



Virginia Department of Rail & Public Transportation

**Town of Haymarket
Public Transportation Feasibility Study**

March 2009

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1. Introduction

The Town of Haymarket in Prince William County has requested a feasibility study to determine whether a new transit service to support growing population and employment within Haymarket and its surrounding areas, as well as to connect the area to employment and other activity centers outside the town, is warranted. Currently the Prince William County local fixed route transit service, OmniLink, provides service predominantly in the southeastern portion of the County centered along U.S. Route 1. It also provides service within Manassas. No service is currently provided in Haymarket.

The purpose of this feasibility study is to identify potential transit needs within Haymarket and develop conceptual routings that would meet that need. This analysis will be used by decision makers within Haymarket as well as at the Virginia Department of Rail and Public Transportation (DRPT) to determine whether new transit service in Haymarket is warranted.

2. Needs Analysis

The needs analysis contained in this document is based on an analysis of demographics and likely destinations in the study area, interviews held with stakeholders that would be impacted by the service and a review of related plans and studies in the study area. The following section provides a foundation for understanding potential transit need within the Haymarket area. It highlights key elements that underlie potential transit need as well as the probable success of transit, including population and employment density, the location of key trip generators and attractors such as retail and medical facilities, and demographic characteristics that highlight potential transit need such as autoless households, poverty, and concentrations of young people who may not have a drivers license. Each of these areas is described in greater detail below.

2.1 Demographic Data

Figure 1 shows projected population density within Prince William County, including the Town of Haymarket, in 2010. The map shows three areas of medium to high population density within the County: 1) along the U.S. Route 1 corridor, in and around Manassas, and along the U.S. Route 15 and Virginia Route 55 corridors in Haymarket (Manassas and the Route 1 Corridor are currently served by OmniLink). High population density is an important indicator of likely transit success because dense populations and associated uses indicate a higher number of potential riders and a land use pattern that supports transit (specifically, a land use pattern where riders can walk to a fixed transit route and where buses can serve population concentrations in a direct manner without having to drive long unproductive distances to reach riders).

Figure 2, which shows projected household density, mirrors the data presented in Figure 1. Again, projected the highest household densities are concentrated along the U.S. 1 corridor, around Manassas, and in Haymarket along U.S. 15 and Virginia Route 55.

Figure 1 – Prince William County Projected Population Density in 2010 – Metropolitan Washington Council of Governments Population and Employment Forecasts

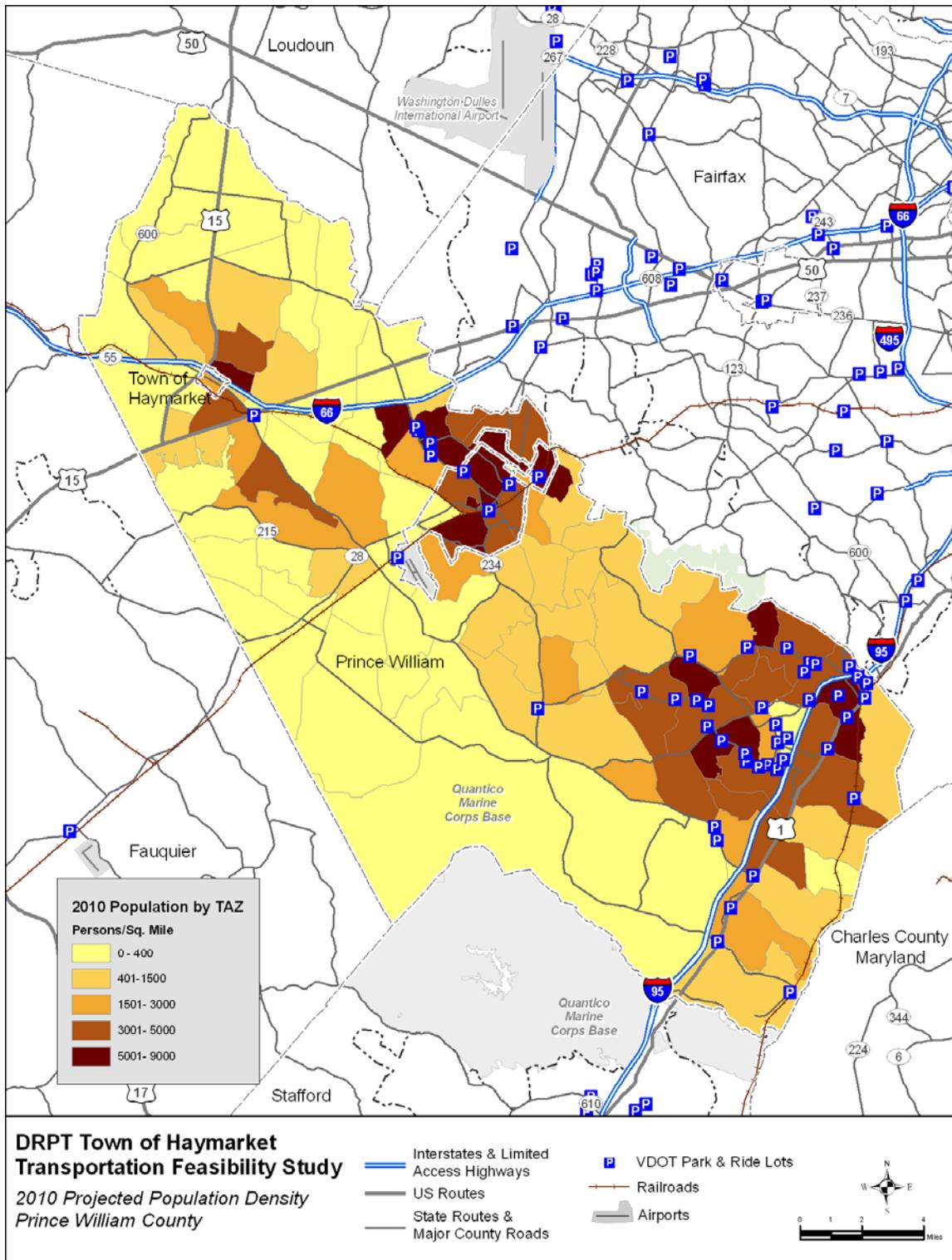


Figure 2 – Prince William County Projected Household Density in 2010 – Metropolitan Washington Council of Governments Population and Employment Forecasts

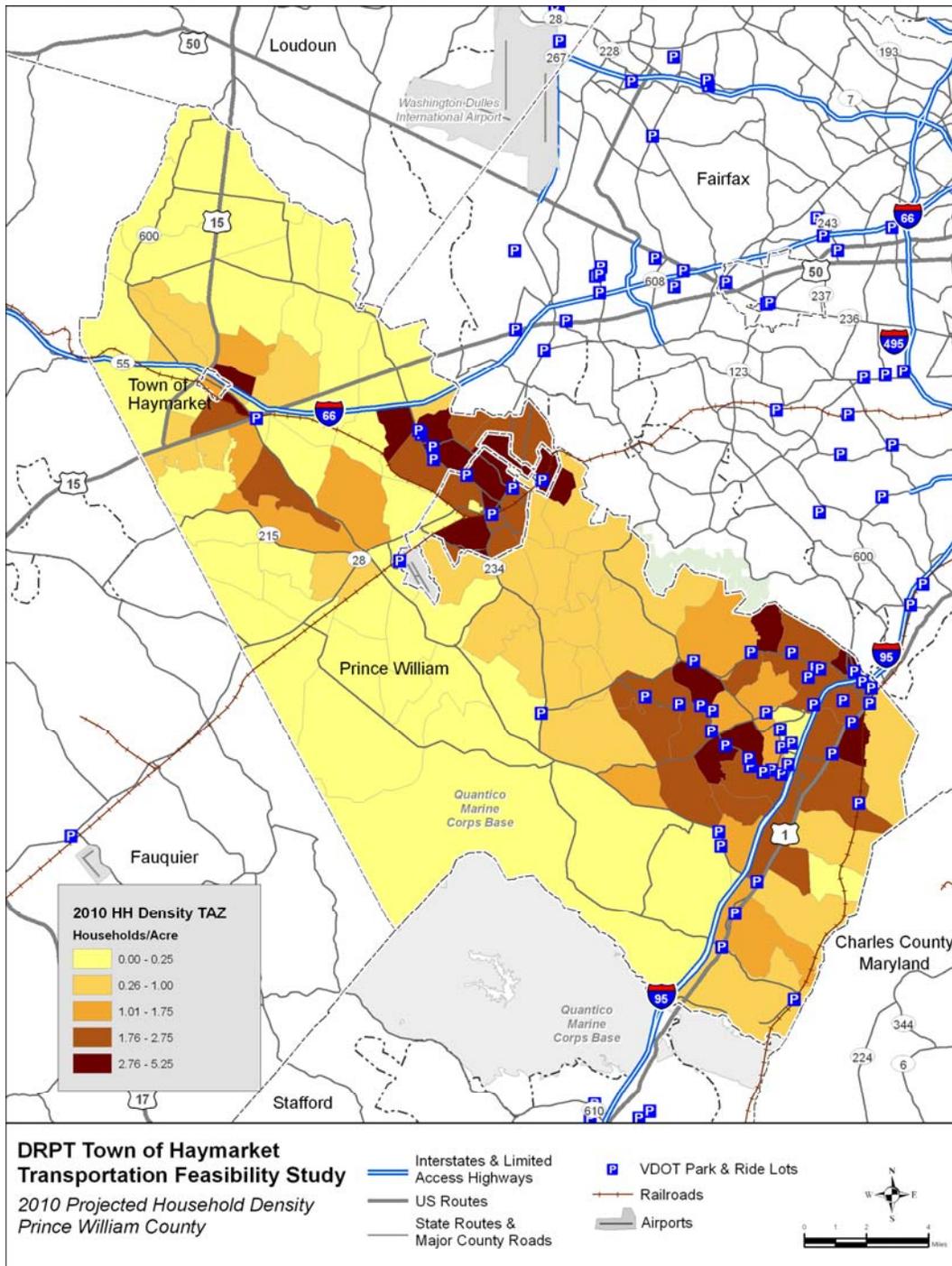


Figure 3 shows projected employment density in the County, and displays many of the same geographic distribution characteristics as the population and household data. In Haymarket, there are both medium and high density concentrations of employment along Virginia Route 55. As with population density, higher employment densities support transit because they are easier to serve in a direct and productive manner and because they will serve a greater number of potential riders.

A comparison of Figure 1 and Figure 4 shows the growth of population in the Haymarket area between the Census of 2000 (Figure 4) and the anticipated population in 2010 (Figure 1). The changes between the two maps show significant population growth in the Haymarket area north of Interstate 66 and adjacent to U.S. 15 as well as growth along Route 55. This is the growth that the Town of Haymarket is interested in potentially serving with a fixed route transit service.

Figures 5, 6, and 7 present data on demographic characteristics that highlight a potential transit need. Figure 5 shows concentrations of the population under 18 years of age. Of specific interest in Figure 6 is the concentration of households below the poverty level west of U.S. 15 at the intersection of 15 and I-66. Because people with lower incomes often do not have the financial resources to own more than one car, some members of these families will need to rely on some other form of transportation for their mobility needs.

Figure 7 presents data on autoless households, which is another indication of likely transit need. The data in Figure 7 show that there is a concentration of autoless households in the heart of Haymarket south of Virginia Route 55.

Figure 3 - Prince William County Projected Employment Density in 2010 – Metropolitan Washington Council of Governments Population and Employment Forecasts

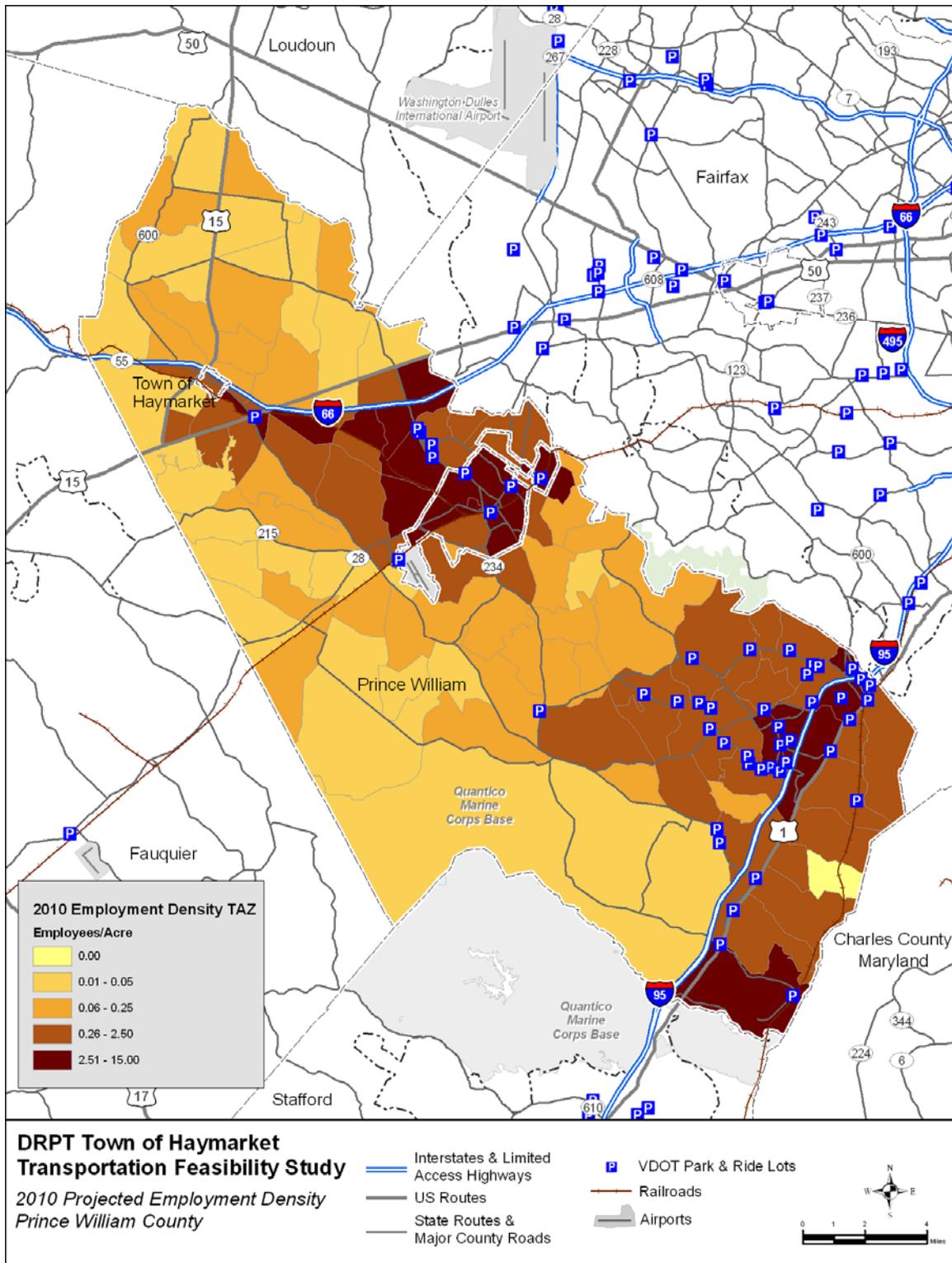


Figure 4 – Prince William County Population Density – 2000 Census

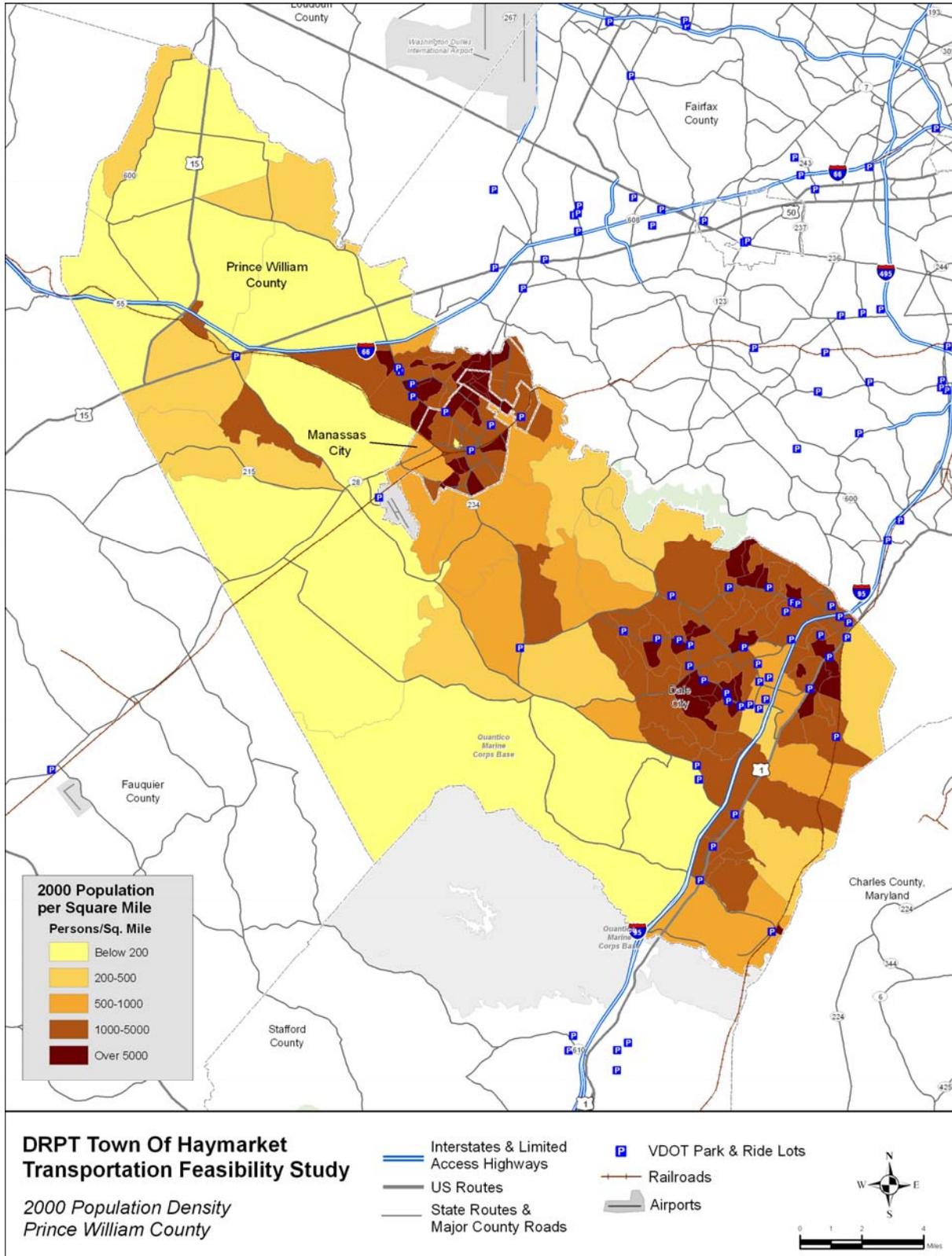
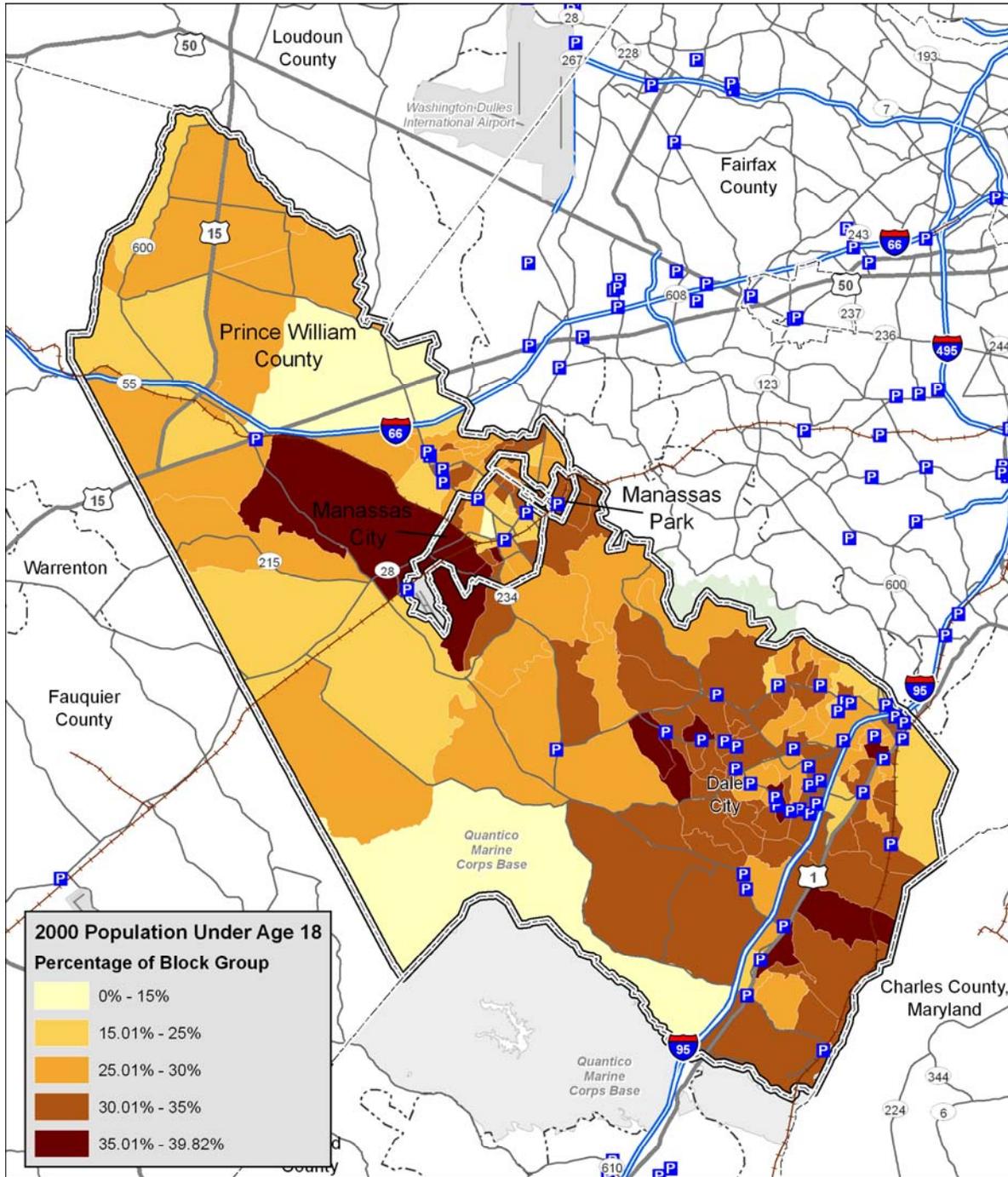


Figure 5 – Population Under 18 – 2000 U.S. Census



**2000 Population Under Age 18
Percentage of Block Group**

- 0% - 15%
- 15.01% - 25%
- 25.01% - 30%
- 30.01% - 35%
- 35.01% - 39.82%

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*2000 Population Age Under 18
by Census Block Group
Prince William County*

- Interstates & Limited Access Highways
- US Routes
- State Routes & Major County Roads
- VDOT Park & Ride Lots
- Railroads
- Airports



Figure 6 – Percent of Census Block Group Below Poverty Level – 2000 U.S. Census

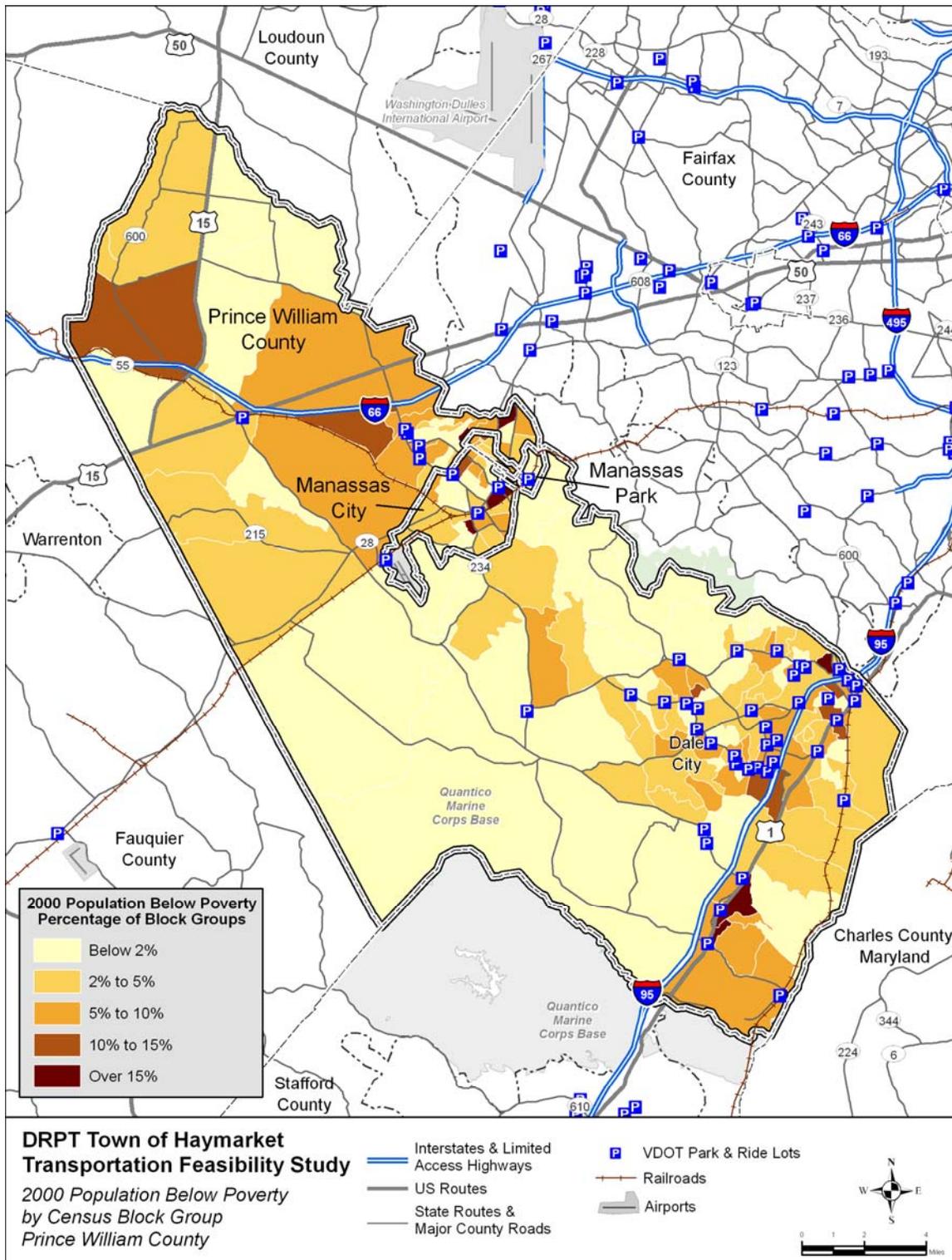
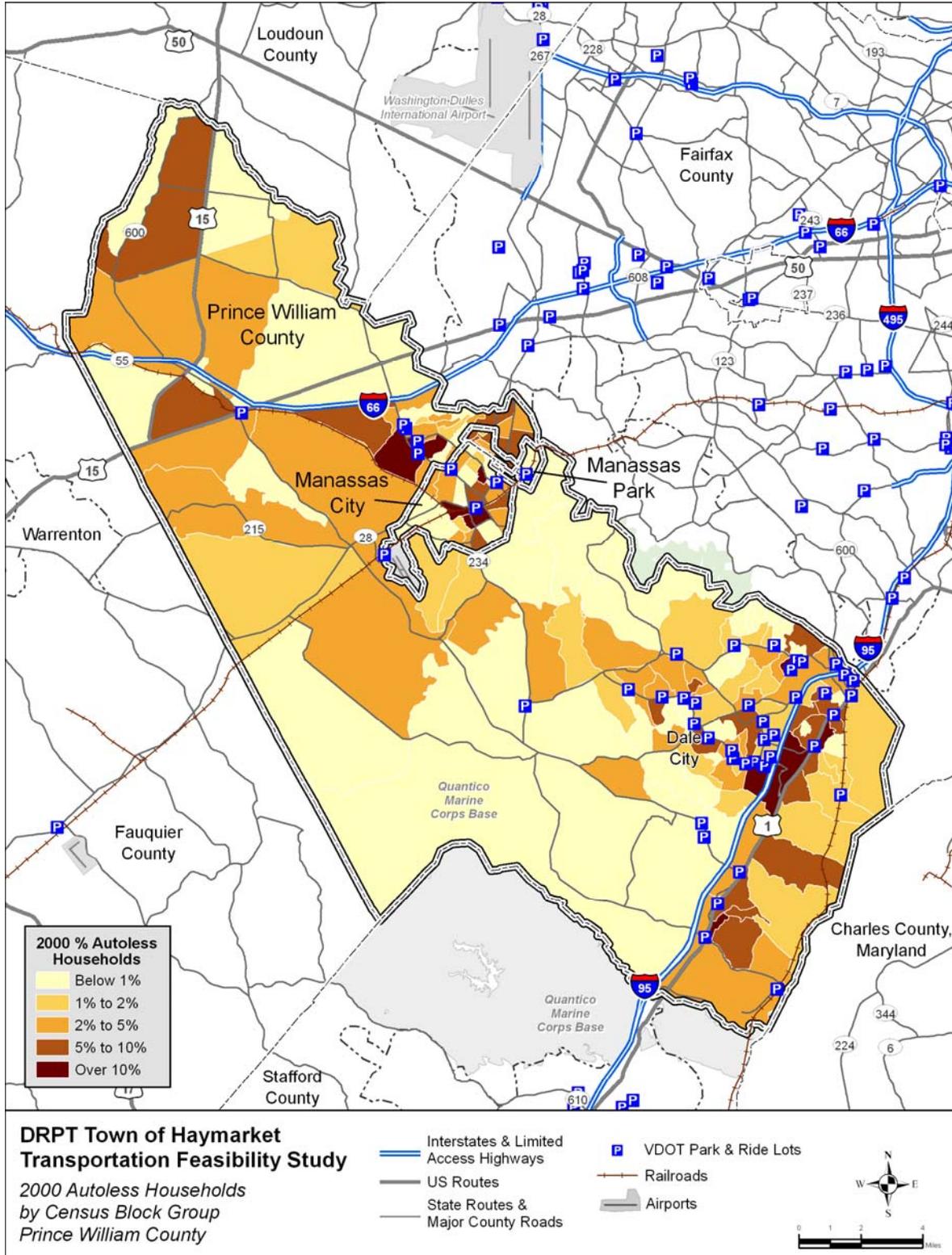


Figure 7 – Percent of Autoless Households by Census Block Group – 2000 U.S. Census



2.2 Related Plans and Studies

In order to determine additional needs within the area as well as understand study area transit needs from a perspective different than the demographic analysis, a review of related plans and studies impacting the study area was undertaken to supplement the demographic analysis outlined above. This review provides a basis for understanding specific areas of proposed population, employment or retail concentrations and growth. Related transportation elements of these plans were also reviewed to determine what is envisioned for transportation within Haymarket and adjacent Prince William County. This information also helps to indicate potential transit need and support for public transportation.

Town of Haymarket Comprehensive Plan, 2008

In 2008, the Town of Haymarket updated its 2001 Comprehensive Plan. Some key elements of the plan are summarized below.

Land Use

The Comprehensive Plan states that the Town of Haymarket should be the focal point for residential and non-residential land uses in the area. Location of new development is encouraged in the Town before moving into neighboring areas of the County.

The future land use plan envisions the intersection of Jefferson and Washington Streets as the site of a town center, which will be the focus of community activities and services. Washington Street (Virginia Route 55) will continue to serve as the Town's commercial spine, and should be developed to maintain its small-town "Main Street" character.

East of the town center along the north side of Washington Street, future land uses are designated as "transitional commercial," meaning low-intensity commercial uses that are meant to serve as a buffer between residential areas and higher intensity commercial uses. At the eastern end of the town along the north side of Washington Street, land is reserved for community facilities including schools, fire houses, and other public or institutional uses. Between I-66 and the commercial and public uses along Washington Street are already developed residential areas classified as moderate density (4-8 dwelling units per acre).

At the western edge of the Town, along Route 15, planned future uses include light industrial uses and an "interchange park," which will consist of a mix of commercial, office, professional, and retail uses.

South of Washington Street as well as north of I-66, planned uses are mostly low-density single-family residential, at 1-4 dwelling units per acre. There is a section of already developed moderate density housing (4-8 dwelling units per acre) south of Washington Street at the eastern end of the Town.

Transportation

The Comprehensive Plan states that the Town's transportation system should support and complement the future land use plan of the Town. The Plan encourages the Town to study the implementation of a local bus or trolley system that would connect nearby development with downtown Haymarket and could connect Haymarket with the regional bus system.

Prince William County Comprehensive Plan, 2008

The Prince William County Comprehensive Plan was approved by the County Board in March 2008. The Transportation and Land Use updates were presented to the Planning Commission in December 2008. The Mass Transit Plan was presented to the County Board in June 2008. The transportation element of this plan includes input from the Potomac and Rappahannock Transportation Commission's (PRTC) Long Range Bus Transit Plan (May 2007).

Land Use

The Land Use Update aims to concentrate population, jobs, and infrastructure within walkable, mixed-use centers. It designates four types of centers within the County:

- Mass Transit Nodes – areas around existing and planned VRE and Metrorail stations. These nodes should be high density and mixed use.
- Regional Employment Centers – a mix of office, research and development, lodging, and mixed-use development. Retail and residential uses should make up no more than 25% of the development. The area west of the Town of Haymarket along U.S. 15 is designated as a Regional Employment Center.
- Regional Commercial Centers – large scale retail projects that serve a regional market. Gainesville is a Regional Commercial Center.
- Community Employment Centers – low to mid-rise offices, research and development, lodging, and mixed-use development.

The areas of the County east of Old Carolina Road (Jefferson Street within the Town of Haymarket) are generally designated as medium (4-6 dwelling units per acre) or high density (10-16 dwelling units per acre) suburban residential. The area just east of the Town boundary between I-66 and Washington Street is designated as a community employment center. West of Old Carolina Road and north and west of the Town, the area is designated as a Regional Employment Center. This area abuts the portions of the Town designated for the planned "interchange park" and light industrial uses. South of the Town between Old Carolina Road and U.S. 15, the land is designated for semi-rural residential use, where the average density of projects should be no more than 1 dwelling unit for every 2.5 acres.

Transportation

Elements of the Transportation Update include:

- The creation of a multi-modal network that allows for safe and efficient movement of goods and people throughout the County and into surrounding jurisdictions.

- Integration of transportation planning with land use planning.
- Increasing transit services.

The Mass Transit Plan includes the goal to “develop a countywide transit network that provides for the mobility needs of all county residents, connects land uses and people, integrates multiple modes of transportation, and reduces vehicle miles traveled (VMT) in single occupancy vehicles (SOVs)”. In the plan, U.S. 29 is identified as a priority transit corridor and Gainesville is identified as a Center of Commerce (equivalent to Regional Employment Centers in the Land Use Update). Many of the recommendations in the Mass Transit Plan are based on recommendations originally made in the Potomac and Rappahannock Transportation Commission (PRTC) Long Range Bus Transit Plan (May 2007). These recommendations are noted below,

Some strategies for accomplishing transit goals include:

- Integrate multiple modes of transit in centralized locations, such as Centers of Commerce, Centers of Community, and Mass Transit Nodes.
- Provide transit connections to Centers of Commerce, Centers of Community, and Mass Transit Nodes, such as circulator transit services.
- Promote an efficiently designed bus feeder network to connect commuter rail stations and other transit centers.
- Develop circulator transit services to link jobs, housing, commerce, and recreation within Prince William County.
- Provide multi-modal access between park and ride lots and surrounding uses.
- Consider the location of mobility impaired populations and their travel needs (i.e. doctors, hospitals, shopping, social activities, etc.) when deciding on the placement of bus route locations.

Projects identified in the Mass Transit Plan that are relevant to the Town of Haymarket are:

- PRTC OmniRide route between Gainesville/Haymarket and Dulles
- PRTC OmniLink route between Haymarket and Innovation
- VRE planned extension to Gainesville/Haymarket
- VRE park and ride lot at Gainesville
- Park and ride lot at Haymarket

In addition to these recommendations a recommendation to extend the existing Linton Hall Metro Direct service beyond West Falls Church to Fairfax Center and Tysons Corner is included in the Long Range Bus Transit Plan.

VRE Strategic Plan, 2004

The VRE Strategic Plan, completed in 2004, analyzed potential expansions of VRE service to serve growing demand in developing suburban areas outside the reach of the current system. The potential westward expansion to Gainesville or Haymarket would use Norfolk Southern freight rail right-of-way and would be implemented in phases, with the initial phase extending to Gainesville and running 3 peak trains at intervals of 50

minutes. The second phase would expand service to 6 peak trains at 30 minute headways and would possibly extend into Haymarket.

Ridership estimates indicate that the extension could carry 3,100 to 5,500 passengers each day by 2025. The strategic plan notes that the area around Gainesville and Haymarket is one of the fastest growing residential areas in Northern Virginia and that job growth is also expected to be strong. The VRE extension would be competitive with highways because of roadway congestion.

VRE is currently completing a Feasibility Study/Alternatives Analysis for the extension of service to Gainesville and potentially to Haymarket. The study completion date is set for May 2009. VRE will use the conclusions of the study to determine whether they should move forward into the next stages of project development.

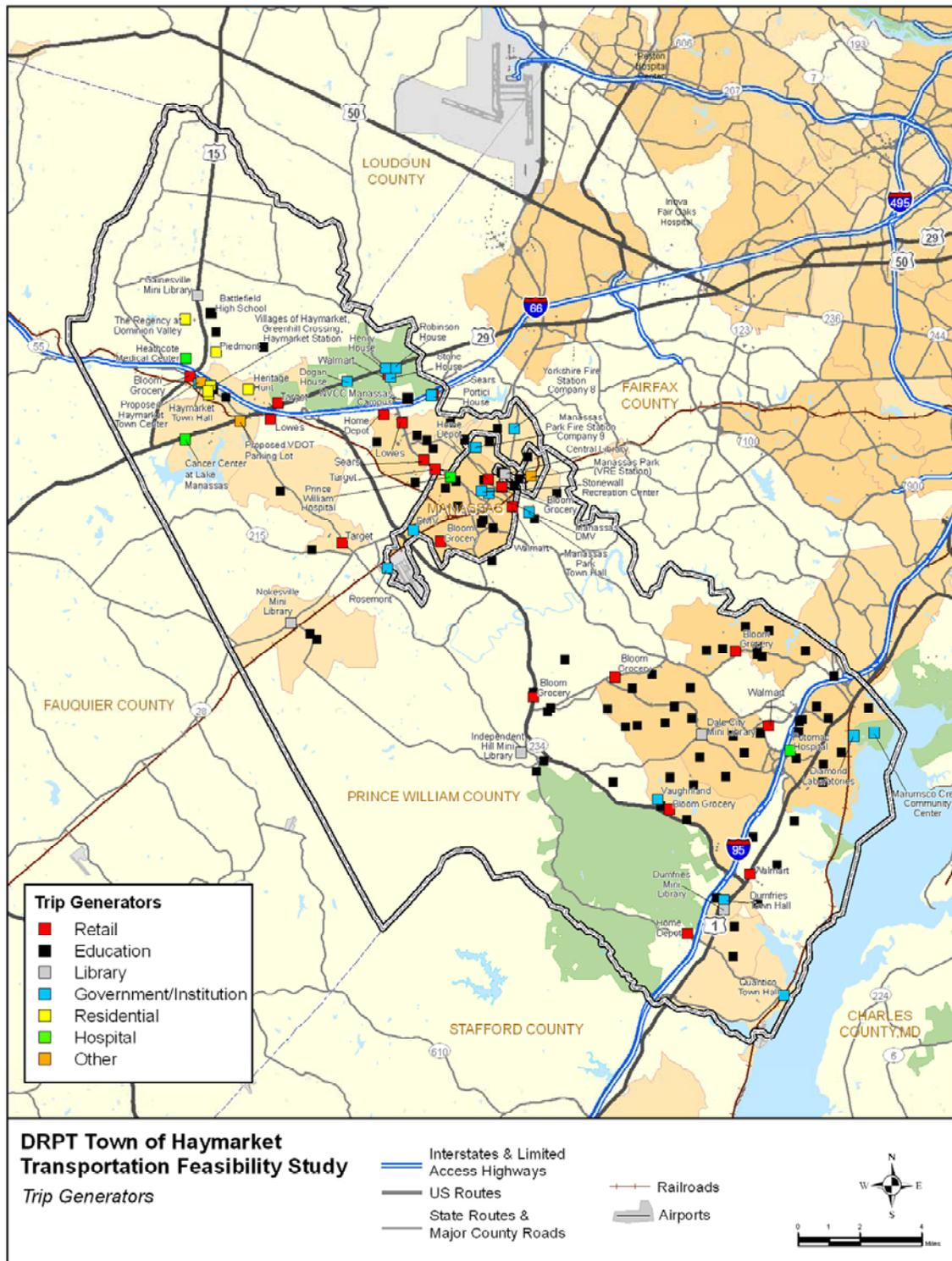
I-66 (Haymarket) Park and Ride Lot Demand and Location Study (2008)

Given the extension of High Occupancy Vehicle Lanes on I-66 between the Route 234 Bypass and U.S. 29, and the planned extension further westward, VDOT completed a study in 2008 which examined demand for a park and ride lot in the vicinity of the I-66/U.S 15 interchange as well as potential sites for the lot. The study analyzed three sites. Two were located in the southwest corner and northwest corner of the intersection of Virginia Route 55 and U.S. 15 respectively, and the third was located in the northwest quadrant of the I-66/U.S. 15 interchange. No final decision regarding a final site has been made.

2.3 Potential Trip Generators

Figure 8 shows trip generators and attractions such as retail, educational facilities, and medical facilities. The data in Figure 8 show that the concentration of trip generators and attractions in the study area is in Manassas and along U.S. 29 and Linton Hall Road in Gainesville, away from the population concentrations within Haymarket. This data shows Haymarket residents must leave Haymarket to access many basic needs such as certain types of shopping and medical visits. Of particular interest to the Town of Haymarket staff were potential trip generators such as Battlefield High School, the Dominion Valley residential community, Heritage Hunt, an active adult community, the Piedmont residential community, and the Regency at Dominion Valley, also an active adult community.

Figure 8 – Prince William County Trip Generators and Destinations



2.4 Kick-Off Meeting and Stakeholder Interviews

At the initiation of this study, a kick off meeting was held with Town of Haymarket staff. During that meeting, the staff identified several areas of interest as well as a number of potential trip generators to be served, including a number of new residential developments north of Haymarket on U.S. 15, Battlefield High School, the newly opened Prince William County Emergency and Rehabilitation Center, and the Cancer Center at Lake Manassas. In a previous study conducted for a potential demonstration project, the Town had envisioned a circulator service that concentrated on bringing people to the town center with the use of a rubber-tired trolley.

As a result of the suggestions made at the kickoff meeting, a series of stakeholder interviews were held with area residential communities and with staff from other possible trip generators, such as medical facilities. The following questions were asked to assess whether these stakeholders had a general interest in transit and whether they felt there was a need for service relative to their constituency group.

- Would you support the implementation of transit service in the area?
- Would you support the location of a bus stop on or adjacent to your property?
- Do you think transit service would be beneficial to your residents or customers?
- Where do you think your residents or customers would want to go?
- In order to receive funding for a public transit service, the locality has to typically provide a 30 percent match. If public transit service was provided to your residents or customers, would you be willing to contribute to the financial local match?

In general, the residential communities that were contacted all had similar responses. All of the residential communities were in favor of having better transit service in the area and the majority of them had a strong interest in being connected with other commuter operations, such as the Virginia Railway Express (VRE) station in Manassas, the Vienna Metro Station, and OmniRide in Gainesville. The communities were interested in better commuting options to the District of Columbia and other employment centers, such as the Pentagon. The Regency at Dominion Valley, which is an Active Adult 55 and over community indicated that there was likely some desire for more local transit service to shopping areas, such as Gainesville and Manassas. Haymarket Station also indicated a desire for better local travel to Gainesville, Warrenton and Manassas

When asked if these residential communities would support having a transit stop on or adjacent to their properties, all were amenable to the idea. The spokesperson for Dominion Valley indicated that during the development of the community the developer had proffered some land for a commuter park and ride lot right outside of the development to Prince William County. However, this site has not been developed. The Haymarket Station development indicated that they have very limited parking and could not support commuters leaving their private vehicles in their neighborhood during the day. They did suggest that perhaps the Town of Haymarket could identify a central parking area for people seeking public transportation.

In addition to the residential communities, during the kick off meeting with the Town of Haymarket it was indicated that Battlefield High School had in the past shown interest in having access to public transit for their students for after school activities. The principal of the school stated that transit service would be beneficial to the students trying to access after school jobs located in the shopping center in Gainesville as well as to the Manassas Mall area. In addition, if the transit service provided a stop at the Northern Virginia Community College campus it would provide students with opportunities to take some college courses.

The Gainesville District Supervisor on the County Board of Supervisors indicated that the residents of the area would support and benefit from implementation of transit service. Residents would be interested in local destinations, as well as regional destinations including Manassas, Old Town Manassas, Potomac Mills Mall, and the government center on Prince William Parkway. He also noted that residents would benefit from connections to other regional destinations, including the District of Columbia, Tysons Corner, and Leesburg. The willingness of the County Board to contribute financially would depend in large part on the amount of money requested.

The project team also had an opportunity to speak with the developer for the Haymarket Town Center. The developer is very interested in seeing a public transit system that would bring residents of the local communities to the planned town center and would hope that the service start up date would coincide with the opening of the town center, which is planned for the summer of 2009. In addition to providing access between the neighborhoods and town center, the developer also sees a need to connect to the hospital. A specific stop location has not been identified in the site plan for the town center but the developer indicated that once a service was approved, a spot would be reserved.

The developer indicated that they would be interested in helping with the local match to support the service. Forming a non-profit economic development council with the other businesses in the Town has been discussed. The organization's sole purpose would be to raise money for projects in the Town, such as streetscape or a trolley. Money would be raised through membership dues and fundraisers. Some of the other residential stakeholders indicated that a small increase in local taxes would be amenable to many of the residents to support local public transit.

The Prince William Emergency and Rehabilitation Center, Cancer Center at Lake Manassas, and other representatives on the County Board of Supervisors were also contacted, but no responses have been received to date.

2.5 Conclusions

The data represented in Figures 1 through 8 indicate that a transit service in Haymarket that connects the town to employment and other destinations along U.S. 29 and in Gainesville would serve a need and has a good potential for success.

A review of related plans and studies indicate many new potential trip generators for the area that could likely benefit from a public transit service. In their comprehensive plan, the Town of Haymarket encourages study of the implementation of a local bus or trolley system that would connect nearby development with downtown Haymarket and could connect Haymarket with the regional bus system or other commuting options, such as park and ride lots. In addition, the Prince William County Comprehensive Plan has a goal to develop a countywide transit network that provides for the mobility needs of all county residents and connects people to services.

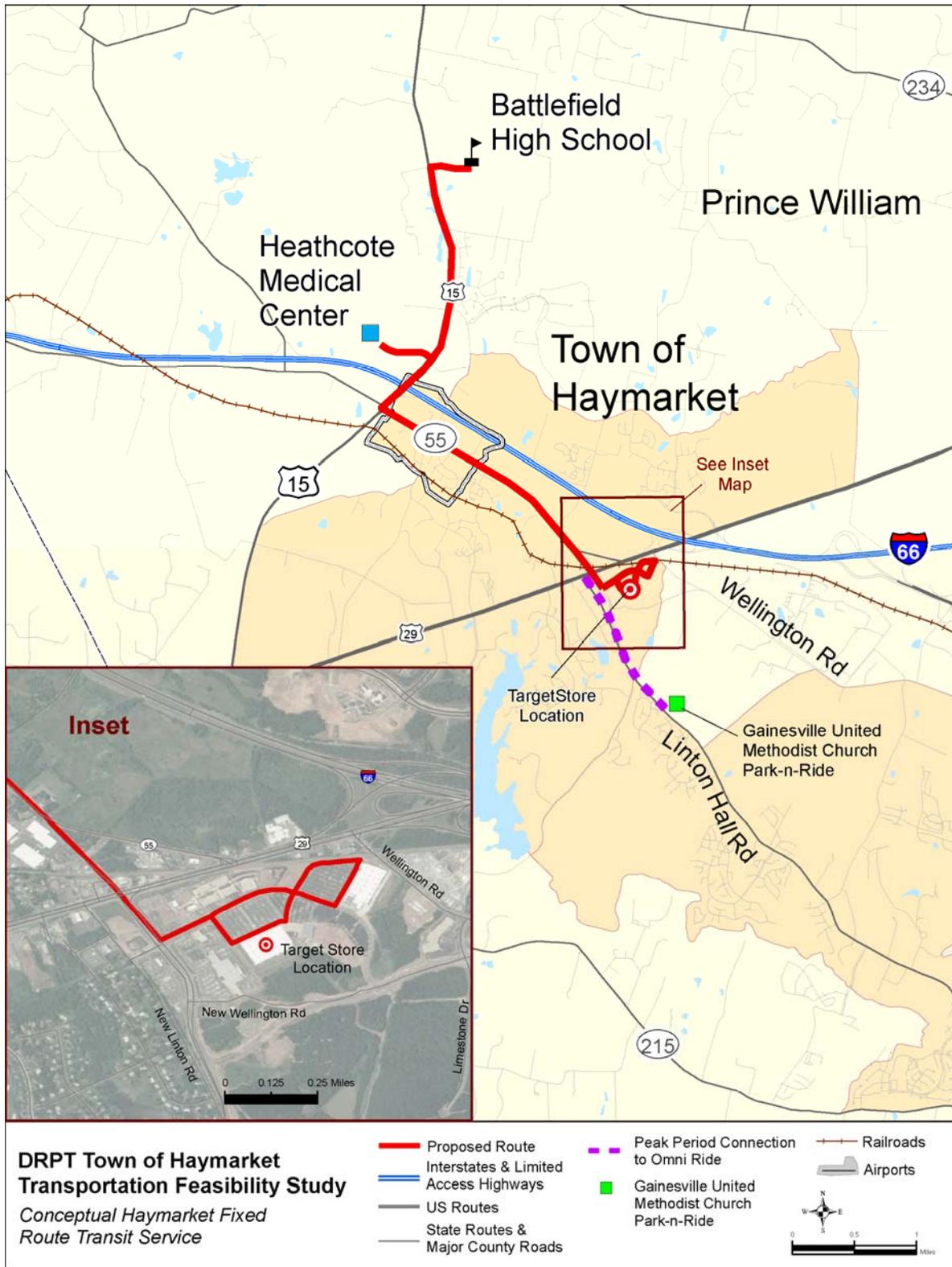
VRE is actively studying an extension of the Manassas line to Gainesville and Haymarket. This is in the early planning phases and the study has not been completed. However, should VRE service be provided to Gainesville and Haymarket in the near future, this would increase the need for public transportation to and from VRE facilities and residential communities in Haymarket and adjacent communities.

After speaking with many of the stakeholders in the Haymarket area, it is clear that they all have expressed an interest in and a need for public transit for access to major shopping areas and other destinations in Gainesville as well as potentially to other regional transportation options such as VRE and OmniRide service. The developer of the Haymarket Town Center and the Town of Haymarket have particular interest in a more local service that brings residents from surrounding communities to the planned town center.

3. Service Recommendations and Capital and Operating Cost Estimate

A proposed conceptual service for cost estimating purposes is shown in Figure 9. This conceptual service would be a fixed route rubber tired trolley service that runs along U.S. Route 15 and Virginia Route 55 between Haymarket and key destinations in Gainesville, including a potential connection to OminRide Linton Hall service at the Gainesville United Methodist Church Park and Ride on Limestone Drive during the morning and afternoon peak periods (depending on the number of hours of service). This service would connect Haymarket and western Prince William County residents to key shopping and medical destinations, employment concentrations in Gainesville as well as regional transportation links via the OmniRide Linton Hall Metro Direct service. This service would meet many of the transit needs identified in the previous sections and would also be consistent with the Prince William and Haymarket comprehensive plans. In short, it would provide local circulation within the Haymarket area and also connect to designated larger scale commercial, employment and residential concentrations and regional transportation connections.

Figure 9 – Conceptual Haymarket Service



Because of the wide range of potential operators two different cost and local share scenarios were developed based on eight hours of service per day. This range will give decision makers at the local and state level an understanding of potential costs under a range of service operator scenarios. Operating costs were developed based on an estimated cost per revenue vehicle hour of service provided, a typical method for calculating transit operating costs. Costs for the following two scenarios were developed:

- 8 Hours of Daily Service – High Cost Operator – (\$100/revenue hour)
- 8 Hours of Daily Service – Low Cost Operator – (\$60/revenue hour)

The total estimated costs and local shares are outlined below for each scenario noted above.

Scenario 1 – 8 hours of daily service – high cost operator

Total Cost Calculation				
# of Hours of Service Per Day	Cost Per Revenue Hour	Daily Cost	Annual Days of Service	Annual Cost
8	\$100	\$800	250	\$200,000

Local Jurisdiction Costs	
Total Cost	\$200,000
Revenue	\$1,500
Net Cost	\$198,500
Federal Share (50% of Net Cost)	\$99,250
DRPT Share (19% of Total)	\$38,000
Local Share - after revenue, operating assistance	\$61,250

Scenario 2 – 8 hours of daily service – low cost operator

Total Cost Calculation				
# of Hours of Service Per Day	Cost Per Revenue Hour	Daily Cost	Annual Days of Service	Annual Cost
8	\$60	\$480	250	\$120,000

Local Jurisdiction Costs	
Total Cost	\$120,000
Revenue	\$1,500
Net Cost	\$118,500
Federal Share (50% of Net Cost)	\$59,250
DRPT Share (19% of Total)	\$22,800
Local Share - after revenue, operating assistance	\$36,450

Estimated Capital Costs are based on a purchase of one rubber tired trolley costing approximately \$120,000. Federal and DRPT capital assistance results in a local share requirement of the capital cost of the vehicle of about 5%. Based on the cost of \$120,000, the local capital cost share will be approximately \$6,000.

4. Organizational Requirements

One of the key elements in evaluating the feasibility of a transit service for the Haymarket/Western Prince William County area is who would operate the service. This section outlines possible operating arrangements for the service. If stakeholders in the study area make the decision to move forward with the service, the selection of an operating model will be one of the first items they will have to address.

Potential operating arrangements include:

1. **Potomac and Rappahannock Transportation Commission (PRTC)** – PRTC is the primary transit operator in Prince William County, operating OmniRide commuter service into Washington, DC and to different Metro Stations, as well as OmniLink local service in Manassas and the eastern portion of the County in the vicinity of U.S. Route 1. The Haymarket service as designed for cost estimating purposes and shown in Figure 9 would link with PRTC run OmniRide service at the Gainesville United Methodist Church park and ride, just off of Linton Hall Road. One advantage of PRTC operating the service is that they are already established in the County and could begin the service quickly. A second advantage is that they would likely be best prepared to integrate a new service

with their existing services and a final advantage is that they are familiar with federal and state grant requirements.

- 2. Virginia Regional Transit (VRT)** – Virginia Regional Transit is a non-profit transit operator providing service in the Shenandoah Valley as well as services east of the Blue Ridge Mountains in Loudoun, Fauquier, Culpeper and Orange Counties. As with PRTC, VRT is an established transit operator in the area, with facilities in Loudoun County (Purcellville) and Culpeper. VRT has expertise in operating small services such as the service proposed here, and would likely be able to start up service quickly. VRT is also familiar with federal and state grant requirements. A potential disadvantage is that VRT has no current service in Prince William County.
- 3. Private Contract Operator** – A third option for operating a new Haymarket service is by a private contractor. A number of services in Northern Virginia are operated by private contractors including PRTC, Fairfax Connector and Loudoun County Commuter service. The advantage of a private contract operator is that they would have the background and expertise in operating transit service. The potential disadvantage of a private contract operator is that they would not be able to apply directly for federal and state grants. Therefore, local staff would be required to oversee this process, potentially increasing the service's cost. In addition, it may be difficult to find a private contractor willing to operate such a small service. Further, because a larger service allows for more spreading of fixed costs, a Haymarket service may be more expensive per unit of service provided because of the limited ability to spread fixed costs.