5%
3	14.6%	15.1%
4+	19.3%	22.9%
<b>Non-Family Households</b>	<b>35.0%</b>	<b>33.5%</b>
1	28.3%	27.5%
2	5.7%	4.9%
3	0.7%	0.7%
4+	0.4%	0.4%
Total	100%	100%

Source: Census Bureau, *American Community Survey*, 2009.

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Florida's average household size is below that of the rest of the nation, principally due to the large number of one- or two-person households with retirees. These households also may have different housing location decision-making criteria. Access to employment is not critical, and location decisions are more influenced by amenities and access to relevant services. Table 2 shows slightly larger household sizes for owned units in the U.S. but no difference between household size for owned and rented units in Florida.

Ethnicity/race often is highly correlated with location choice, household size, household income, and immigration status. It may also influence a person's travel behavior such as mode choice. Florida differs from the rest of the country in that its shares of African-Americans, Whites and Hispanics are larger but its shares of other races are lower (Table 3).

Travel levels have long been correlated with auto ownership and income. Higher incomes enable and motivate additional travel. Florida has moderately lower household incomes than the remainder of the country, with higher shares of the households having incomes below the \$50,000 level (Table 4).

**Table 2 - Average Household Size of Occupied Housing Units by Tenure**

Tenure	Florida	U.S.
Total	2.59	2.63
Owner Occupied	2.59	2.71
Renter Occupied	2.59	2.48

Source: Census Bureau, *American Community Survey*, 2009.

**Table 3 - Distribution of Persons by Ethnic Origin, 2009**

Race	Florida	U.S.
White	76.9%	74.8%
African-American	15.6%	12.4%
Other	7.4%	12.7%
Total	100.0%	100.0%
Origin	Florida	U.S.
Hispanic	21.5%	15.8%
Non-Hispanic	78.5%	84.2%
Total	100.0%	100.0%

Source: Census Bureau, *American Community Survey*, 2009.

**Table 4 - Distribution of Household by Household Income, 2009**

Household Income	Florida	U.S.
Less than \$10,000	8.00%	7.97%
\$10,000 to \$14,999	6.01%	5.95%
\$15,000 to \$24,999	12.71%	11.40%
\$25,000 to \$34,999	12.18%	11.15%
\$35,000 to \$49,999	16.34%	14.79%
\$50,000 to \$74,999	18.44%	19.01%
\$75,000 to \$99,999	10.70%	11.84%
\$100,000 to \$149,999	9.46%	10.90%
\$150,000 to \$199,999	3.07%	3.57%
\$200,000 or more	3.08%	3.42%
Mean household income	\$62,441	\$68,914

Source: Census Bureau, *American Community Survey*, 2009.

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## Travel Demand: Travel Demand and Travel Behavior Trends

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Vehicle miles traveled (VMT) is a measure of the distance traveled using a personal vehicle. Typically, household VMT is strongly correlated with income level. As Table 5 shows, the general trend is that as income levels increase, average daily household VMT also increases. Florida has lower household VMT compared to the U.S.

### Vehicle Availability

Vehicle travel demand is highly associated with vehicle availability, which is logically tied to income levels. Florida's recent vehicle availability levels are slightly lower than the remainder of the country, although vehicle availability has been growing over time, as income growth has enabled its increase. According to the Census Bureau's American Community Survey 2009, the average vehicle availability level was 1.64 vehicles per household in Florida versus 1.77 for the U.S.

**Table 5 - Daily Average Household VMT by Household Income, 2009**

Household Income	Florida	U.S.
Less than \$10,000	20.42	23.96
\$10,000 to \$14,999	20.61	31.44
\$15,000 to \$24,999	31.32	32.41
\$25,000 to \$34,999	40.82	44.15
\$35,000 to \$49,999	45.93	52.66
\$50,000 to \$74,999	66.35	66.81
\$75,000 to \$99,999	78.66	80.23
\$100,000 or more	81.30	87.16

Source: FHWA, *National Household Travel Survey (NHTS)*, 2009<sup>1</sup>.

It is presumed that vehicle availability is generally less of a constraint on travel growth when the household has an equal number of vehicles and licensed drivers. Data indicated that, on average, one vehicle is available per household licensed driver. However, since these vehicles are not uniformly spread over the population, some households remain more limited in their mobility.

Low vehicle availability can result from income, physical, mental or legal constraints, or a choice to not own vehicles. In other cases, it is common for the number of vehicles to exceed the number of persons. This occurs in situations where households choose to have additional vehicles to provide a choice of vehicle types, a spare vehicle should one be inoperable, or an interest in collecting vehicles as a hobby.

*There are more households in Florida with three or more vehicles than with zero vehicles.*

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<sup>1</sup> The most currently available data on overall household travel is the 2009 National Household Travel Survey (NHTS).

## Travel Demand: Travel Demand and Travel Behavior Trends

Table 6 indicates that average vehicle availability per household has remained relatively constant in the past six years for Florida and for the country as a whole. Since 2004, the number

of households with zero vehicles has increased by 0.1 percent in share for both the state and the nation. This comes after a long period of declining zero-vehicle households.

Legal constraints, mental and physical health, and chronic poverty will continue to restrict some individuals from having vehicles available. While economic constraints are playing a lesser role in vehicle ownership than in prior decades, the current economic pressures may result in continued backtracking in household vehicle availability levels.

A comparison of household vehicle availability between Florida and the U.S. reveals that Florida has a lower zero-car household level, a higher one-car and two-car household level, and lower level of multi-car households. The lower zero-car household share is consistent with higher auto dependency in much of Florida. The actual number of zero-vehicle households increased from 442,562 in 2004 to 460,040 in 2009. Despite this increase, levels remain below national averages.

Table 7 provides several travel-related characteristics. The lower labor force participation, smaller household size, and lower vehicles per capita levels compared to the nation are related to the concentration of retirees in Florida. Retirees often have quit working, have limited incomes, live alone or within a small household, and may have relinquished their driving due to declining capabilities. As a result, their travel levels are lower than younger cohorts.

**Table 6 - Household Vehicles Availability Comparisons**

Number of Vehicles	Florida			U.S.		
	2004	2006	2009	2004	2006	2009
0 Vehicles	6.5%	6.6%	6.6%	8.8%	8.8%	8.9%
1 Vehicle	40.3%	39.4%	41.2%	33.2%	33.2%	33.7%
2 Vehicles	39.7%	39.0%	38.3%	38.5%	38.0%	37.6%
3 or More Vehicles	13.5%	15.0%	14.0%	19.5%	20.0%	19.9%
Mean Vehicles	1.60	1.67	1.64	1.69	1.77	1.77

Source: Census Bureau, *American Community Survey*, 2009.

*Per 1,000 Florida households, 66 do not have a personal vehicle available.*

**Table 7 - Travel-Related Characteristics**

Characteristics	Florida	U.S.
Persons per Household	2.59	2.63
Workers per Household	1.13	1.22
Vehicles per Household	1.64	1.77
Percent Workers	42.6	45.1
Vehicles per Capita	0.6181	0.6532
Households with No Workers	2,209,735	29,930,420
Households with No Workers %	31.62	26.34
Workers Working at Home	375,151	5,918,170
Workers Working at Home %	4.75	4.27

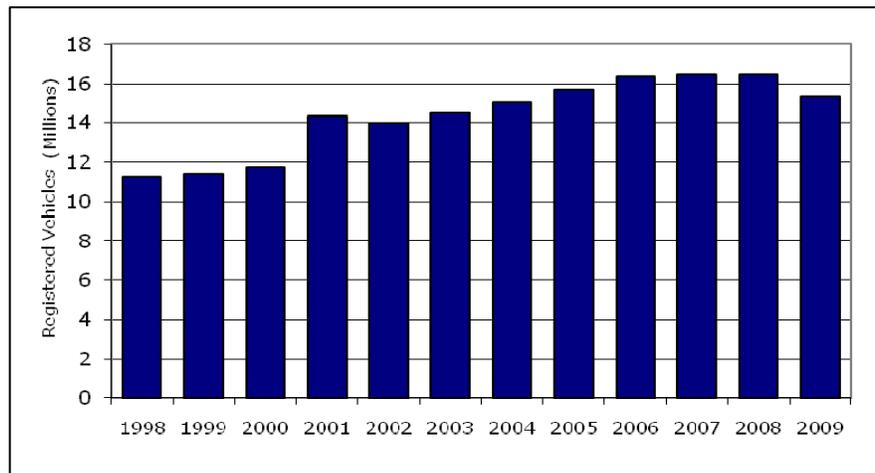
Note: Numbers may differ slightly from Census Bureau tabulations due to different sample sizes.

Source: Census Bureau, *American Community Survey*, 2009.

## Travel Demand: Travel Demand and Travel Behavior Trends

Vehicle availability and the number of registered vehicles have been critical factors in influencing mobility and vehicle miles of travel. Vehicle availability affects the choice of travel means and the length and number of trips taken. Figure 1 presented a consistent growth in registered vehicles in Florida from 1998 to 2008 (note that 2001 was an anomaly).

**Figure 1 - Florida Total Registered Vehicles, 1998-2009**

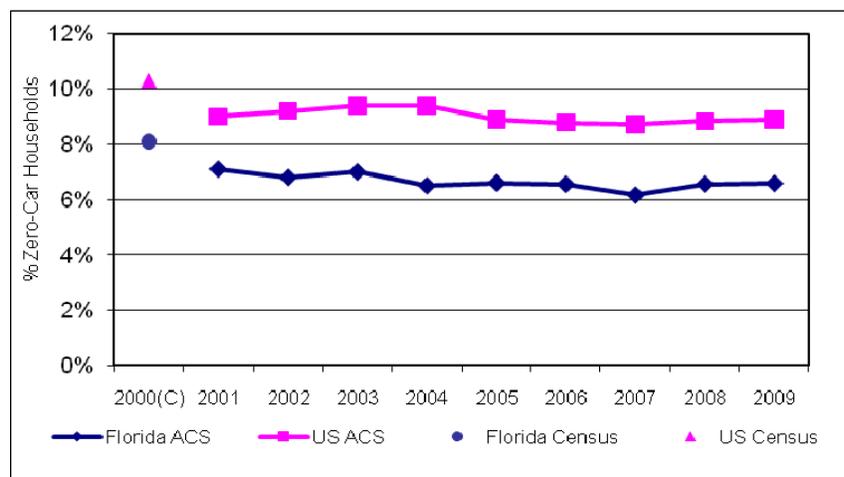


Source: FHWA, *Highway Statistics Series*, 2009.

This growth was a result of both population increase and greater relative auto availability for the population. For example, in 1991, there were approximately 13,259,000 people in Florida, of which 9,692,974 were licensed drivers, with 9,980,076 vehicles or 0.75 vehicles per capita. By 2003, the ratio of vehicles per person increased to 0.85 and to 0.88 by 2008.

The growth of vehicle availability has slowed in recent years as vehicle availability has become widespread. A larger share of the population is older than 16 and of driving age, and many are middle-aged and more likely to have the income to afford vehicles.

**Figure 2 - Zero-Car Household Trends in Florida vs. the U.S.**



Source: Census Bureau, *American Community Survey*, 2009.

Figure 2 contrasts the trends in zero-vehicle households for Florida and the U.S. as measured by the Census and American Community Survey (ACS). Overall, zero-vehicle households as a percent of all households have been declining both nationally and in Florida. The share of zero-vehicle households in the U.S. has been higher than in Florida. In 2009, the national average was 8.9 percent and 6.6 percent in Florida. Zero-vehicle households are typically smaller and often consist of single persons; thus, the share of the population in zero-vehicle households is lower (4.3 percent in the U.S. and 2.8 percent in Florida).

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Reliance on driving or being a private vehicle passenger remains the dominant means of commuting in Florida and the U.S. However, in Florida, driving alone is higher than in the rest of the country. Both public transit commuting and walking in Florida remain below the national average and have declined since peaking in 2001. Working at home is growing in Florida and the U.S.

### Licensed Drivers

Table 8 details the number of licensed drivers in Florida and the population trend from 1990 through 2009. In 2009, the licensed driver percentage of the population in Florida was nearly 75 percent, while nationally just over 67 percent of the population possessed a license. Although slight fluctuations were observed in recent years, the general trend indicates some leveling and slowing in the growth of licensed drivers. The share of the population with a driver's license peaked in 2000 and has seen a downward trend since then. A number of factors could have played a role in this trend: the availability of alternative identification cards making it less critical to get a license, larger shares of the young and old without licenses, and a lower inclination of young people to get licenses.

**Table 8 - Licensed Drivers in Florida**

Year	Licensed Drivers	Percent Change from Prior Year	Population	Licensed Drivers as Percent of Population
1990	9,231,405	0.0%	12,937,926	71.4%
1991	9,692,974	5.0%	13,259,000	73.1%
1992	10,537,677	8.7%	13,498,000	78.1%
1993	10,762,041	2.1%	13,730,000	78.4%
1994	11,005,438	2.3%	14,044,000	78.4%
1995	11,024,064	0.2%	14,336,000	76.9%
1996	11,399,593	3.4%	14,624,000	78.0%
1997	11,749,244	3.1%	14,939,000	78.6%
1998	12,026,947	2.4%	15,231,000	79.0%
1999	12,400,841	3.1%	15,581,000	79.6%
2000	12,853,428	3.6%	15,982,378	80.4%
2001	12,743,403	-0.9%	16,331,900	78.0%
2002	12,744,055	0.0%	16,674,900	76.4%
2003	12,905,813	1.3%	17,071,400	75.6%
2004	13,146,357	1.9%	17,516,500	75.1%
2005	13,373,700	1.7%	17,918,100	74.6%
2006	13,988,630	4.6%	18,349,300	76.2%
2007	14,138,846	1.1%	18,680,367	75.7%
2008	14,033,844	-0.7%	18,807,219	74.6%
2009	14,005,066	-0.2%	18,750,483	74.7%

Source: FHWA, *Highway Statistics Series*, 2009;

Florida Population: BEBR, University of Florida, *Florida Statistical Abstract*

### Trip Purpose and Mode

Beyond understanding total travel demand, it is useful to examine other aspects of overall travel behavior. One of the areas of key interest has been work travel. Work travel is a large share of total travel and occurs predominately in the peak periods when capacity is most constrained. It influences very large shares of total travel, as numerous other trips are linked with work trips or planned around work travel schedules.

## Travel Demand: Travel Demand and Travel Behavior Trends

A comparison of Florida and national travel by trip purpose (Table 9) displays similar patterns although small variations are observed among different purposes. Given the share of retirees, it is not surprising that Florida has a lower share of work trips than the remainder of the country. Work trips are typically longer than trips for most other purposes, so when considering shares by vehicle miles of travel (VMT), work trips have a somewhat higher share. Interestingly enough, shopping had the highest share of vehicle trips for both Floridians and the U.S. Family/personal travel was also among the top three vehicle trips. All three made up over 66% of all vehicle trips for both Floridians and the remainder of the country. On average, trip distances for Florida travelers are modestly shorter (9.19 miles for Florida versus 9.76 for the U.S.).

**Table 9 - Summary of Annual Household Vehicle Travel by Trip Purpose**

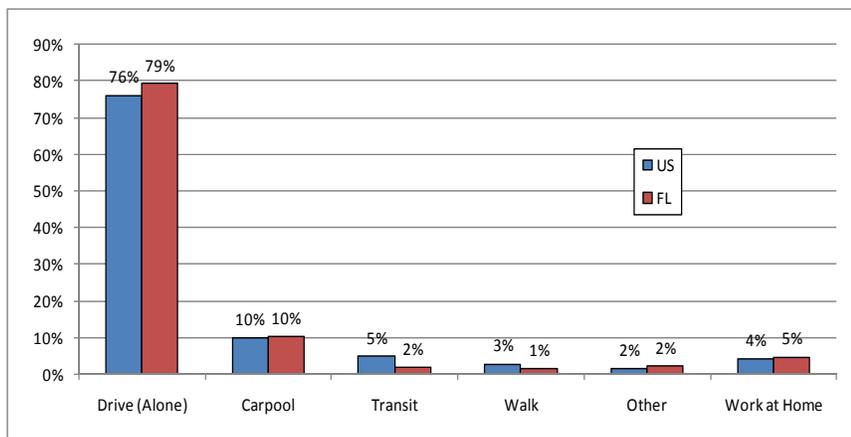
Trip Purpose	Florida			U.S. Excluding Florida		
	Vehicle Trips	VMT	Trip Length (mi)	Vehicle Trips	VMT	Trip Length (mi)
To/From Work	21.6%	28.6%	12.11	22.1%	27.7%	12.19
Shopping	23.5%	14.8%	5.78	22.6%	15.0%	6.49
Family/ Personal	21.0%	15.5%	6.78	21.7%	15.1%	6.80
Church/ School	4.9%	4.5%	8.64	4.9%	4.4%	8.78
Social/ Recreational	15.1%	13.5%	8.13	14.8%	13.1%	8.64
Other	14.0%	23.2%	15.36	13.9%	24.6%	17.31
All Purposes	100.0%	100.0%	9.19	100.0%	100.0%	9.76

Source: FHWA, NHTS, 2009

While not shown in Table 9, the share of travel for work trips has declined over the past several years as growing mobility has enabled increased numbers of non-work trips via vehicles. Shopping, family/personal and social/recreational trips are among the categories that have seen significant growth in share. Roadway travel demand is also influenced by the mode choice of travelers.

**Figure 3 - Principal Travel Mode to Work**

Figure 3 reveals Florida is slightly more auto-oriented than the remainder of the country. However, there is a strong dominance of single occupant vehicle (SOV) travel, both nationally and in Florida.

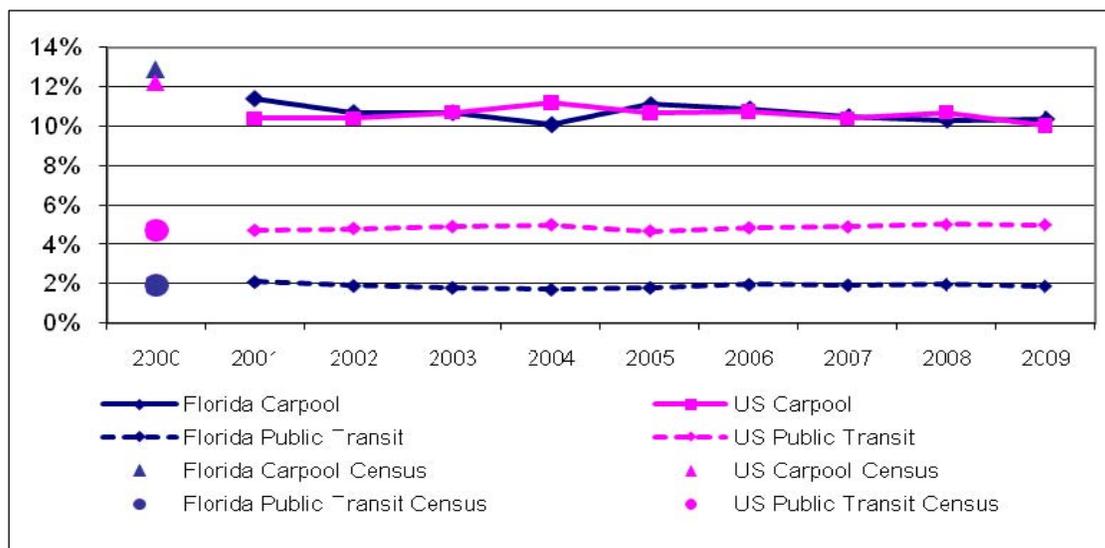


Source: Census Bureau, American Community Survey, 2009

## Travel Demand: Travel Demand and Travel Behavior Trends

Figure 4 contrasts Florida and national trends with respect to carpool or shared ride commuting and transit use. Both nationally and in Florida, commuting by carpool and public transit has been modest, particularly public transit. Both Florida and the U.S. have witnessed slow declines in carpooling following a decline between the 2000 Census and the subsequent start of ACS data. Transit commuting trends have been flat for both Florida and the nation.

**Figure 4 – Transit and Carpool Commuting Shares**



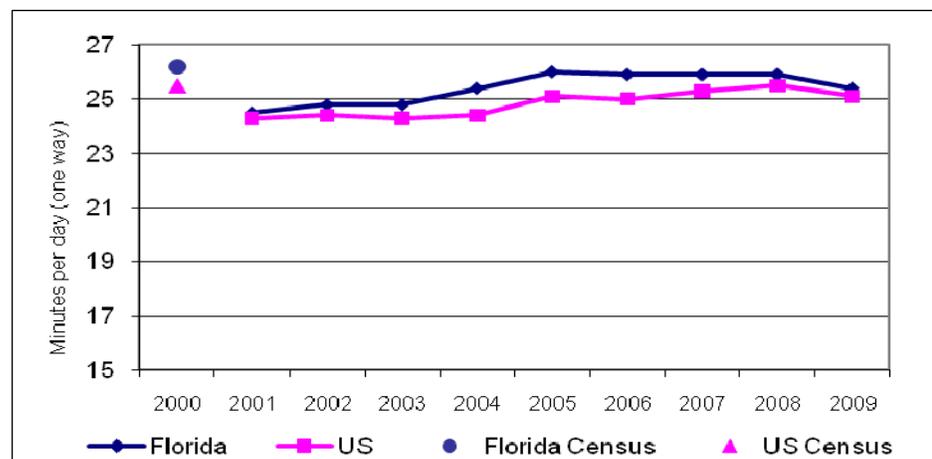
Source: Census Bureau, *American Community Survey*, 2009.

Travel demand is also reflected in commute time. As shown in Figure 5, both Florida and the U.S. generally have observed an increase in commute times over time. However, they have started to decline from the peak years due to the recession. The

commute time measure does not allow the reader to discern the relative contributions of trip length changes versus trip speed changes.

VMT is a major indicator of travel levels. From 2002 to 2009, VMT across the U.S. grew a modest 4.9

**Figure 5 - Mean Commute Times in Florida vs. the U.S.**

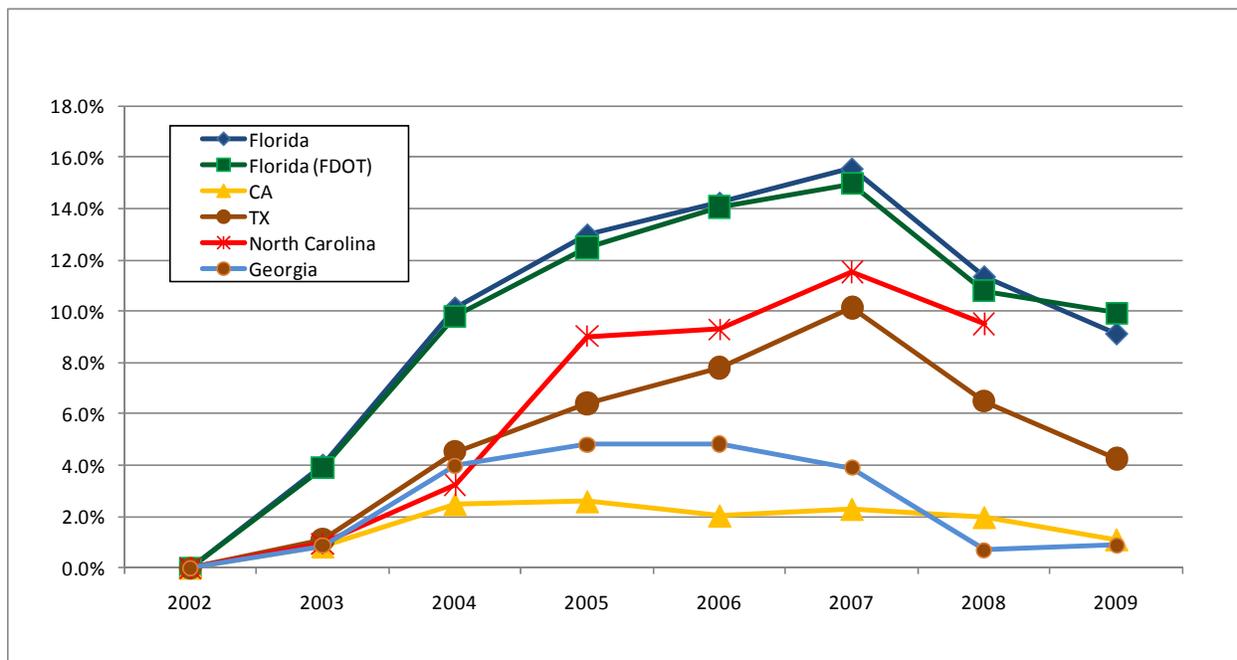


Source: Census Bureau, *American Community Survey*, 2009.

## Travel Demand: Travel Demand and Travel Behavior Trends

percent. However, during that same time period, VMT in Florida grew by 9.1 percent, significantly above other peer states (Figure 6). Population growth, increases in employment, hurricane recovery activity, and economic activities associated with growth in global commerce contributed to this rapid growth. Tourism, the largest economic sector in Florida, has also added more visitor-generated VMT. Visitor VMT and truck VMT growth contribute to total VMT in Florida. Figure 6 clearly shows the peak of travel being in 2007 with subsequent reductions.

**Figure 6 - VMT Percent Change from 2002**



Source: FHWA, *Highway Statistics Series*, 2009

Most vehicle-based travel occurs in vehicles with low vehicle occupancies. Table 10 uses data from the 2009 NHTS to show Florida and U.S. vehicle occupancies. Florida occupancies are slightly below those in the remainder of the country. Both Florida and national data show the historic tendency for lower occupancies for work trips with greater occupancies for social recreation trips and other trip purposes.

For years, vehicle occupancies had been declining. They appear to have stabilized since the mid 1990s. This can be attributed partially to stabilization of the average household size and partially to the already low occupancies, leaving little room for further declines. Since most people travel in personal vehicles and vehicle occupancies are quite low, the share of persons in non-single-occupant-vehicle (non-SOV) categories that could shift to SOV is far lower than in prior decades.

## Travel Demand: Travel Demand and Travel Behavior Trends

**Table 10 - Average Vehicle Occupancy by Trip Purpose and Vehicle Type**

Florida	To/From Work	Shopping	Family/ Personal	Church/ School	Social/ Recreational	Other	Total
Car	1.10	1.64	1.82	1.51	1.93	1.90	1.58
Van, SUV, Trucks	1.17	1.94	1.91	2.16	2.29	1.96	1.75
RV, Motorcycle	1.00	1.23	1.08	1.15	1.18	1.18	1.13
Total	1.13	1.78	1.86	1.72	2.08	1.93	1.65
<b>U.S. Non-Florida</b>							
Car	1.11	1.66	1.74	1.45	1.96	1.70	1.54
Van, SUV, Trucks	1.17	1.90	1.94	2.25	2.50	1.90	1.83
RV, Motorcycle	1.00	2.31	1.49	1.45	1.42	1.75	1.49
Total	1.13	1.78	1.84	1.78	2.21	1.80	1.68

Source: FHWA, *NHTS*, 2009.

**Table 11 - Summary of Daily Vehicle Travel by Age**

Age	Florida			U.S. Excluding Florida		
	Daily Vehicle Trips	Daily Vehicle Miles	Average Vehicle Trip Length (mi)	Daily Vehicle Trips	Daily Vehicle Miles	Average Vehicle Trip Length (mi)
Under 16 years	0.01	0.11	10.37	0.02	0.24	15.36
16-19 years	1.60	12.98	8.13	1.58	12.40	7.84
20-29 years	2.33	25.03	10.73	2.37	24.04	10.14
30-39 years	2.84	27.59	9.71	2.94	28.89	9.83
40-59 years	3.05	29.14	9.56	3.08	32.24	10.45
60-64 years	2.74	23.28	8.49	2.73	27.13	9.92
65+ years	2.06	14.72	7.16	2.10	15.74	7.48
Total	2.22	20.31	9.16	2.24	21.82	9.76

Source: FHWA, *NHTS*, 2009.

Travel behavior by person age is summarized in Table 11. Not surprisingly, people are most active in their working years where they often have both employment and household-serving travel needs. The lower levels of travel demand for youth and older adults are explained by the lack of travel options for youth (not of driving age) and the lessened need and ability to travel for older adults (retired and perhaps physical mobility constraints). However, both of these market segments have shown increasing mobility over time. Older adults, in particular, have shown significant increases in travel levels over the past several decades. This is attributable partially to better health and longer life, and partially to the fact that more women of the current generation reaching retirement are holding driver's licenses and owning vehicles – unlike prior generations where it was common for women not to have licenses. The largest share of the impact from women entering the work force and having drivers licenses have occurred over the

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past few decades, so the change in travel demand from these cultural changes appears to be almost fully reflected in current travel behavior. Future demand growth can be expected with further improvements in the health and economic circumstances of the older population.

### System Performance

The demand for travel is also influenced by the performance of the transportation system. In addition to income levels and auto availability, the time demands of travel influence the overall level of demand. Historically, Americans have had a relatively stable travel time budget, with workers allocating approximately 50 minutes per day for commuting to and from work and the total population spending over 70 minutes per day, per person in travel (Polzin, Pendyala, and Toole-Holt 2005). Over the past several decades, average travel speeds have increased due to a number of factors. These include increased mileage of high-speed interstate/freeway roads; improved performance of arterial systems; changes in household location to more distant suburbs with less crowded and higher speed roads; shifts from slower travel modes; transit, walk and shared ride; and shifts in travel times to avoid the peak periods for a larger share of total travel. These changes have enabled travel speeds to continue to increase until the past decade. The newest Census and NHTS data indicate that travel speeds started to decline until the recession induced slowdown in travel.

*Floridians, like the U.S. populace, are highly reliant on the personal vehicle, with modest use of other travel means.*

Table 12 provides Census Bureau work commute times, which indicate that the average work commute trip in Florida is higher than the national average. Floridians took an average of 25.4 minutes to commute to their work place in 2009. Over the past 15 years, this figure has been growing at a faster pace than the rest of the country.

**Table 12 - Commute Time Comparisons**

2009 Rank	State	2006	2009	Percent Change
1	New York	30.9	31.4	1.62%
2	Maryland	30.6	31.3	2.29%
3	New Jersey	29.1	29.8	2.41%
4	District of Columbia	29.2	29.8	0.00%
5	Illinois	27.9	28.0	0.36%
6	Massachusetts	26.6	27.3	2.63%
7	Virginia	26.9	27.2	1.12%
8	Georgia	27.3	26.9	-1.47%
9	California	26.8	26.6	-0.75%
10	New Hampshire	24.6	25.7	4.47%
11	Hawaii	25.5	25.5	0.00%
12	<b>Florida</b>	25.9	25.4	-1.93%
13	Pennsylvania	25.0	25.4	1.60%
14	Washington	25.2	25.4	0.79%
	<b>United States</b>	25	25.1	0.40%

Source: Census Bureau, *American Community Survey*, 2006, 2009.

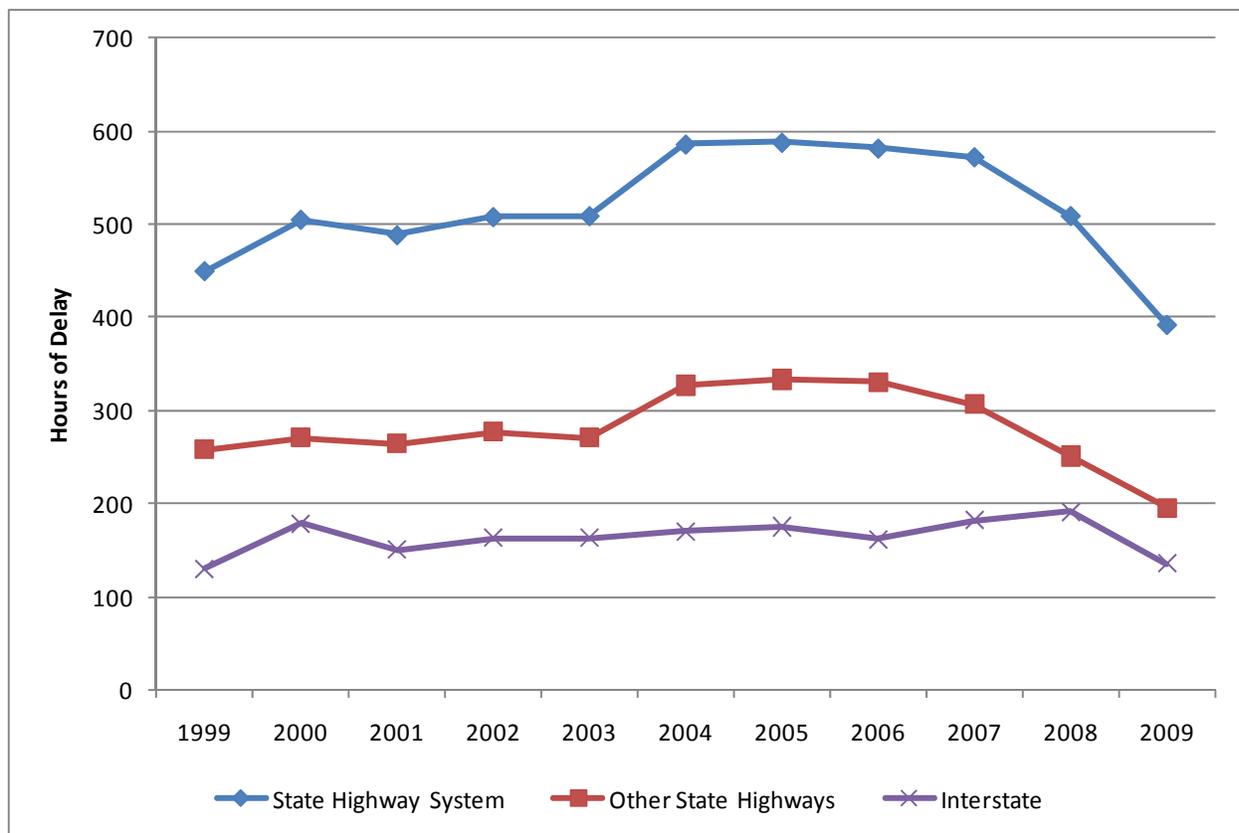
## Travel Demand: Travel Demand and Travel Behavior Trends

Preliminary evidence from other sources such as NHTS indicates that commute travel speeds are declining. However, additional, more detailed data need to be released before the time increases can be allocated between slower speeds and longer trip distances.

The temporal distribution of trips in Florida has changed over the past decade. The percentage of trips beginning in the peak AM and PM periods has decreased, while the percentage of midday trips has increased. The distribution of daily trips for the rest of the nation has also experienced similar changes since 1990.

Vehicle hours of delay is considered one measure of transportation system performance on Florida's highways. It is defined as the number of hours a motorized vehicle spends traveling in congested conditions. As shown in Figure 7, there was a moderate growth in delay, particularly in 2003-2004, then moderation through 2009. The relatively constant delay can be attributed to the economic slowdown and higher than normal unemployment rate.

**Figure 7 - Florida Daily Vehicle Hours of Delay Statewide (1999-2009)**



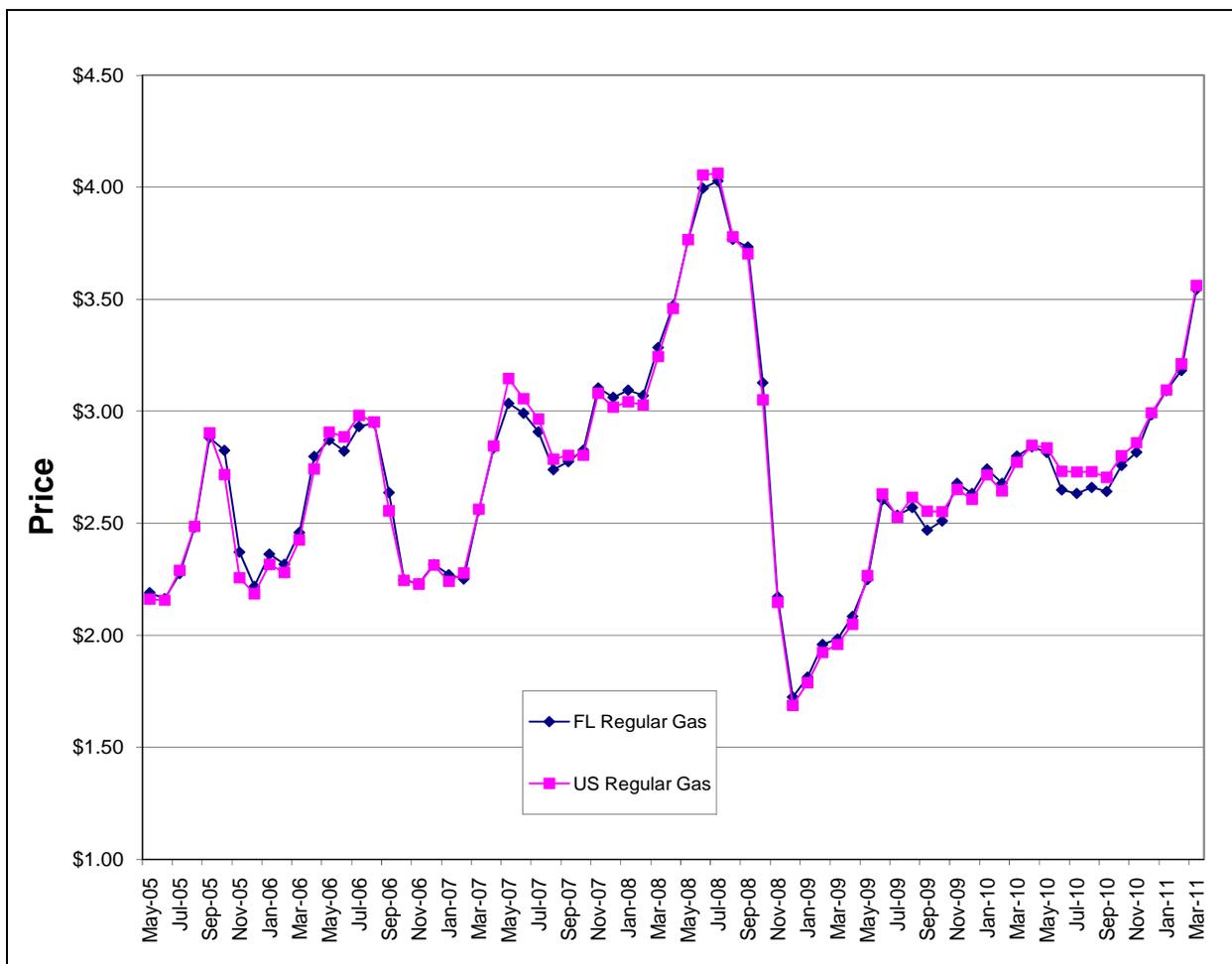
Source: Florida Department of Transportation, *2009 Highway Data Source Book*

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### Fuel Cost Impacts on Travel Behavior

During 2009 and 2010, fuel prices increased modestly in both nominal and real terms. The magnitude of these increases was not as drastic as prior years. Expectations for future fuel prices appear to have shifted fundamentally. Global demand increases and challenging environments for petroleum production capacity expansion create the expectation of continuing upward pressure on fuel prices over time. Travel behavior responds to travel costs in numerous ways, many of which will take several years to fully understand and quantify. Early evidence suggests softening in travel demand. During 2008 and 2009, VMT per capita continued a multi-year trend of declining VMT. This gave the appearance of stabilization for the time being. In 2009, total VMT was tracking below prior years. Currently, fuel prices are back up and appear to be gradually increasing. Declines in per capita VMT may be more than offsetting population growth.

Figure 8 - U.S. and Florida Monthly Regular Retail Gasoline Prices

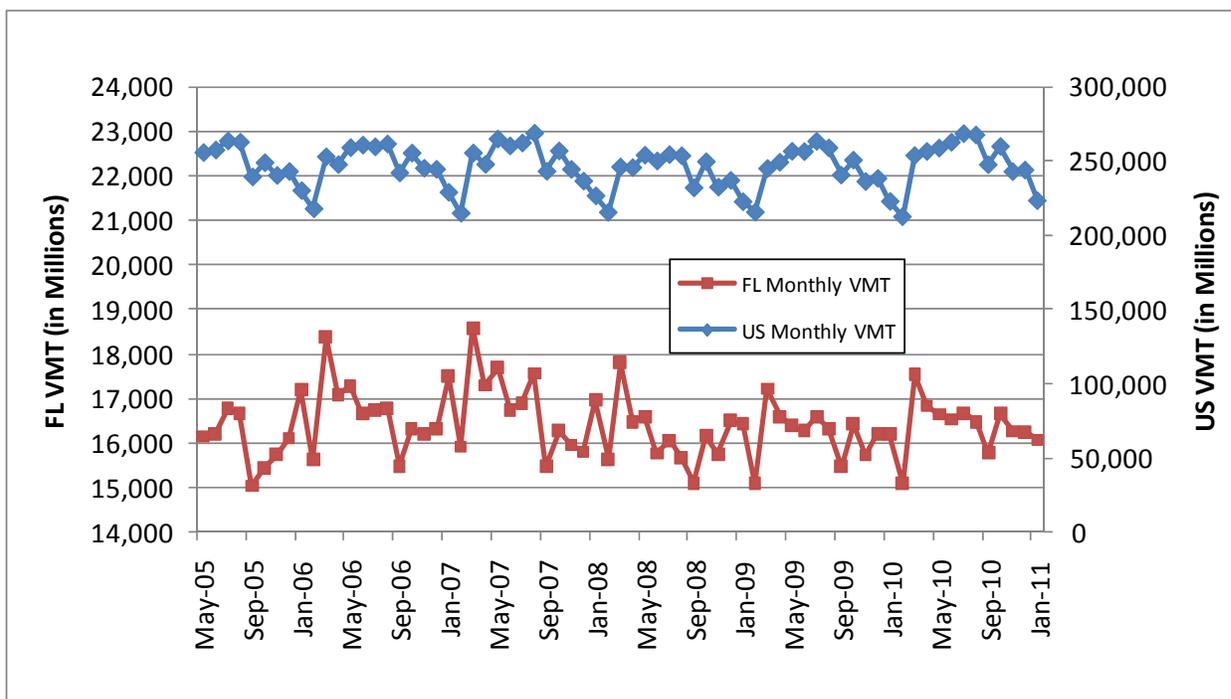


Source: Energy Information Administration, Monthly Fuel Data

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A closer look at Figure 8 reveals that monthly fuel prices mostly stayed above \$2.00 per gallon except a dip from November 2008 to April 2009. Since then, the prices have been on the rise. These changes have resulted in a variety of behavioral changes. The 2008 price spike resulted in public transportation capturing some additional demand. Over time, evidence of changes in trip lengths and vehicle occupancies are anticipated. Media reports on vehicle sale volumes indicate changes in consumer preferences for smaller fuel-efficient cars instead of large sport utility vehicles or trucks as prices increase. Analysts also anticipate both personal and business location decisions to be made based upon higher fuel costs. This would result in concentrations of activities in locations that are conveniently accessible to work and home. If fuel prices climb back to record levels in the next few years, more data will be available to quantify these trends that are now supported with anecdotal or limited information.

**Figure 9 - U.S. and Florida Monthly VMT on Public Roads**



Source: Federal Highway Administration, *Traffic Volume Trends*

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### Conclusion

The data collectively reveal evolving trends that will no doubt influence future travel demand and behavior. Many of the pressures for increasing travel demand over the past several decades have been lessening due to demographic and economic trends. Auto availability and licensure status reached high levels, perhaps having hit saturation levels. Current economic conditions appear to be impacting auto availability. Trends such as women increasing their participation in the work force, women acquiring driver's licenses at increasing rates, and the aging of the baby boomers have been major factors affecting travel demand in the past few decades. Looking forward, it is unclear if new cultural or demographic conditions will produce the growth in travel demand at the same rate as in the past few decades. The economic conditions are also far different. Strong economic growth in prior decades with equity market and home value appreciation supported active households and growing travel. Current trends including slowing income growth, diminished net worth, lower labor force participation, and a need to rebuild/fund retirement and savings accounts may dampen the demand for discretionary travel as the country works its way to a new normal pace of economic activity.

*Many of the pressures for increasing travel demand have moderated due to demographic and economic trends; therefore, slower growth of VMT is expected.*

Long-term shifts away from transit, walk, and shared ride modes appear to have played themselves out. There have been recent positive trends and going forward, these modes are more likely to preserve their current shares, with the prospect of some growth in shares. During 2000-2007, rapid real estate price appreciation forced some households to locate in more distant locations to find affordable housing. Housing market cost changes and fuel price changes may reverse this trend. Future land use patterns may influence longer range trends in travel demand.

Unfortunately, the existing transportation system is operating at capacity in several metropolitan areas and, consequently, is extremely sensitive to incremental increases in demand. Just as some roads have deteriorating performance, many roadway links are more likely to show worsening congestion with even minor increases in vehicle travel demand. In parts of several urban areas, less opportunity exists to shift travel in time or space to less-congested facilities. Although capacity for further peak spreading may still exist in many areas, peak travel volumes have spread well beyond traditional peak hours in many areas and alternative roadway paths are already congested. In these situations, the consequences of even modest increases in demand may be more likely to create greater congestion than in the past.

More recently, the rapid increases in fuel costs in 2008 coupled with an economic slowdown have resulted in small declines in VMT. Continually increasing fuel costs may have longer-

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range impacts on travel and travel growth expectations. Speculation includes the prospect of increased availability of alternative modes of travel, changes in land use patterns, increased reliance on communications in lieu of travel, and fundamental changes in travel demand due to increases in travel costs.

The human desire to socialize and participate in economic interaction is as great as ever. However, the pace of growth in travel demand is likely to change as a result of the different socio-economic conditions that are expected to exist in the future.

*The consequences of even modest increases in travel demand may be more severe than in the past.*

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