

Chapter 6 - Socioeconomic Characteristics and Land Use

This chapter examines the socioeconomic characteristics of the region in order to understand its transportation requirements. Population, households, and employment patterns help to characterize an area - be it urban, suburban, or rural. Because the transportation network of an area influences to varying degrees where people live and work, population, household, and employment patterns need to be identified and considered in order to address changing commuting patterns and habits of the region's population.

To better interpret the study area, the population, household, and employment densities will be examined. The density patterns enable a more accurate representation of conditions within the study area due to the varying sizes of the transportation analysis zones (TAZs). TAZs are generally defined as areas of homogeneous activity served by one or two major roadways. TAZs serve as the base unit for socioeconomic data characteristics used in various plans and studies.

The resulting maps of the study area show the emerging development patterns of population, households, and employment: a ring with radiating spokes. An almost complete ring around the City of Richmond has developed due to the I-295 bypass and Route 288. A north-south and east-west development pattern has emerged based on Richmond being at the crossroads of several major thoroughfares (i.e., U.S. Routes 1, 60, 250, 301, and 360) and with Interstates 64 and 95 intersecting in Richmond. The southeastern portion of the study area reveals a noticeable departure from the concentric ring pattern. This area is separated by a natural boundary, the James River. Recently completed Route 895 provides a connection between the I-295 bypass and I-95 in this southeastern area. This highway connection will facilitate development in this area and with the completion of Route 288, between Route 60 and I-64, will result in a circular development ring around the City of Richmond.

As with many other growing metropolitan areas across the U.S., the region has experienced more growth of population, households, and employment toward suburban and rural areas. Older urban and suburban areas are experiencing revitalization. While the majority of the population, households, and employment still exist in the City of Richmond and Chesterfield and Henrico counties, the suburban and rural portions of the study area are showing a substantial percent increase in these three categories.

Population & Households

One of the primary sources of population and household data is the decennial census conducted by the United States Bureau of the Census. The census provides a complete enumeration of local population at the beginning of each decade and serves as the basis for estimating local population for the years between census enumeration dates. The population of any study area is generally a reflection of the complexity of its economic and social structure. Fluctuations in rates of increase or decrease and population numbers are two of the most sensitive indices of fundamental physical and social change that have a significant impact on planning. The 2000 Census was utilized for establishing the plan base year (2000) data and adjustments were made using available Virginia Employment Commission (VEC) data. Additional adjustments are made in consideration of the MPO study area boundary.

Portions of Charles City, Chesterfield, Goochland, New Kent, and Powhatan counties are outside the MPO study area; therefore, data does not reflect jurisdiction totals for these localities. It should also be noted that MPO population estimates are based on December estimates while census numbers are done in the spring.

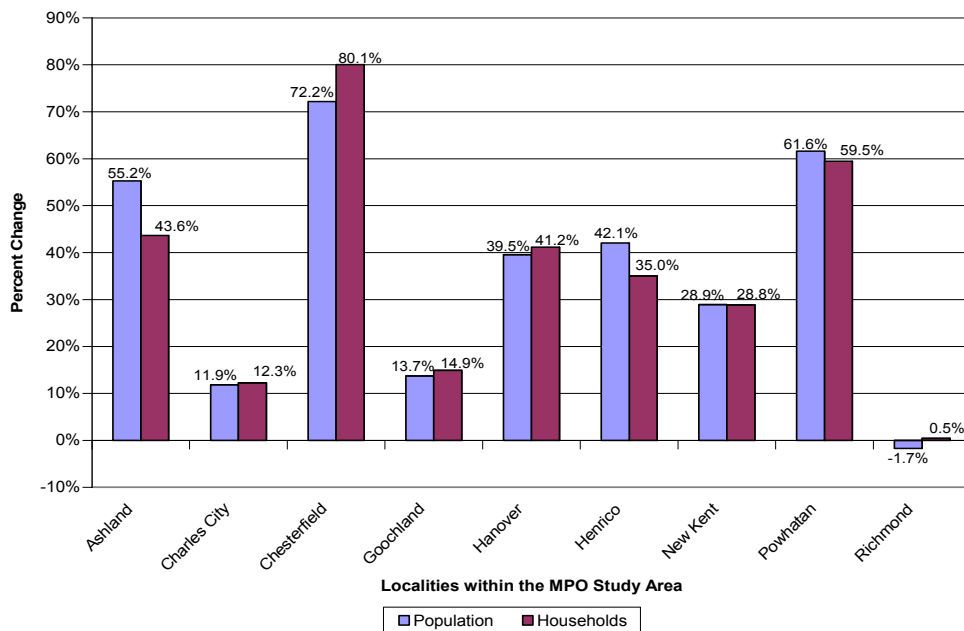
The population and household growth forecasts for the Richmond Area MPO are shown in Figures 6-1 and 6-2. These two graphics illustrate that the Richmond region is following a national trend of dramatic growth in suburban areas and static or declining growth in the urban area. In 2000, Henrico County had the highest population base and number of households followed by Chesterfield County, the City of Richmond, and Hanover County. By 2026 Chesterfield County is expected to surpass Henrico County in total population and number of households.

Figure 6-1: Population and Households

Population & Households for the MPO Study Area						
Jurisdiction	2000		2026		Percent Change	
	Population	Households	Population	Households	Population	Households
Ashland	6,665	2,299	10,347	3,302	55.24%	43.63%
Charles City*	5,679	2,201	6,353	2,471	11.87%	12.27%
Chesterfield*	235,213	85,710	405,002	154,332	72.19%	80.06%
Goochland*	6,859	2,676	7,800	3,075	13.72%	14.91%
Hanover	81,441	29,480	113,643	41,617	39.54%	41.17%
Henrico	267,029	109,421	379,342	147,741	42.06%	35.02%
New Kent*	7,126	2,638	9,188	3,399	28.94%	28.85%
Powhatan*	14,062	5,116	22,724	8,158	61.60%	59.46%
Richmond	198,342	84,916	194,975	85,299	-1.70%	0.45%
TOTALS	822,416	324,457	1,149,374	449,394	39.76%	38.51%

* MPO study area does not include portions of Charles City, Chesterfield, Goochland, New Kent, and Powhatan counties (i.e., data does not reflect jurisdiction total)

Figure 6-2: Forecasted Changes in Population and Households (2000-2026)



Figures 6-3 thru 6-6 show evidence of this trend as well: the percentage of total MPO study area population for the Town of Ashland and the counties of Chesterfield, Henrico, and Powhatan show an increase from 2000 to 2026. The combined percentage of the total MPO population residing in the counties of Chesterfield, Henrico, and Hanover increases from 71 percent in 2000 to 78 percent in 2026, while the City of Richmond decreases from 24 percent to 17 percent. While the remaining jurisdictions are anticipating population growth, the combined percentage of the total MPO population residing in these jurisdictions is shown to remain unchanged.

Figure 6-3: MPO Study Area Population in 2000

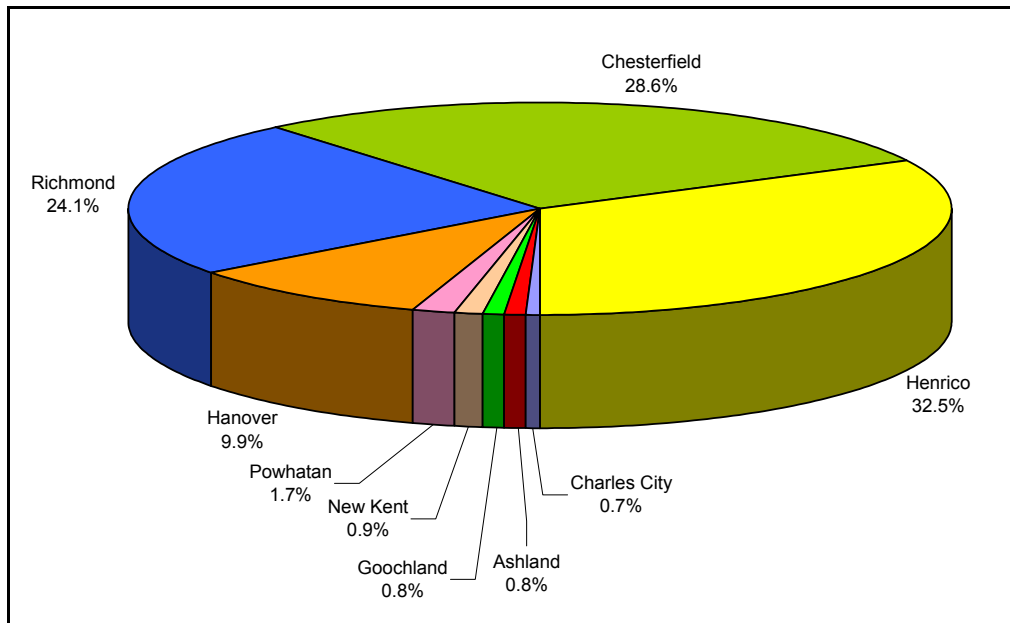
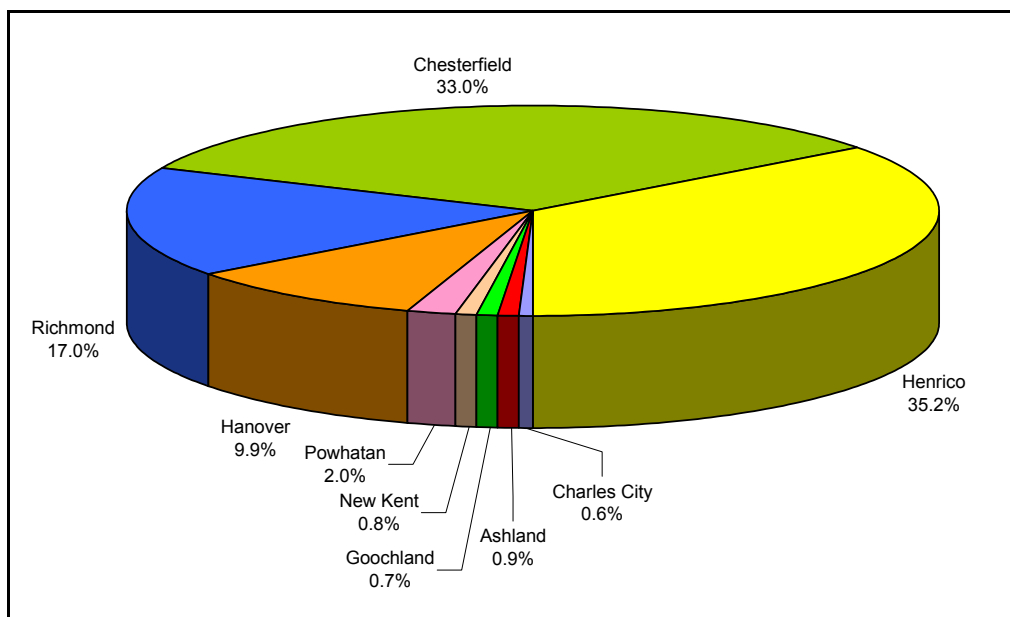


Figure 6-4: Forecasted MPO Study Area Population in 2026



Similarly, the combined percentage of the total households within the MPO in the counties of Chesterfield, Henrico, and Hanover increases from 69 percent in 2000 to 76 percent in 2026, while the percentage of the total MPO households in the City of Richmond decreases from 26 percent to 19 percent. The combined percentage of households in the remaining jurisdictions remains roughly the same.

Figure 6-5: MPO Study Area Households in 2000

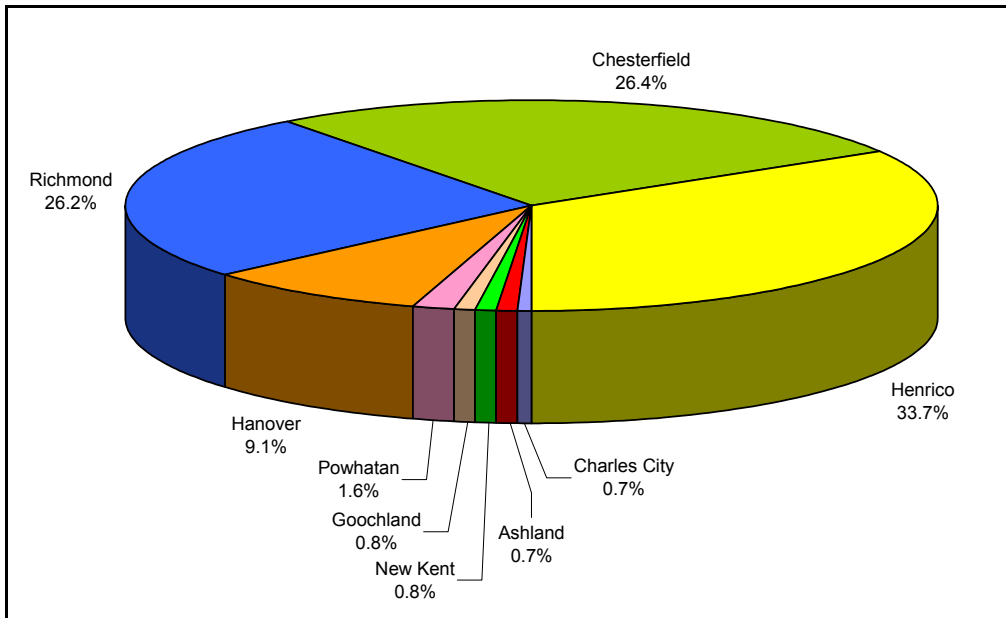
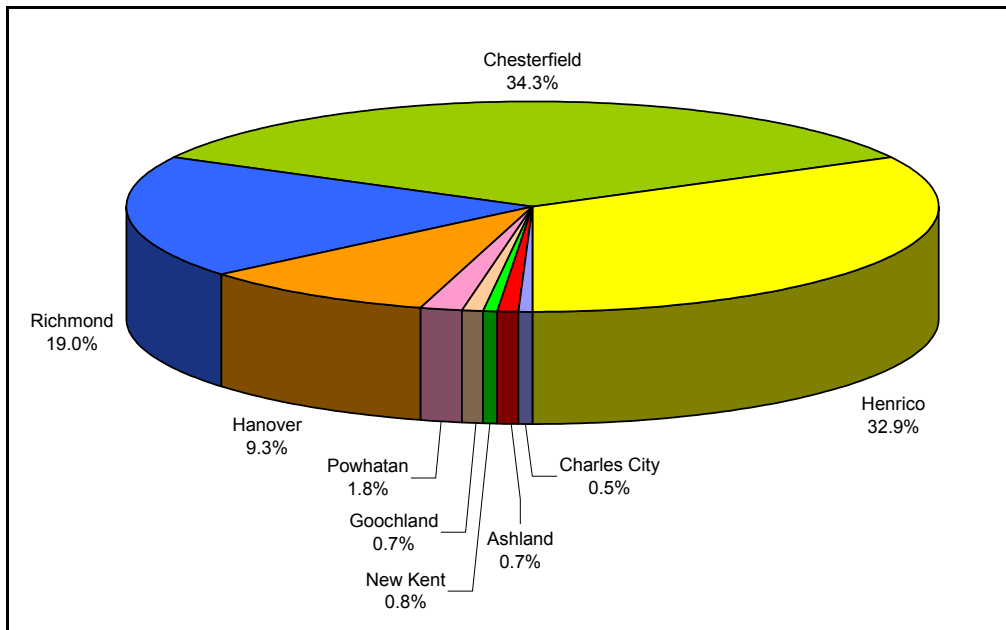


Figure 6-6: Forecasted MPO Study Area Households in 2026



The accompanying maps for population by TAZ (Map 6-1 thru Map 6-3) help to explain graphically the dynamics of the area. The change in population density (people per square mile) is shown to be less than zero for most TAZs in the City of Richmond. This indicates that not only is the population of the City decreasing, but the overall population density is generally decreasing as well. In addition, Charles City County's population density is at the lower end of the density range (i.e., less than 50 people per square mile).

The areas showing the greatest amount of population density change are at the outskirts of the I-295 and Route 288 bypasses. This graphical portrayal provides further substantiation that the growth of the region is toward the suburban and rural localities.

The MPO study area is approximately 69 percent of the entire land area of the Richmond Regional Planning District (RRPDC), which comprises the entire area of each jurisdiction of the MPO. It is interesting to note that the current population of the MPO study area accounts for approximately 95 percent of the population for the RRPDC.

In 2000, the Richmond planning district had 95,030 citizens age 65 or older, 11 percent of the planning district population. As the "baby boom" generation ages, the amount of elderly population in the region will be greater than in the past. This increase in the number of older citizens will have an impact on the transportation system. Driving will become difficult or impossible for many as they grow older, possibly requiring increases in transit or paratransit services. Improvements in signage, lighting, or other highway system elements may be required to allow for a higher number of drivers with visual or other handicaps due to aging.

Minority and Low Income Populations

The accompanying maps for minority and low-income population by census tract (Maps 6-4 and 6-5, respectively) help show the distribution of these two populations in the Richmond area. These maps will be further referenced in the Environmental Justice discussion contained in Chapter 14. The highest concentrations of minority population occur in the City of Richmond, Charles City County, and eastern Henrico County. Most census tracts that contain greater than the regional average for minority population (approximately 34 percent) are located in the City and its adjacent census tracts, especially to the north and east. The entire portion of Charles City County within the MPO study area contains a high minority population (greater than 50 percent).

As with the minority population, the majority of the low-income population (income less than \$17,029 per year) is located within the City of Richmond. With the exception of the area west of downtown, most census tracts within the City show a concentration of low-income population that is double the regional average. Several census tracts in downtown Richmond and areas immediately north and south are shown to have more than half of the population classified as low income. The easternmost area of New Kent County within the MPO study area, the entire portion of Charles City County within the MPO study area, portions of eastern Henrico County, the north side of Ashland, and an area immediately west of I-95 in Chesterfield County also show a high concentration of low-income population.

Map 6-1 2000 Population Density by TAZ

Map 6-2 2026 Population Density by TAZ

Map 6-3 2000-2026 Change in Population Density by TAZ

Map 6-4 2000 Minority Population by Census Tract

Map 6-5 2000 Low Income Population by Census Tract

Economy

Employment growth in the study area has generally followed the regional and state pattern and the cyclic nature of the national economy. The recession of the early 1990s drove the employment growth in the RRPDC to less than 2 percent annually until an economic turnaround began in 1993. While never reaching the 1973 peak increase of 6.8 percent, employment in the RRPDC grew at more than 2 percent annually until 1998 when the cycle turned downward. Throughout the nation, a shift in the employment base has occurred. The service industry is replacing traditional industries such as manufacturing and wholesale trade. The Richmond region is no exception. In the following table (Figure 6-7), the change in employment composition is apparent throughout the past 30 years. While most categories remained steady or decreased, the service industry saw substantial growth while manufacturing has experienced a significant reduction.

Figure 6-7: Regional Employment Composition by Percentage of Total Employment

Employment Type	1970	1980	1990	2000
Agriculture, Mining, Forestry & Fisheries	0.52%	0.53%	0.78%	0.45%
Construction	6.31%	6.27%	7.09%	6.84%
Manufacturing	17.72%	14.45%	11.30%	10.74%
Transportation, Communication & Utilities	6.21%	5.13%	4.92%	7.76%
Wholesale Trade	6.30%	6.71%	5.78%	3.91%
Retail Trade	15.03%	15.18%	15.32%	12.23%
Finance, Insurance & Real Estate	9.86%	10.84%	10.83%	11.21%
Services	19.61%	21.38%	25.92%	40.17%
Federal, State & Local Government	17.35%	18.80%	17.67%	6.71%

As the composition of employment changes in the region, so too does the location of employment. Projections for the rural and suburban localities within the study area show the largest percentages of employment growth (Figure 6-8).

Figure 6-8: Employment Totals for the MPO Study Area By Jurisdiction

Jurisdiction	2000	2026	Change from 2000-2026	Percent Change
Ashland	7,467	10,101	2,634	35.28%
Charles City	1,301	1,568	267	20.52%
Chesterfield	119,465	196,480	77,015	64.47%
Goochland	5,049	51,336	46,287	916.76%
Hanover	38,306	55,775	17,469	45.60%
Henrico	232,725	323,866	91,141	39.16%
New Kent	1,863	2,427	564	30.27%
Powhatan	2,210	3,133	923	41.76%
Richmond	209,192	198,644	-10,548	-5.04%
MPO Area Total	617,578	843,330	225,752	36.55%

As shown on Maps 6-6 through 6-8, the region anticipates most of its employment growth along the major transportation thoroughfares. No longer does the downtown serve as the region's sole employment center. Instead, the percentage of employment is expanding toward the suburbs, where land is more abundant and less expensive. Forecasted employment figures were estimated by the RRPDC's Socioeconomic Committee based on data from VEC, Woods and Poole Economics, and the 2000 Census.

Figures 6-9 and 6-10 depict the distribution of employment within the study area. In 2000, Henrico County shows the greatest share of the employment base (38 percent) followed by the City of Richmond (34 percent) and Chesterfield County (19 percent). However, by 2026 the City of Richmond's share is projected to decrease to 24 percent, just above Chesterfield County, which is projected to increase to 23 percent. Henrico County is anticipated to maintain its share of employment opportunities within the region at 38 percent of the total study area employment.

Figure 6-9: 2000 Richmond MPO Study Area Employment By Jurisdiction

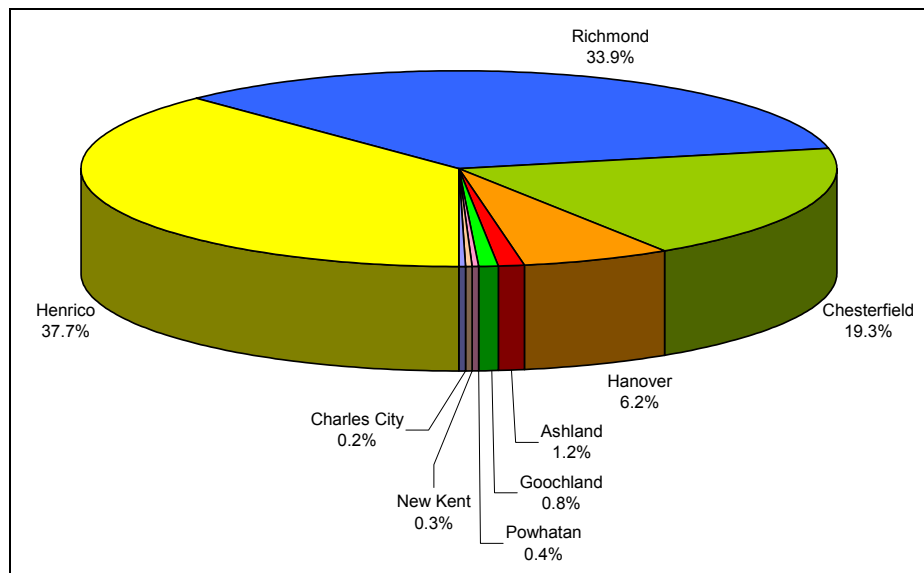
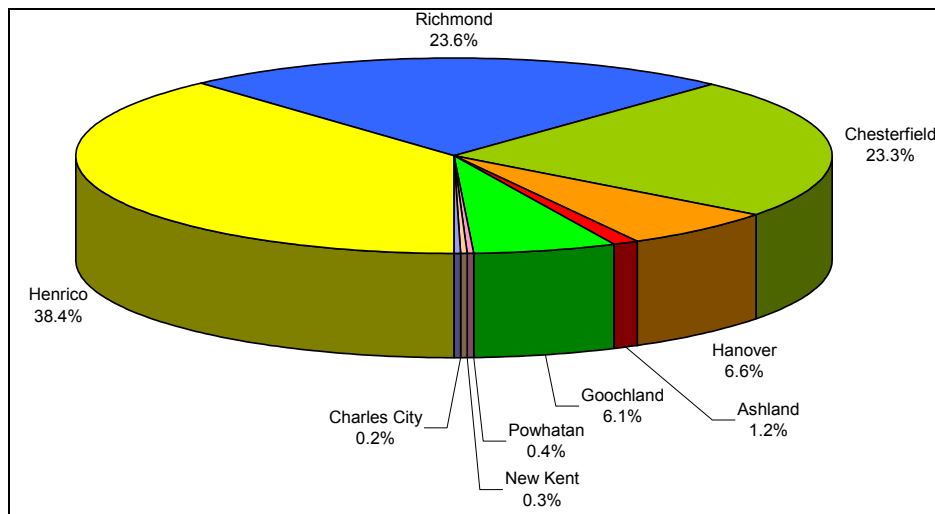


Figure 6-10: Forecasted 2026 Richmond MPO Study Area Employment By Jurisdiction



Map 6-6 2000 Employment Density by TAZ

Map 6-7 2026 Employment Density by TAZ

Map 6-8 2000-2026 Change in Employment Density by TAZ

Land Use

The renewed investment in highways and automobiles following World War II fostered the notion that every family needs to have a single-family home on a large lot. This ideal is perfectly valid for every citizen of this country, but the dream has evolved into something more than many of us had imagined. Not only has this type of development become the standard for many Americans, it has spread rapidly into agricultural and forested areas of the country. This type of development pattern has been termed sprawl. The most recognized definition comes from the Vermont Forum on Sprawl. It defines sprawl as: “dispersed development outside of compact urban and village centers that occurs along highways and in what was rural countryside.” Noted transportation policy analyst Anthony Downs at a 1998 Transportation Research Conference, identified the following ten “traits” associated with sprawl:

- Unlimited outward extension
- Low-density residential and commercial settlements
- Leapfrog development
- Fragmentation of powers over land use among many localities
- Dominance of transportation by private automotive vehicles
- No centralized planning or control over land uses
- Widespread strip commercial development
- Fiscal disparities among localities
- Segregation of types of land uses in different zones
- Reliance on trickle-down or filtering process or need for public housing to private living quarters for low-income households

Sprawl is a topic of discussion in every major region in the United States, and Richmond is no exception. In this analysis, comprehensive land use plans from each jurisdiction in the Richmond region were used to map out the future land use snapshot for the entire region. It should be noted that these plans have different horizon years and are not coordinated between jurisdictions at this time (see Map 6-9).

Projects listed in the constrained portion of the 2026 Long-Range Transportation Plan (see Map 6-10) were shown in an overlay of the future land use classes (see Map 6-11). Once these steps were complete, the land use plans could be compared to the location of new transportation facilities and refurbishment of existing facilities.

Common trends are evident when studying the resulting land use and transportation structure of the Richmond region. Development of the region as a whole is spreading southwest at a more rapid pace than any other area. Many new transportation facilities are planned for construction in the Swift Creek area and west. The completion of Route 288 from Chesterfield to I-64 will open new travel routes for commuters in the western half of the region, as well as provide new opportunities for development along that facility. The West Creek office park in Goochland County has the potential, when occupied, to be a major pull for new development to move west along I-64 toward Charlottesville.

The new development in the West Creek Park draws concern for the housing needs of employees. This is a concern for many new office parks of any significant size, but the West Creek office park is a local example. Given the existing and planned housing in western Henrico, eastern Goochland, Powhatan, and western Chesterfield counties, there may not be enough available housing near the place of employment when West Creek reaches full build-out. This means that employees will have to travel from other places to work in West Creek.

From a transportation perspective, new development is occurring most frequently at the perimeter of the urban area. The upcoming completion of Route 288 will connect commuters in Chesterfield County to I-64 and Broad Street and in the bigger picture will complete an outer loop of primary highway around the urban core.

Another observation from this analysis is the difference in future development styles between the urban and rural jurisdictions. The traditional development that has occurred in the urban jurisdictions follows a linear pattern along major arterials (note: Broad Street, Midlothian Turnpike, and Hull Street). Rural counties are aware that development can make or break the quality of life and rural atmosphere of their jurisdictions, and have developed plans that reflect that concern. The designation of development centers, or specific areas where development will be directed, is apparent in the future land use plans of each of the four rural jurisdictions in the region. Development in this pattern will not only push to conserve the rural landscape, but also deter sprawling growth and reduce traffic congestion caused by frequent stops and turns.

One of the most discussed topics of new development is the issue of density. It is proven in many cities that higher population densities tend to foster use of mass transit and pedestrian modes of transportation. Higher densities in turn lessen the rate of land consumption by concentrating new development in more urban areas, most likely as infill development. The Chesapeake 2000 Agreement (C2K) has incorporated a dedication to lessen the rate of consumption of natural lands by the three states involved – Virginia, Maryland, and Pennsylvania.

Another topic of discussion regarding new development is the jobs-housing balance. The idea of people living closer to where they work is something that is not new to anyone, but it is an important detail in planning for new development. If developers, businesses, and local government take into account the housing needs of commercial and industrial businesses, long commutes and traffic congestion might be cut in the future.

There are many aspects of growth that can be addressed by looking at the impacts of land use and transportation on our region. This analysis only scratches the surface of the potential for improvement that may be looked at in the near future. We can continue to study these trends and incorporate land use/transportation factors into many different planning exercises.

Some types of new land use patterns that may need further consideration in the 20 year horizon of this plan are:

- Neo-traditional development – Developments that aspire to return suburban communities to the “traditional” form of neighborhood. Developments such as

Kentlands in Maryland, have successfully used this form of land use to achieve a community whose resale and property values are slightly higher than neighboring suburban developments. Neo-traditional developments typically have a well-defined center that includes commercial, office, and residential uses at high densities. Some neighborhoods include multiple residential types from apartments and condominiums to single family home on smaller lots with maximum rather than minimum setbacks, and have front porches and sidewalks with minimal space for driveways and back yards. Although residential lot yield and density are similar to neighboring communities, the smaller lots allow for more open space and civic areas. Combined with grid street patterns, walking and biking can be an effective and efficient alternative to the automobile in these communities.

- Transit Oriented Development – These developments have a well-defined central place around a transit stop. The central place provides much of the retail needs of the average commuter, other retail establishments, and some office space. High-density housing is located within ¼ mile of the stop to encourage necessary densities to make them viable. Lower density housing is further out. Transit oriented design places a high priority on walkability, so urban design, sidewalks, pedestrian paths, and human scale are important attributes of such developments.
- Other Techniques – Other residential techniques that could be explored by the RRPDC or local governments include rural design districts, cluster development where total density remains the same as conventional suburban design but lots are smaller so the remaining land is left as open space, and mixed residential development densities with an affordable housing component. Commercial applications include commercial centers as opposed to strip malls, shopping villages that create several smaller buildings instead of one strip mall, and commercial–office mixtures. Localities can also place a premium on growth management by focusing incentives on revitalization and infill development and creating disincentives for growth where provisions of public services would be more costly.

Map 6-9 Future Land Use

Map 6-10 Financially Constrained Transportation Projects

Map 6-11 Future Land Use and Financially Constrained Transportation Projects