



# Richmond Regional Park and Ride Investment Strategy

Technical Memo I – Final  
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Prepared By:

**Kimley»»Horn**

## Introduction

The Richmond Regional Transportation Planning Organization (RRTPO) identified in the FY19 Unified Planning Work Program (UPWP) the opportunity to assess regional park and ride needs and develop an investment strategy to advance park and ride projects. The development of a regional park and ride investment strategy was specifically called for in the UPWP under the focal area of “expanding access to transit through multimodal connectivity and park and ride projects” and is intended to inform plan2045, the RRTPO’s next Long Range Transportation Plan.

The purpose of the resulting *Richmond Regional Park and Ride Investment Strategy* study is to form the foundation for leveraging park and ride lots in the Richmond region as part of a larger travel demand management strategy. This study will assess existing conditions and existing needs, identify potential future needs, prioritize and rank project recommendations, and develop implementation strategies to advance and promote park and ride projects in the Richmond region.

Previous statewide efforts have been conducted to identify and evaluate park and ride needs and this study will add a regional perspective and build upon these statewide studies. Relevant previous statewide studies include:

- The VDOT Statewide Park and Ride Study (2013) - conducted a statewide inventory of existing park and ride lots; identified recommendations for new, expanded, or closed park and ride lots; conducted a statewide survey to understand characteristics of park and ride users; and assisted VDOT with public outreach and awareness of park and ride facilities.
- The VDOT Park and Ride Investment Strategy (2016 and 2018 update) - compiled park and ride project recommendations from each of the VDOT districts, developed a project prioritization process, and scored and ranked projects to develop an investment strategy for each district.

The types, sizes, and features of a park and ride lot vary depending on many factors including demographics, land use, and travel patterns. Since these factors differ throughout Virginia, regional park and ride priorities are often different from statewide priorities. Previous statewide studies evaluated park and ride lots using a single methodology statewide. This statewide methodology prioritized projects based on population density, traffic volumes, traffic congestion, and proximity to existing park and ride facilities. The *Richmond Regional Park and Ride Investment Strategy* will build upon these previous studies by identifying and validating park and ride projects to align with regional needs. The study will consider factors such as proximity to transit, demographics, land use, and travel patterns, in addition to factors considered in the statewide study. The desired outcome of the study is to develop a regional strategy for park and ride in the Richmond area and provide jurisdictions with the foundation and support to advance park and ride projects locally.

This technical memo summarizes the existing conditions and existing needs for park and ride in the Richmond region. This is the first of five technical memorandums to be completed as part of the *Richmond Regional Park and Ride Investment Strategy* study:

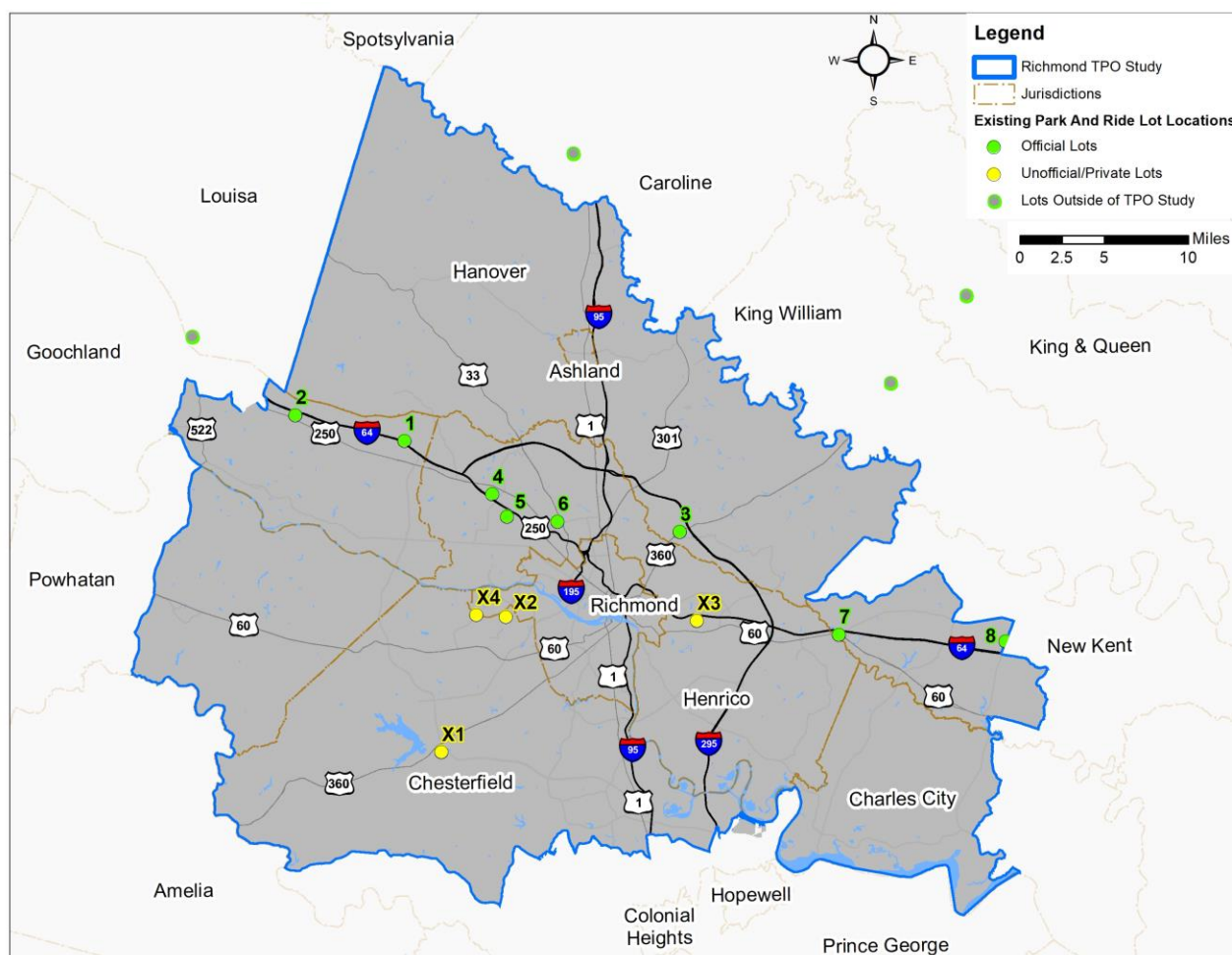
- **Technical Memo I – Existing Conditions and Existing Needs**
- Technical Memo II – Future Needs
- Technical Memo III – Prioritization and Ranking of Project Recommendations
- Technical Memo IV – Implementation Strategy
- Technical Memo V – Funding Needs and Potential Funding Sources

## Existing Conditions

### Existing Park and Ride Inventory

As of November 2018, eight official, park and ride lots exist within the RRTPO study area boundary. In addition, four additional “unofficial” lots (private lots at which agreements are in place to allow commuter parking) are also present in the study area. While the official lots are primarily located along I-64 and northeast of the center of the City of Richmond, the unofficial lots are primarily found south of I-64. **Figure 1, Table 1, and Table 2** summarize the existing park and ride lots within the study area.

**Figure 1: Existing Official and Unofficial Park and Ride Lots**



Data on the number of parking spaces and weekday occupancy of the official lots was gathered through an inventory and usage survey completed by VDOT for the Richmond region in the fall of 2018. The official lots in the Richmond region range in size from 34 spaces at the New Kent County Public Works lot to 534 spaces at the Gaskins Road lot in Henrico County. VDOT’s survey found the occupancy of most of the official park and ride lots in the Richmond region to be about 50% full, with the exception of two lots that were at or close to capacity (Hickory Haven in Goochland County and Bottom’s Bridge in New Kent County) and two lots that were less than 20% full (Parham Road in

Henrico County and New Kent County Public Works lot). Space count and occupancy data was not collected by VDOT for the unofficial lots since these lots share spaces with other private users.

**Table 1: Official Park and Ride Lots**

	Lot Name	Lot Location	Parking Spaces	2018 Occupancy (Spaces Filled)
<b>Goochland County</b>				
1	Hickory Haven	I-64 Exit 173 (Route 623)	109	91 (83%)
2	Oilville	I-64 Exit 167 (Route 617)	72	36 (50%)
<b>Hanover County</b>				
3	Mechanicsville	I-295 Exit 37 (US 360)	89	38 (43%)
<b>Henrico County</b>				
4	Gaskins Road	I-64 Exit 180 (Gaskins Road)	534	280 (52%)
5	Parham Road	I-64 Exit 181 (Parham Road)	313	55 (18%)
6	Glenside Drive - Dumbarton	I-64 Exit 183 (Glenside Drive) & Exit 185 (Staples Mill Road)	468	198 (42%)
<b>New Kent County</b>				
7	Bottoms Bridge	I-64 Exit 204 (US 60 & Route 33)	40	40 (100%)
8	New Kent County Public Works	I-64 Exit 214 (Route 604 & Route 155)	34	1 (3%)*

Source: VDOT Park and Ride Inventory and Usage Study (parking spaces and 2018 occupancy data collected Fall 2018).

\*Lot 8 data based on inventory completed in January 2019.

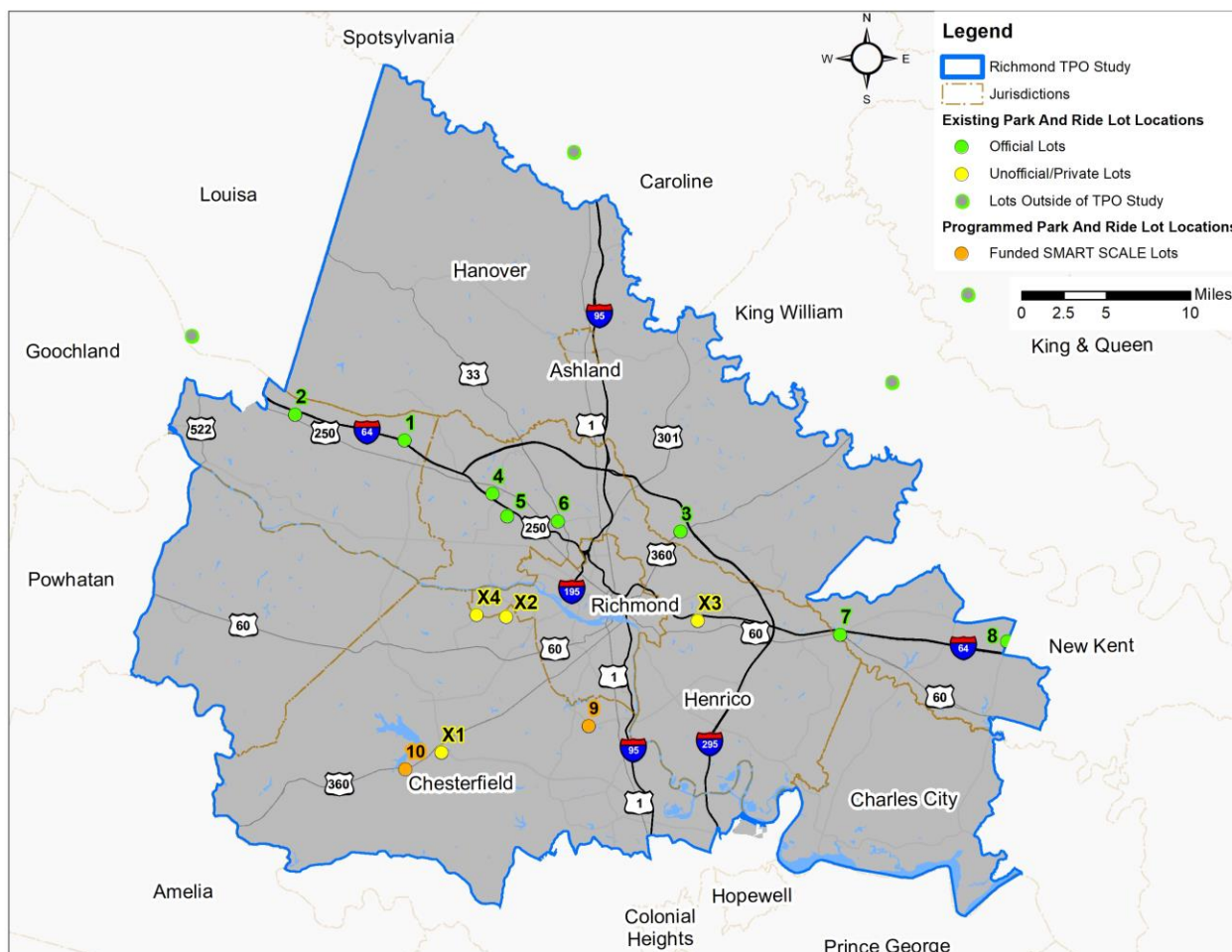
**Table 2: Unofficial/Private Park and Ride Lots**

	Lot Name	Lot Location	Parking Spaces
<b>Chesterfield County</b>			
X1	Commonwealth 20	US 360 (Hull Street) & Route 288	N/A
X2	Bon Air Baptist Church	Forest Hill Avenue and Huguenot Road	N/A
<b>Henrico County</b>			
X3	White Oak Village	I-64 Exit 195 (Laburnum Avenue)	N/A
<b>City of Richmond</b>			
X4	Huguenot United Methodist Church	Route 147 (W. Huguenot Road) & Old Gun Road	N/A

## Programmed Park and Ride Lots

Two additional lots in the RRTPO study area are programmed to be built in the future. For both lots, local jurisdictions applied for and were selected for SMART SCALE funding. **Figure 2** and **Table 3** show these additional lots within the study area. Both programmed lots are located in Chesterfield County and together are planned to add approximately 250 park and ride spaces by 2028.

**Figure 2: Existing and Programmed Park and Ride Lots**



**Table 3: Funded SMART SCALE Park and Ride Projects**

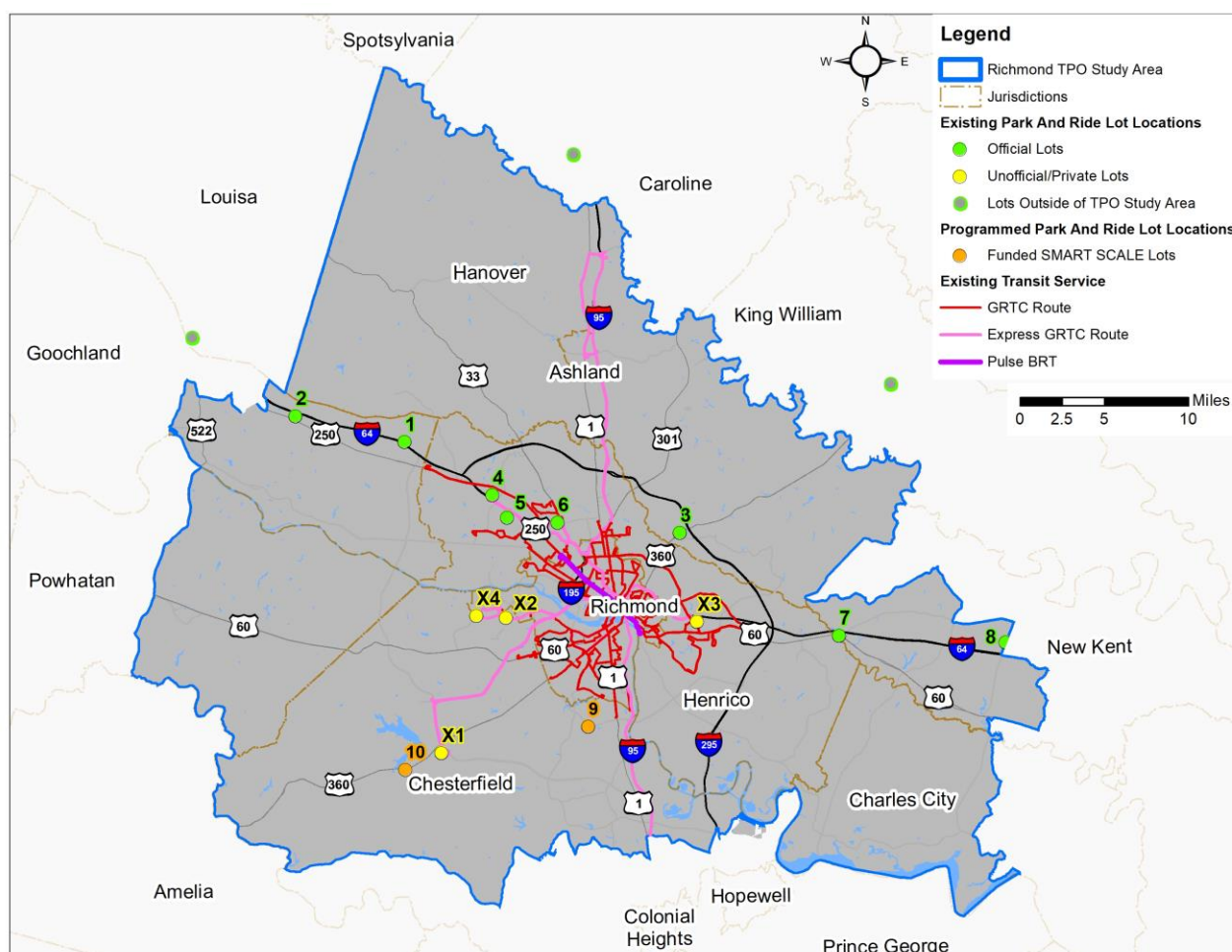
	Project Name	Lot Location	Proposed Spaces	Anticipated Completion
<b>Chesterfield County</b>				
9	Cogbill/Hopkins/Chippenham – Park and Ride	Route 150 (Chippenham Parkway) & Route 637 (Hopkins Road)	118	2024
10	SB Route 288 to WB US 360 Off Ramp, US 360 Park and Ride	US 360 (Hull Street) at Chesterfield Career and Technical Center	128	2028



## Existing Transit Service

The Greater Richmond Transit Company (GRTC) operates transit service in and around the City of Richmond<sup>1</sup>. Local bus routes are primarily concentrated within the City limits, operating routes throughout the weekday and some routes on weekends. Express routes extend into the surrounding counties and operate primarily during the weekday peak commute hours and in the commute direction (into Richmond during the morning and out of Richmond in the afternoon). The recently opened GRTC Pulse Bus Rapid Transit (BRT) operates frequent, limited-stop service along Broad Street and Main Street, from Rocketts Landing to Willow Lawn during weekdays and weekends. Existing transit service within the study area is shown in **Figure 3** and **Table 4**.

**Figure 3: Existing and Programmed Park and Ride Lots with Existing Transit Services**



Currently, there are three official park and ride lots within ¼-mile of existing transit routes, Gaskins Road, Parham Road, and Glenside Drive – Dumbarton. These lots (numbers 4, 5, and 6 on Figure 3) are all located in Henrico County in close proximity to I-64 and all serve express transit routes with connections to downtown Richmond. In addition, all of the four unofficial lots in the study area are also connected to transit. Potential opportunities to fill gaps in the existing park and ride network in relation

<sup>1</sup> Full GRTC system map: [http://ridegrtc.com/media/routes/F\\_GRT\\_Msys\\_32.75x65\\_180914\\_.pdf](http://ridegrtc.com/media/routes/F_GRT_Msys_32.75x65_180914_.pdf)



to the transit network, include route termini for the Pulse BRT (Willow Lawn and Rocketts Landing) and along local routes with frequent service.

**Table 4: Existing Park and Ride Lots within 1/4-Mile of Existing Transit Routes**

	Lot Name	Transit Route(s)
<b>Henrico County</b>		
4	Gaskins Road	GRTC 29x – Gaskins Express
5	Parham Road	GRTC 23x – Glenside/Parham Express GRTC 26x – Parham Express
6	Glenside Drive - Dumbarton	GRTC 23x – Glenside/Parham Express GRTC 27x – Glenside Express
X3	White Oak Village	GRTC 7B – Nine Mile Henrico GRTC 28x – White Oak Village Express GRTC 56 – South Laburnum GRTC 91 – Laburnum Connector
<b>Chesterfield County</b>		
X1	Commonwealth 20	GRTC 82x - Commonwealth 20 Express
X2	Bon Air Baptist Church	GRTC 64x – Stony Point Express
<b>City of Richmond</b>		
X4	Huguenot United Methodist Church	GRTC 64x – Stony Point Express





**Table 5: Existing RRTPO Vanpool Destination Regions**

Destination Region	Number of Vans	Number of Passengers
RRTPO	11	84
Northern Virginia	24	159
Washington D.C.	23	215
Other Virginia - North of RRTPO	13	74
Other Virginia - West of RRTPO	7	42
Other Virginia - East of RRTPO	3	21
<b>Total</b>	<b>81</b>	<b>595</b>

Source: GRTC RideFinders, October 2018

Locations at which clusters of vanpools originate may be potential indicators of a need for a park and ride lot. Three such locations include:

- Along US Route 360 in Chesterfield County
- Along I-95 corridor in the vicinity of Chester
- Along I-95 corridor between Richmond and Ashland

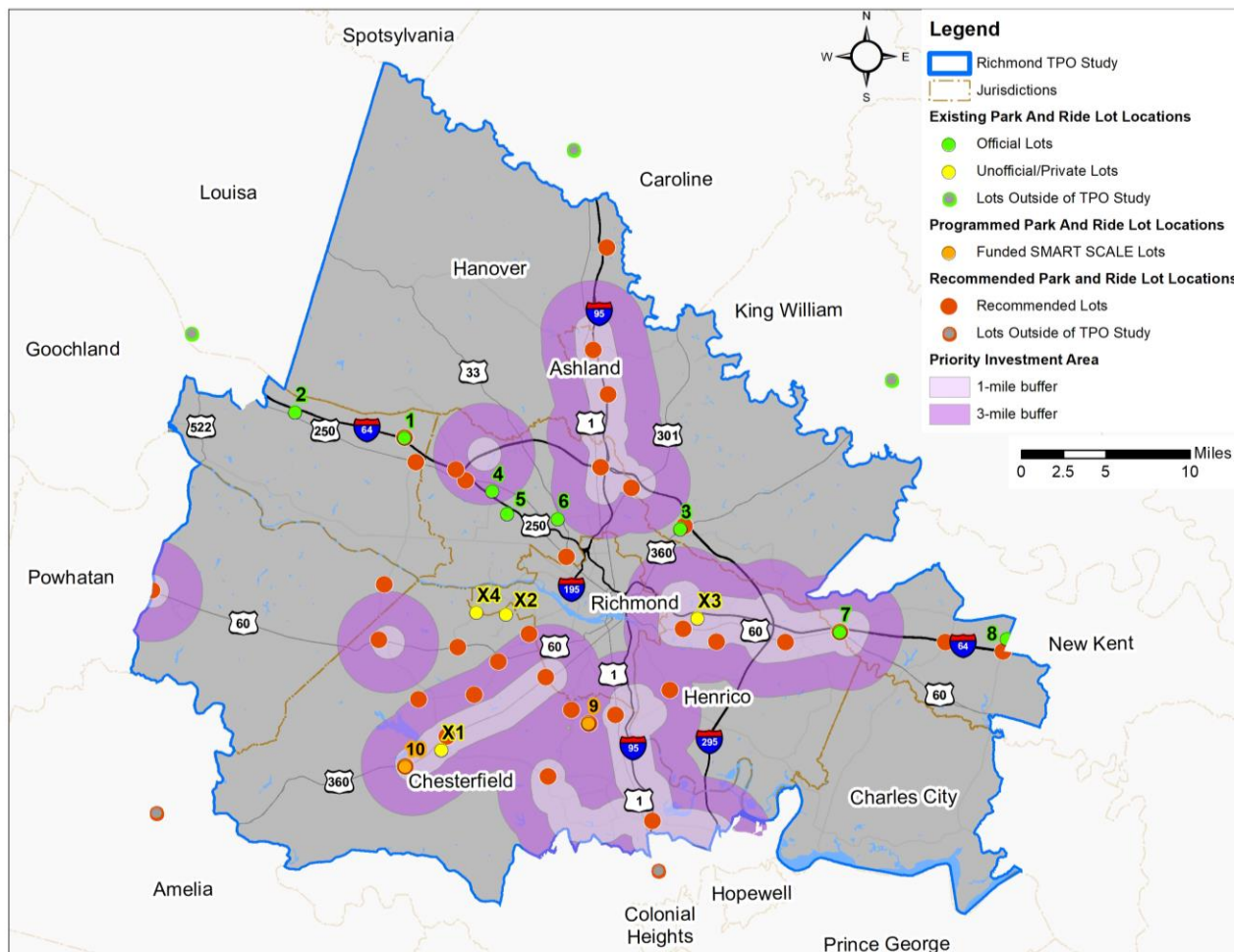
## Existing Park and Ride Needs

### Existing Park and Ride Project Recommendations

Previous planning efforts led by VDOT, and in coordination with regional partners, recommended new park and ride lots and improvements to existing lots within the study area. A total of 34 park and ride lot recommendations were identified in the study area as part of the *VDOT Park and Ride Investment Strategy*. These recommendations are shown in **Figure 5** and are listed in the Appendix and include lots located north of Richmond along I-95 and south of Richmond along Midlothian Turnpike (US 60), Hull Street Road (US 360), and Chippenham Parkway (Route 150). The two programmed lots that received SMART SCALE funding are included in this list of park and ride recommendations.

As part of the *VDOT Park and Ride Investment Strategy*, Priority Investment Areas (PIAs), geographic areas with a higher need for park and ride lots, were identified based on the convergence of population density, traffic volumes, and proximity to existing park and ride facilities. PIAs were developed to identify locations in each VDOT district where park and ride lots did not already exist that had the potential to serve greater numbers of people and have larger impacts on reducing congestion. As part of the ranking methodology employed in the *VDOT Park and Ride Investment Strategy*, park and ride recommendations within PIAs were given extra points that were not given to those located outside of the PIAs. As shown in **Figure 5**, 25 of 34 recommendations in the study area were located within 3 miles of the PIAs.

**Figure 5: Existing, Programmed, and Recommended Park and Ride Lots**

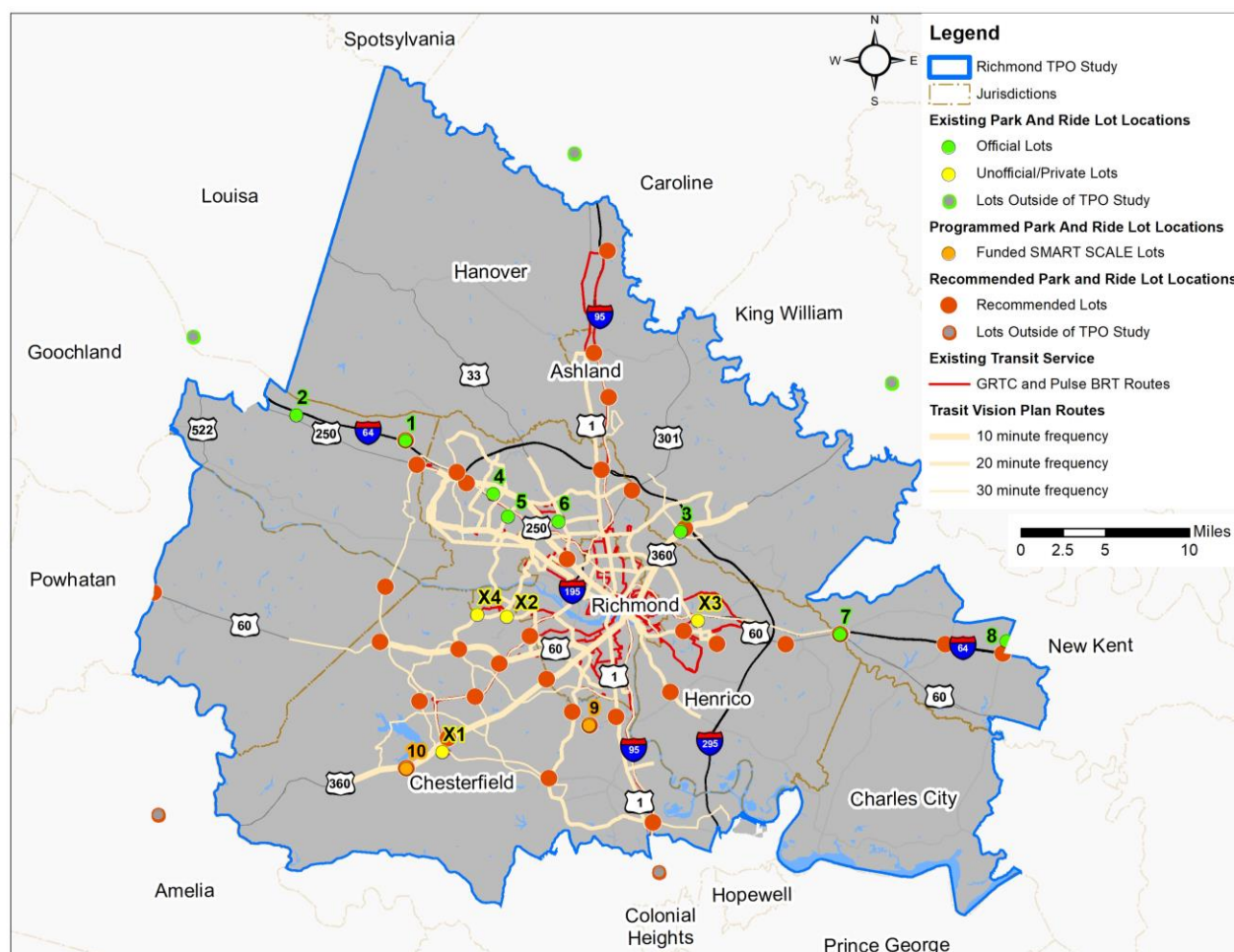


## Planned Transit Service

Eleven of the recommended park and ride lots are located within ¼-mile of existing transit routes. Generally, these lots are located to the north of Richmond along I-95, west along Broad Street (US 250), south along Powhite Parkway (Route 76) and US 1, and east along Williamsburg Road (US 60).

The *Richmond Transit Vision Plan*, which identifies the future unconstrained regional transit network, proposes future transit routes that expand the existing network to provide greater geographic coverage and increased frequency. The implementation of the Vision Plan would increase the number of recommended park and ride lots within a ¼-mile of transit to 27 out of a total 34 lots. This indicates that the recommended park and ride lots align geographically with the planned transit network, which allows for a high level of connectivity between both. The *Richmond Transit Vision Plan* routes are shown in **Figure 6** with the thicker lines indicating the routes with the more frequent service.

**Figure 6: Existing, Programmed, and Recommended Park and Ride Lots with Transit Vision Plan Routes**

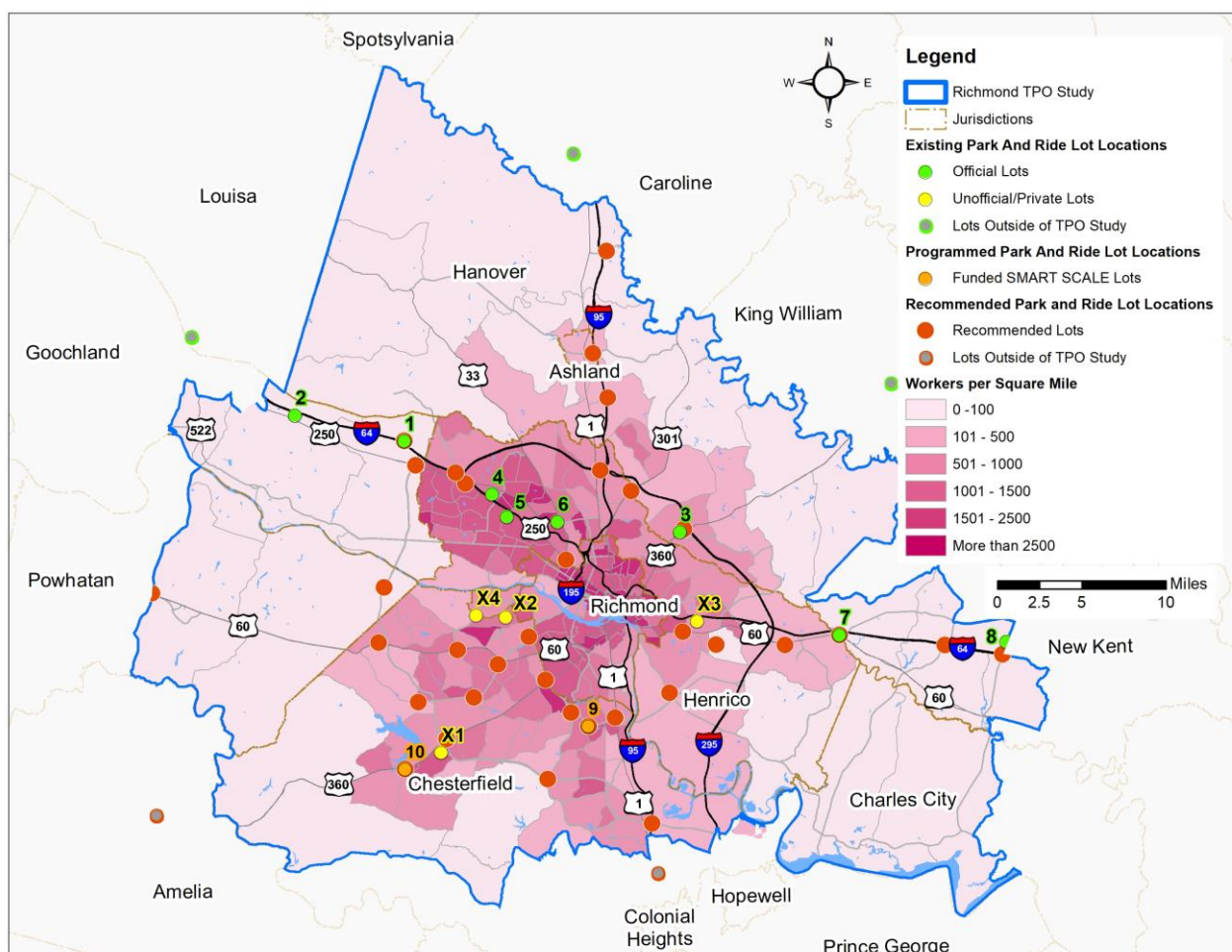


## Regional Demographics

### Worker Density

All existing, programmed, and recommended park and ride lots are shown in **Figure 7** overlaid on a base map of worker density. Worker density corresponds to the number of employed people *living* in the area shown, rather than the number of people whose jobs are located in that area. Based on 2016 American Community Survey 5-year estimate data, 32% of the working population is served by existing official and programmed park and ride lots<sup>2</sup>. When considering the existing, programmed, and recommended lots, 74% of the working population is served by park and ride lots. Generally, the census tracts with the highest density of working population are located along I-64 and southwest of Richmond, which aligns with the locations of many park and ride lot recommendations.

**Figure 7: Existing, Programmed, and Recommended Park and Ride Lots with Worker Density**



<sup>2</sup> For analysis purposes, the working population served by park and ride lots includes employed people that live within three miles of park and ride lots.





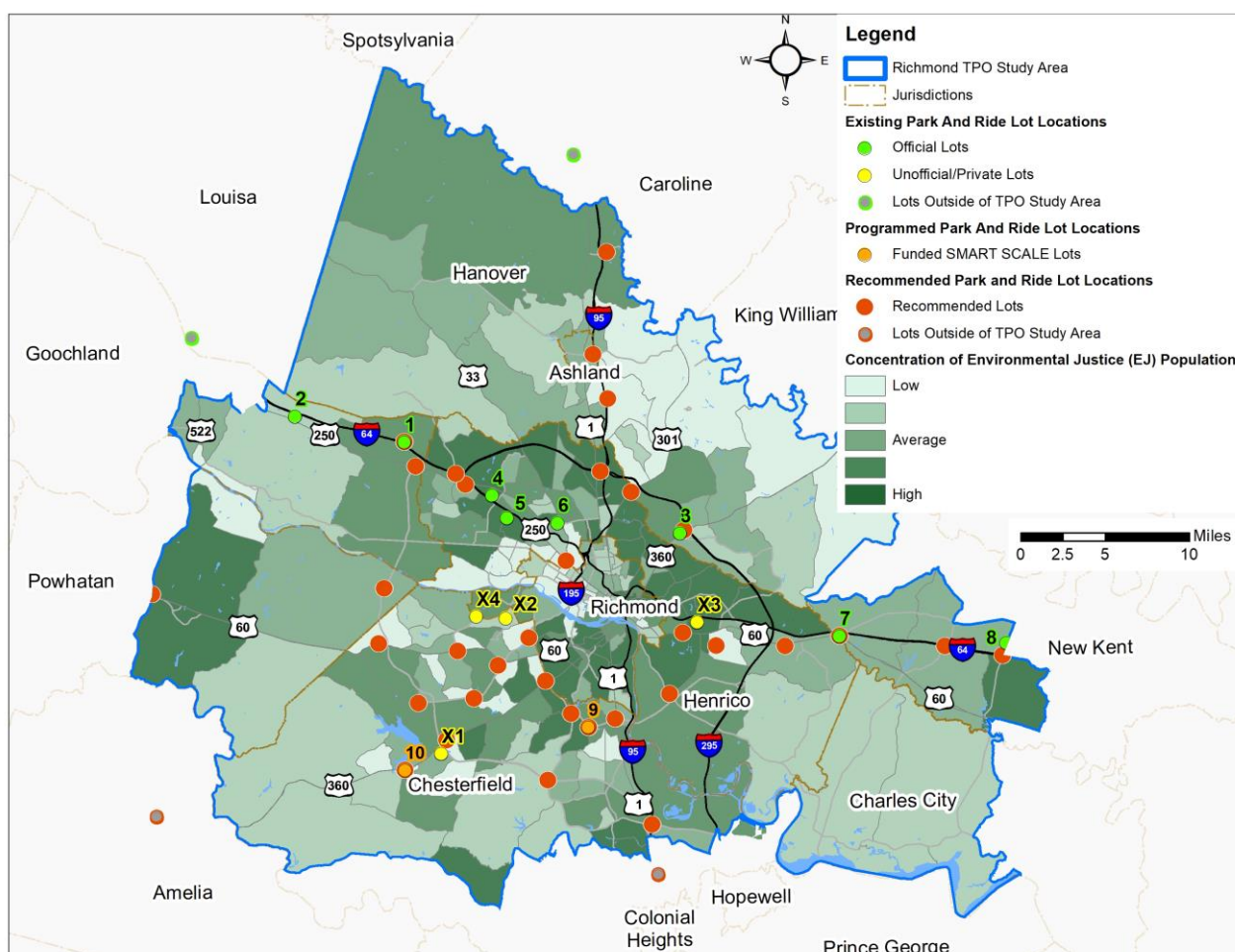
## Environmental Justice Populations

All existing, programmed and recommended park and ride lots are shown in **Figure 8** overlaid on a base map of the concentration of environmental justice (EJ) populations. The EJ population concentration is based on an index considering individuals with disabilities, low-income households, elderly populations, limited English proficiency, non-white or Hispanic populations, and low vehicle ownership households. Concentrations are not weighted based on the number of people in a census tract and are compared to the study area average. The purpose of analyzing EJ concentrations is to provide fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to laws, regulations, and policies<sup>3</sup>. Using data from the 2016 American Community Survey 5-year estimates, each census tract in the study area was compared to the average for the study area. **Table 6** summarizes the EJ analysis for the study area. Seven of ten existing or programmed lots are in areas with “highest” or “high” amounts of EJ populations. Recommended lot locations are more evenly distributed among the EJ densities while still having significant investment in higher EJ concentration areas.

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<sup>3</sup> <https://www.epa.gov/environmentaljustice>

**Figure 8: Existing, Programmed, and Recommended Lots with Concentration of Environmental Justice (EJ) Population**



**Table 6: Comparison of Park and Ride Lots to Concentration of EJ Populations**

	EJ Population Concentration				
	Highest EJ Population	High EJ Population	Average EJ Population	Low EJ Population	Lowest EJ Population
Existing <sup>4</sup> and Programmed Lots	3	4	2	1	0
Recommended Lots	5	11	12	1	5
<b>Total</b>	<b>8</b>	<b>15</b>	<b>14</b>	<b>2</b>	<b>5</b>

<sup>4</sup> Does not included “unofficial” lots in analysis



## Next Steps

The existing conditions and existing needs discussed in this technical memorandum will form the basis for the identification and prioritization of future park and ride needs in the Richmond region. Future needs will consider potential growth scenarios for the Richmond region and the impact of these growth scenarios on the existing park and ride needs. Based on the identified existing and future park and ride needs, a methodology will be developed to prioritize and rank the region's critical needs. Future park and ride needs in the Richmond region will be summarized in Technical Memo II.

## Appendix

**Table A: Recommended RRTPO Park and Ride Locations**

<b>Jurisdiction</b>	<b>Lot Description and Location</b>
Chesterfield County	New lot at Rte 150 / Chippenham Pkwy & Rte 1 / Jefferson Davis Hwy
Chesterfield County	New lot at I-95 & Rte 10 / W Hundred Rd; Exit 61
Chesterfield County	New lot at Rte 288 / WW II Veterans Memorial Hwy & Rte 60 / Midlothian Tpke, near Watkins Center Pkwy
Chesterfield County	New lot near Rte 360 / Hull Street Rd & Rte 621 / Winterpock Rd
Chesterfield County	New lot at Rte 288 / WW II Veterans Memorial Hwy & Rte 10 / Iron Bridge Rd
Chesterfield County	New lot at Rte 76 / Powhite Pkwy & Rte 686 / Jahnke Rd
Chesterfield County	New lot on Arboretum Pkwy, near Rte 76 / Powhite Pkwy & Rte 60 / Midlothian Tpke
Chesterfield County	New lot at Rte 76 / Powhite Pkwy & Courthouse Rd
Chesterfield County	New lot at Rte 652 / Old Hundred Rd & Rte 754 / Charter Colony Pkwy
Chesterfield County	New lot on Restingway Ln, near Rte 150 / Chippenham Pkwy & Rte 637 / Hopkins Rd
Chesterfield County	New lot near Rte 150 / Chippenham Pkwy & Rte 10 / Iron Bridge Rd
Chesterfield County	New lot at Rte 150 / Chippenham Pkwy & Rte 360 / Hull Street Rd
Chesterfield County	New lot near Rte 360 / Hull Street Rd & Rte 288 / WW II Veterans Memorial Hwy, near Lonas Pkwy
Chesterfield County	New lot at Rte 60 / Midlothian Tpke & Rte 147 / Huguenot Rd
Goochland County	New lot at Rte 288 / WW II Veterans Memorial Hwy & Rte 250 / Broad Street Rd
Goochland County	Expansion to existing at NE lot at I-64 and Route 623/Ashland Rd; New lot at SW corner of interchange
Hanover County	New lot at I-295 & Rte 360 / Mechanicsville Tpke; Exit 37
Hanover County	New lot at I-95 & Rte 802 / Lewistown Rd; Exit 89
Hanover County	New lot near Rte 30 / Kings Dominion Blvd & Rte 688 / Doswell Rd, off of I-95; Exit 98
Henrico County	New lot at Rte 60 / Williamsburg Rd & Eastover Ave
Henrico County	New lot at Rte 895 / Pocahontas Pkwy & Rte 5 / New Market Rd
Henrico County	New lot at Rte 250 / W Broad St & Gathering Pl, near I-64; Exit 178
Henrico County	New lot at Rte 60 / Williamsburg Rd & Technology Blvd, off of I-295; Exit 2
Henrico County	New lot at Rte 1/301 / Chamberlayne Rd & E Parham Rd
Henrico County	New lot at S Airport Dr & Federal Rd
Henrico County	New lot at I-295 & Rte 1 / Brook Rd; Exit 43
Henrico County	New lot at I-64 & Rte 271 / Pouncey Tract Rd
Henrico County/City of Richmond	New lot at Rte 250 / W Broad St & Rte 33 / Staples Mill Rd
New Kent County	New lot at I-64 & Rte 609 / Emmaus Church Rd; Exit 211
New Kent County	New lot at I-64 & Rte 155 / N Courthouse Rd; Exit 214
New Kent County	Expand lot on Rte 60 / E Williamsburg Rd, near Rte 33 / New Kent Hwy, off I-64; Exit 205
Powhatan County	New lot near Rte 288 / WW II Veterans Memorial Hwy & Rte 711 / Huguenot Trl
Powhatan County	New lot at Rte 522 / Maidens Rd & Rte 60 / Anderson Hwy
Town of Ashland	New lot at I-95 & Rte 54 / Thompson St; Exit 92