II. Regional Trends

The basic function of transportation is to move people and goods. This Plan seeks to serve that function in the safest and most efficient manner possible. All facets of transportation analysis for any given area must be done with a thorough understanding of the people and goods being moved. This chapter examines relevant data to better understand the transportation situation in this Region.

A. Vermont Transportation Characteristics

Table 2.6 in Chapter 2 of the Regional Plan (Volume 1 of 2) shows select transportationrelated characteristics for the State of Vermont. Vermont is a rural state, and is heavily dependent upon the automobile to meet the transportation needs of the state. In summary of the discussion in Volume 1, recent statewide transportation trends between 1980 and 2000 are as follows:

- Motor vehicle use (vehicle miles traveled or "VMT") increased 76%;
- Population grew 19%;
- Total road miles increased 1.5%;
- Automobile registrations increased 63%; and
- Truck registrations increased 101%.

These trends indicate that roads are experiencing much more use. The resulting wear and tear from this increased roadway traffic will be expensive to address. For the first time in decades, VMT decreased by 3.3% in the U.S. from 2007 to 2008 (through August), according to Federal Highway Administration, U.S. Department of Transportation. In addition, VMT in Vermont decreased 4.5% from 2007 to 2008 in the month of August. These decreases are probably largely attributable to the recent increases in fuel costs. Despite this recent decrease in driving, the overall long-term trend shows a significant increase in VMT.

1. Transportation Implications

Given this sharp long-term increase in motor vehicle use and the fact that the current state highway infrastructure is aging, difficult decisions will need to be made in the future. Significant increases in funding will be needed to maintain this infrastructure in safe condition under these conditions. The increasing pressure on state highways will lead to increased wear and tear on roads and bridges, congestion, potential expansions of the road network and/or seeking to maximize other, more efficient modes of travel. The potential expansion of highway capacity and increased motor vehicle travel will have a drastic affect upon the social and environmental fabric of Vermont.

Chapter 2 of the Regional Plan (Volume 1 of 2) contains a regional profile. The following sections summarize demographic trends in the Region and examine the related transportation implications.

B. Population Characteristics

The following summary highlights key trends and examines the transportation implications of the changing population characteristics.

1. Population Growth

According to U.S. Census figures, the population in southern Windsor County was 25,105 in 2000, and was estimated to be 24,836 in 2007. The population is decreasing in both Springfield and Windsor. Factors contributing to such decreases included the loss of major employers (especially those in the machine tool industry), reduction in average household size, and rising costs of living.

Ludlow has experienced recent population gains, following losses in the previous decades, primarily attributable to growth at Okemo Mountain Resort in Ludlow. The remaining towns in the Region are generally increasing in population. In recent years, the most rapid growth has been in the most rural towns.

2. Age Characteristics

According to the U.S. Census, the Region experienced a decline in the school aged and younger cohort group (less than 18 years in 1970-1990, under 20 years in 2000).

The 18-64 age group (U.S. Census changed this to 20-64 in 2000), which represents the labor force, has remained relatively stable since 1980.

The 65 and older age group, representing the retired and elderly, continued to increase from 1990 to 2000, but at a slower rate than the previous two decades. According to a study conducted by the Vermont Department of Aging and Independent Living, this population group is projected to continue increasing in Vermont (Massachusetts Institute for Social and Economic Research, UMass, August 2003). Increases in this age group pose significant challenges to the transportation system as discussed later in this chapter.

3. Transportation Implications

The transportation system will need to accommodate the changing demands based on population growth. Growth in this Region has largely been taking place in the more rural areas, rather than within the regional centers. This dispersed settlement pattern can have a dramatic effect upon communities and the regional transportation system. While the regional centers have the infrastructure for more intensive land uses, the rural areas generally do not. Residents of rural areas who do not drive can have a significantly difficult time accessing jobs and essential services. In the future, these rural areas will need to address the resulting infrastructure upgrades needed to support the growing population. Those upgrades may include, but are not limited to, paving dirt roads, signalizing intersections and increased police services.

Encouraging greater population densities and land use diversity near community centers would enable more residents to choose transportation alternatives such as walking, bicycling, and public transit. This would effectively cut transportation expansion costs by eliminating the need for expensive infrastructure improvements. Increased levels of general public volunteer transportation services will be needed to serve the populations of rural areas.

Growth in the retired and elderly share of the population is expected to continue as "Baby Boomers" age and life expectancy remains high or increases. Resort and retirement related development and increased services for the elderly are expected to reinforce this trend in the Region. Travel needs for this segment of the population has its own unique characteristics. General driver safety may require more visible road markings and signs suitable to this age group. The freedom from work schedules and parenting responsibilities frees up time for longer and more frequent leisure trips. However, a large proportion of the population – including the elderly and children – is unable to drive or has no vehicle. In instances where family and friends do not provide transportation, these individuals must rely on public transportation. The provision of adequate transportation services to meet at least the basic mobility needs among these groups is a matter that must be addressed. For further discussion of these issues refer to the Mobility Status section in this chapter and to Chapter 5, Alternative Modes of Transportation.

The feasibility and applicability of public transit is especially affected by population density characteristics. The towns of Chester, Ludlow, Springfield, Weathersfield, and Windsor have the greatest populations and population densities in the Region. All have total populations exceeding 2,000 residents and population densities at or above 50 persons per square mile. These characteristics, along with other relevant factors, suggest that these towns could be considered for transit potential. However, based on population trends, of these five, the two most densely populated - Springfield and Windsor - can expect the least growth. Transit potential can only be enhanced if growth is concentrated in core areas that lend themselves to transit service.

C. Housing Characteristics

The following summary is focused on the occupancy status of housing in the Region and how it relates to transportation.

1. Seasonal/Second Home Population

Seasonal housing units are a significant portion of the Region's housing stock at 21% of all housing units (2000 U.S. Census). Increased emphasis on tourism and recreation, combined with the growth in the second home market, resulted in significant fluctuations in the seasonal population between 1980 and 1990. Total seasonal units decreased from 3,096 in 1990 to 3,003 in 2000. Springfield added six units and Ludlow increased by 226 (13.7%). All other towns decreased their numbers of seasonal units, possibly indicating these were converted to year-round residences. (See Regional Plan Housing Chapter for further discussion.)

2. Transportation Implications

Seasonal housing units increase demand on the transportation system on weekends and during peak recreational seasons. Year round units tend to increase system demand during peak commuting hours (Monday-Friday, 6:30-8:30 A.M. and 3:30-5:30 P.M.). The net effect is that towns with high numbers of seasonal housing units experience peak demands different from job and population centers. Major highways in the Region, such as Routes

103 and 131, provide transportation access for both seasonal visitors and resident commuters and thus bear the greatest burden of traffic volume.

Seasonal influxes in population are especially problematic for towns such as Ludlow and Chester which have seasonal traffic congestion problems. Efforts to provide shuttle service for major tourist related activities, temporary or permanent satellite parking sites away from congested areas, specialized transit service, and other traffic mitigation efforts could help alleviate traffic problems related to seasonal activities.

D. Characteristics of the Region's Economy

A summary of the regional economy is highlighted below and expanded upon to discuss the transportation implications of each relevant facet.

1. Status of the Regional Economy

The regional economy (1.05%) has not kept pace with either statewide (2.13%) or national average job growth between 1980 and 2000. Likewise, overall growth in personal incomes in this Region (6.6% per year) is less than the growth rate for both Vermont (7.0%) and nationwide (6.8%) in the same time period. In that same 20-year period, average annual wage rates in the Region (4.25%) also lagged behind statewide (4.76%) and national rates.

The Region's manufacturing sector – mostly traditional machine tools manufacturing – has experienced a dramatic 73% decline since the hey-days of the late 1970s through the early 1980s. However, recent job growth in the Region includes North Springfield Industrial Park and Seldon Technologies in Windsor. In addition, there is growth in the tourism sector, especially with Okemo Mountain Resort's recent expansions and related service industry in and around the Ludlow area.

The economy is more diversified now than it was in 1979, and is significantly less susceptible to the risks of just a few major sectors or employers. The Region is experiencing an increasing number of home businesses.

Residents also travel to surrounding towns for work – such as Claremont, Rockingham and Rutland – and the nearby employment center in the Upper Valley, including Lebanon and Hanover, NH.

The Region's key industries include:

- Specialty food products;
- Publishing;
- Natural resource based manufactured products, such as furniture, log homes and other wood products;
- Engineered products and design support, including fabricated specialty plastic and metal goods;
- Traditional machine tools;
- High value-added professional, scientific and technical services;
- Timber and mineral resources; and,
- Destination family resort and recreation.

2. Employment Characteristics

Wage growth in Windsor County has lagged behind growth in wages statewide. However, underemployment is rising in the Region. Wages in the State of Vermont have historically fallen, and continue to fall, far below the national average. According to the 1996 State Plan for Housing and Community Development Programs, Vermont's average wage fell by 1.5% from 1992-1993 due, in part, to the changing structure of the State's economy from manufacturing to service-related jobs and to the proportional increase in nondurable goods-related jobs within the manufacturing sector itself.

Median adjusted wages decreased by an average of 12.3% throughout the Region between 1990 and 2000. With a reduction in the average family median income, combined with the increasing health insurance and housing costs, a low- to moderate-income family will likely struggle to make ends meet. The second largest investment in many people's lives is buying and maintaining an automobile. This becomes more and more difficult to do given these economic realities. Unfortunately, in most communities, having access to a reliable car is the sole means of access to quality employment.

There has been a significant decrease in the number of persons (22%) and families (19%) living in the Region below the poverty level between 1989 and 1999, as reported by the US Census Bureau.

3. Transportation Implications

For the regional economy to remain strong and continue to grow, the transportation system must accommodate the mobility needs of commuters and businesses in a safe and efficient manner. This means maintaining good access to major market areas by keeping existing infrastructure in good working condition. Freight, commuter and tourist travel should be made more efficient through intermodal connections; for example, "ski train" connections between Amtrak and/or the Green Mountain Railroad with express bus services.

As the regional economy lags behind economic growth in Vermont and in the Upper Valley, increasing numbers of commuters will travel outside of the region for employment. As that trend increases, so too will single-occupant vehicle use increase unless other modes are incentivized. Other modes should be marketed and made available to employees by businesses. Infrastructure improvements, such as expanded or new park-and-ride lots and increased fixed-route transit service, would help provide commuters with cheaper and more efficient travel options.

E. Commuting Patterns

To determine the need for capacity improvements to existing road systems, it is helpful to analyze the number of trips commuters make to and from their places of employment. The volume of traffic between residential and business sites largely determines the necessary carrying capacity of any individual road at any given time. The following narrative provides an analysis of commuting patterns within the Region and the most common commuter modes of transportation. The data presented in this section was largely provided by the US Census Bureau Decennial Census. Travel patterns of non-workers is also important but, due to a lack of data, is not analyzed in this section.

1. Comparison of State, County and Regional Commuter Patterns

Southern Windsor County was associated with a total of 15,743 commuting workers in April of 2000, according to the U.S. Census Bureau, a 19.8% increase since 1990. These workers represented about 5% of Vermont's total 310,176 commuters and 46.5% of Windsor County's (see **Table 2.1**).

Most of the 11,577 people who work in the Region commute from within the Region (8,089 workers in 2000 or about 70%). Twenty-six percent of commuters residing in this Region travel to jobs outside of the Region. At the State level, 7% of commuters traveled to or from work out of state, while at the County level, about 30% commuted out of the County. Windsor County and southern Windsor County draw a larger proportion of their inbound commuters from out of state, 20% and 22% respectively, compared to 5% statewide. This variance is natural given the different geographical sizes of the compared areas. However, it also demonstrates the strong bi-state economic connection in the Connecticut River Valley.

Table 2.1 - 2000 Commuter Pattern Comparison:Residents & Nonresidents who work in same geographic area								
		Area Residents			Non-Area Residents			
Commuters Age 16+				Work Out of				
Area	Total	Work in Area	%	Area	%	Work in Area	%	
Vermont	310,176	272,842	88	21,346	7	15,988	5	
Windsor County	33,848	17,063	50	10,068	30	6,717	20	
Region	15,743	8,089	51	4,166	26	3,488	22	

Source: U.S. Census Bureau, Census 2000; SWCRPC

2. Regional Commuting Patterns

According to the U.S. Census, there were 15,743 commuters in this region in 2000. This number includes residents who live and work in the Region, residents who live in the Region but commute to work outside the area, and non-regional residents who commute into the Region for employment. The traffic generated by these workers, particularly during peak hours, provides insight into the Region's commuter traffic patterns. The distribution of workers is shown in **Figures 2.1 - 2.8**.



Source: U.S. Census Bureau, Decennial Census

Figure 2.1 – Regional Commuting Patterns (2000)

a. Internal Commuting

Internal commuting refers to commuters who live and work in the ten towns of southern Windsor County. In April of 2000, there were nearly 8,100 workers in this category, or about 51% of all regional commuters. Commute destinations of internal commuters are listed by town of employment in **Figure 2.2**. The Town of Springfield had the largest share (about 46%) of the Region's internal commuters.



Source: U.S. Census Bureau, Decennial Census

Figure 2.2 – Destination for Commuters Who Work in Town of Residence (2000)

i. Internal Commuters: Work in Town of Residence

Of all internal commuters, 64% or 5,181 worked in their hometown. Springfield had the highest share at 2,634. The Towns of Ludlow (637), Windsor (575), and Chester

(537) also had significant numbers of hometown workers, an increase since 1990 for both Ludlow and Chester, and decrease for Windsor.

The proportion of residents who work in the same town in which they live indicates a relatively shorter commuting trip. Those individuals who work and live in the same town have a greater potential opportunity to walk or bicycle to work than those who commute longer distances to another town. **Figure 2.3** shows the percentage of employed persons who live and work in the same town in 1990 and 2000. Most towns experienced an increase in the proportional number of residents who commute to another town. Only the regional centers – Springfield, Windsor and Ludlow – experienced a decrease between 1990 and 2000. It should be noted that such statistics are dynamic and can change drastically with the opening or closing of a single employer, as may have been the case in Springfield and Windsor.



Source: U.S. Census Bureau, Decennial Census

Figure 2.3 – Hometown Commuter Comparisons (1990-2000)

ii. Internal Commuters: Live or Work in another Town in the Region

About 18.5% of regional commuting is done by workers who travel from one regional town to another regional town (See **Figure 2.4**). The vast majority of Baltimore's resident commuters worked out of Town in 2000, down slightly from 100% in 1990. As would be expected, the regional centers exhibit fewer residents who commute outside of the town where they live. The rural towns have fewer job opportunities, thus, proportionally more residents work outside of town. However, proportionally few of those who travel outside of their home town, work within southern Windsor County.



Source: U.S. Census Bureau, Decennial Census

Figure 2.4 – Commuter Comparisons (1990-2000)

b. External Commuting

External commuting refers to regional residents who travel to work outside the Region, or to residents from outside of the Region who commute into southern Windsor County.

i. External Commuters: Outbound

Close to 27% of employed persons living in the Region commute to jobs in locations outside of the Region. **Figure 2.5** provides a breakdown of work destinations for all regional commuters. The patterns observed in the 1995 and 2005 Regional Transportation Plans still hold true, Connecticut River communities' ties to NH, Hartford and Rockingham are strong, while Ludlow and Cavendish have stronger economic ties to other Vermont towns. However, 2000 U.S. Census data suggests that more commuters are traveling to the "Upper Valley," consisting of Hartford, VT and Lebanon and Hanover, NH. This is likely due to the Upper Valley's currently strong job growth, while jobs have been lost or are not growing as quickly in Springfield, Windsor and Claremont. The majority of external commuting trips are destined for NH communities along the Connecticut River Valley, as well as to Hartford, Rockingham and Woodstock. See **Figure 2.5** depicting work destinations of regional commuters in 2000.

ii. External Commuters: Inbound

Commuters entering the Region are tabulated in **Figure 2.6**. Springfield, Ludlow and Windsor are employment centers; the greatest proportion of inbound commuters from outside the Region commute to these three towns. Commuters bound for Ludlow have increased significantly since 1990, from 12% of the external inbound commuters to 17%. This is likely due to the growth at Okemo Mountain Resort. Springfield and Windsor remain important job centers for the Region extending beyond southern Windsor County.



Source: U.S. Census Bureau, Decennial Census

* Note: "Upper Valley" includes Hartford, VT and Lebanon and Hanover, NH

Figure 2.5 – Work Destinations of Regional Commuters (2000)

The number of commuters that enter the Region for employment is distributed almost equally between residents of other Vermont towns and those who live out of state. Residents from non-regional Vermont towns represent about 2% more of these commuters than do residents from other states.



Source: U.S. Census Bureau, Decennial Census

Figure 2.6 – Work Destinations of Inbound Commuters (2000)

3. Modes of Transportation

As illustrated in **Figure 2.7**, the single-occupancy vehicle (SOV) was the most common mode of transportation used by commuters in southern Windsor County. About 79% of the Region's commuters drove alone. Little variation occurred in 2000 with a range of 72% to 82% of SOV use at the town level.

The next most popular mode of transportation was carpooling, with about 11% of commuters choosing this option. Approximately 5% commuted by bicycling or walking. Public transportation was not a significant factor in traveling to work, used by only 53 or 0.4% of workers. (Given that regularly scheduled public transit was initiated in Springfield in July of 1993 [Chapter 5, Alternative Modes of Transportation], these numbers may not be currently applicable).



Source: U.S. Census Bureau, Decennial Census

Figure 2.7 – Means of Transportation to Work (2000)

4. Travel Time to Work

The distance traveled to work is indicated by the length of time it takes commuters to get to their place of employment. **Figure 2.8** illustrates the percent change between 1990 and 2000 in the average number of minutes required by commuters to travel to work.



Source: U.S. Census Bureau, Decennial Census

Figure 2.8 – Change in Mean Travel Time to Work (1990-2000)

According to available information, commuters from the all towns increased their travel time over the ten year period, with the exception of Baltimore. The more rural communities experienced the highest rate of increase. For instance, Reading commuters experienced a 53% increase in average travel time to work from 1990 to 2000.

Springfield and Windsor had increases of around 23% and 24% respectively. These figures support the likelihood that the loss of employment in these two towns resulted in increased commuting time for area residents.

Increased travel distance also increases the likelihood of commuters driving alone. More diffuse commuting patterns result in less commonality of origin and destination thus discouraging carpooling. This situation will persist unless other options are made available and more attractive.

5. Vehicles per Household

The number of vehicles available per household has significant implications for transit demand. Vehicle miles traveled are constrained when few households have access to two or more vehicles, particularly where average household size is above two. With no surplus vehicles, members of these households must either forego additional travel, or if possible, choose a different transportation mode.

The trend in vehicle availability has been upward. Between 1980, 1990 and 2000 the percentage of households in southern Windsor County with no automobile dropped from 10% to 8% to 7%; the percentage of households with only one vehicle fell from 40% to 36% to 35%. At the same time, average household size declined from 2.7 to 2.5 to 2.3.

6. Transportation Implications

Approximately 51% of the Region's commuters live and work within the ten member towns. Twenty-two percent live outside of but work in the Region. The remaining nearly 27% travel to work outside the Region. The proportion of regional commuters who work or live outside of the Region (49%) has grown since 1990 (40%). Their commuting patterns have implications relating to all aspects of transportation planning. Of particular concern are single-automobile use, traffic flow, peak hour traffic patterns, carpooling, parking, and the capacity and maintenance of the infrastructure.

The 49% of regional commuters who travel daily across the Region's border underline the importance of formulating strategies that address transportation needs without limiting their focus to geographic or political boundaries.

The size, density, and location of population and employment centers, both within and outside of the Region, combined with their proximity to transportation corridors are the principal determinants of commuter behavior. Transportation planning that considers these regional aspects of commuter patterns will be more likely to avoid the pitfalls associated with commuter travel.

As previously indicated, the factor with the greatest potential to impact transit demand is vehicle availability. The decline in the percentage of households not possessing multiple automobiles, as well as decreases in household size, are correlated with more vehicles traveling more miles. The upward trend in vehicle availability also suggests a partial explanation for the slight declines in carpooling and other low impact commuting modes. More access to private vehicles equals less incentive to carpool, bicycle or walk to destinations.

The single-occupancy vehicle is currently the preferred mode of transportation in the Region. Among the possible modes, this one also has the greatest impact on the transportation system per commuter. A comparison of available 1980, 1990 and 2000 census data reveals that regionally, although the total number of commuters has increased by about 20%, modal choices have remained the same with few utilizing the lower impact forms. The reported means of transportation in 2000 did not change significantly from 1990. This over-reliance on SOVs, combined with the average increase in travel time to work, has resulted in greater stress on the road system, particularly during peak commuter hours. Should these trends and the trend toward an increased number of total commuters continue, the impacts to the road system will continue to grow.

As commuter travel from this Region, and areas south, to the Upper Valley grow, the need to expand park-and-ride lot capacity and public transit capacity increases. As more commuters travel to adjoining rural Vermont communities in diffuse patterns, few travel options are available. In those cases, infrastructure conditions and job access for low-income workers becomes paramount.

F. Mobility Status

A transit dependency analysis was conducted to identify the relative need of residents who's mobility needs are not currently being met.

1. Density of Transit Dependent Populations

As indicated in the following analysis, the "areas with the highest transit needs...are in the immediate areas of populated towns," and include downtown Springfield, North Springfield, downtown Windsor, the Village of Ludlow and Chester-Chester Depot. Areas of moderate transit needs include the remainder of the towns of Ludlow and Springfield, as well as Weathersfield. The remainder of the Region is identified as low relative need.

2. Percentage Ranking of Transit Dependent Populations

The percentage of potentially transit dependent persons' analysis includes five variables that generally indicate population groups that have a high likelihood of requiring assistance to meet their daily mobility needs:

- People generally below the legal driving age;
- People age 65 or older;
- People between the ages of 18 and 64 with a disability;
- People living below the federal poverty level;
- Autoless households.

These variables were ranked separately and then the five individual rankings were combined to indicate overall rankings. The results are shown below in **Figure 2.9** and **Table 2.2**, and

are very similar to the density analysis. The areas of highest relative transit need include Springfield, Windsor and Ludlow.

More than half of the regional population exhibits transit dependent traits.



Source: U.S. Census Bureau, Decennial Census, SWCRPC

Figure 2.9 – Population Groups in Region That May Exhibit Transit Dependent Traits (2000)

a. People generally below the legal driving age

Most children rely on walking, bicycling, school busses or rides from parents to meet their mobility needs. The ability to walk or bicycle to their destinations affords children independence and freedom. However, many parents do not allow their children to ride a bicycle along the state highways for safety and security reasons. The current lack of bicycle and pedestrian facilities in many communities and the growing traffic volumes on the roadways, contribute to worsening independent transportation for children. Children make up approximately 22% of the Region's population.

b. People Age 65 or Older

Many people age 65 or older are able to meet their own mobility needs by personal car. However, many due to health or financial reasons lose that ability to drive and become dependent upon others for their travel. As baby boomers begin to reach retirement age, this population group will become increasingly more important. Approximately 18% of the Region's population is 65 or over.

c. People between the Ages of 18 and 64 with a Disability

People with one or more disabilities often rely on public transportation or other services to meet their mobility needs. Ten percent (10%) of the Region's population (ages 18 to 64) was reported in the 2000 Census to have a disability.

d. People Living Below Federal Poverty Level

Buying and maintaining a reliable automobile is expensive. Those individuals living under the poverty level have a high likelihood of not owning a reliable car and, therefore, rely on public transportation or other means to meet their travel needs. Eight percent of the Region's population falls under this category.

e. Autoless Households

Residents of households without an automobile, as noted in a previous section, need to find alternative means of transportation, and are often reliant upon public transportation. This category accounts for about seven percent (7%) of the Region's households.

Table 2.2 – Relative Transit Dependency (2000)					
Relative transit need	Name of Jurisdiction	Combined Score, independent of available transit services			
	Springfield	17			
High	Windsor	27			
	Ludlow	37			
	Chester	46			
Moderate	Weathersfield	47			
	Baltimore	54			
	Cavendish	59			
	Reading	66			
Low	West Windsor	70			
	Andover	77			

Source: US Census Bureau, 2000; SWCRPC

3. Transportation Implications

While certain demographic trends - including fewer autoless households and increasing car ownership rates - indicate greater mobility in the Region, a significant portion of the population exhibits transit dependent traits. Approximately half of the Region's population may have some need for public transportation. As the Region's population continues to age – with baby boomers reaching retirement age – these needs can be expected to increase in the next 5 to 10 years.

Mobility limited individuals often need assistance in terms of transportation from home to a variety of daily trip needs. Elderly populations may need more assistance with transportation to medical facilities, shops, and senior and adult day centers. Children may require help getting to school, recreation facilities and friends houses. A large segment of the Region's population may need assistance getting to and from work and daycare facilities. An increasing elderly population suggests an increasing need for demand responsive public transit services to access essential services (i.e. to access flu shot clinics or other medical appointments). Decreasing median adjusted wages for families, suggests a need for additional public transportation services for commuters. The implications for the transportation system have to do with providing such assistance as specially equipped buses and vans to assure that this segment of the population has adequate access to public transportation.