

I-66 NEEDS ASSESSMENT:

Optimizing the Use of
Toll Revenues for Transit
and Rail Projects in the
I-66 Corridor

Final Report

Prepared For



Prepared By

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I-66 NEEDS ASSESSMENT

Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

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Introduction

Corridor Overview

The I-66 corridor in Northern Virginia is an important link for moving over 200,000¹ residents and visitors daily to destinations throughout the region. This study focuses on the 36-mile tolled corridor, shown in **Figure 1**, extending from Washington, DC to the Haymarket area. I-66 traverses Arlington County, Fairfax County, and Prince William County, while also serving travelers from numerous neighboring counties and cities. The use of the dynamic corridor adapts as the population, land use, employment, and other regional trends evolve. In addition to I-66, which serves both light- and heavy-duty vehicles² and bus transit trips, parallel roadways, bus routes, and rail networks offer additional transportation options.

Figure 1: I-66 Corridor Map and Extents



¹ Count is based on 2024 VDOT Annual Average Daily Weekday Traffic (AAWDT). Total persons moved through the corridor across all modes is likely greater than 200,000. <https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/traffic-operations/traffic-counts/>

² I-66 *Inside the Beltway* is a restricted route, prohibiting vehicles with more than four tires.

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The corridor is often referenced as two separate sections—*Inside the Beltway (ITB)* and *Outside the Beltway (OTB)*. **Figure 2** and **Figure 3** illustrate the lane configurations for both the *Inside* and *Outside the Beltway* segments and their tolling hours. The *Outside the Beltway* segment has both express lanes (tolled) and general purpose lanes, whereas there is no distinction between express lanes and general purpose lanes on I-66 *Inside the Beltway*. All travel on I-66 *Inside the Beltway* is tolled during the morning peak (5:30–9:30 AM) inbound and during the afternoon peak (3:00–7:00 PM) outbound Monday–Friday. All travel during other periods on I-66 *Inside the Beltway* is not tolled. Vehicles with more than three riders travelling *Inside the Beltway* or in the *Outside the Beltway* express lanes are exempt from the tolls.

Figure 2: I-66 Inside the Beltway Tolling Restrictions³

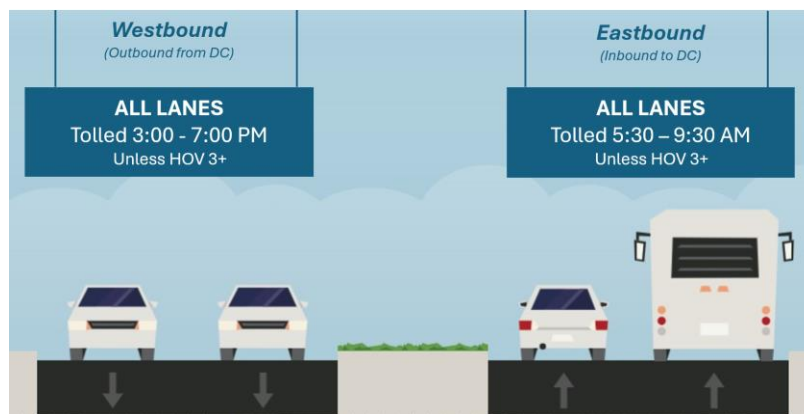


Figure 3: I-66 Outside the Beltway Tolling Restrictions



³ In some locations along the corridor there are auxiliary lanes in between the exits, widening the cross section.

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I-66 Needs Assessment (2026)

Study Purpose

The Northern Virginia Transportation Commission (NVTC) I-66 *Inside the Beltway* Commuter Choice and Department of Rail and Public Transportation (DRPT) *Outside the Beltway* programs have awarded approximately \$115 million to date, providing valuable funding for multimodal improvements throughout the corridor. With many years of funding left to award from both programs, this study presents an opportunity to evaluate how these programs have been utilized in the past and how they may help to support future multimodal needs in the I-66 corridor. To effectively leverage future available funding, it is important to understand evolving travel trends based on recently available data, refreshed travel demand forecasts, and societal factors (e.g., hybrid work, land use, employment, and population growth). This study provides a refresh to the assumptions and data from prior studies in the corridor including the 2012 *Inside the Beltway* study and the 2016 *Transform 66 Transit and Transportation Demand Management (TDM) Technical Report* and 2020 *I-66 Corridor Transit & TDM Plan Update*, which both focused on I-66 *Outside the Beltway*. Additionally, this is the first study conducted after the opening of the I-66 *Outside the Beltway* express lanes.

While there are many mobility needs covering a variety of modes in the I-66 corridor, this study aims to identify *transit, rail and access to transit* projects that would potentially be eligible and competitive for one or both funding programs. Aligning with the goals of the programs, the most competitive projects improve person throughput along the corridor. In addition to considering future travel trends and potential projects, this study will consider potential policy adaptations that align with the program's goals outlined in the Memoranda of Agreement (MOAs) and best meet desired outcomes for programming limited toll revenues and selecting the most impactful projects.

THIS STUDY DOES:

- Investigate emerging and evolving travel trends through the corridor
- Develop a list of projects (short- and long-term multimodal investments) that could be eligible for either program
- Examine potential policy proposals to more strategically leverage toll revenue and conduct a financial scenarios analysis
- Focus on identifying projects that can provide significant person throughput improvements

THIS STUDY DOES NOT:

- Identify detailed projects
- Identify discrete routes
- Conduct analysis needed for funding applications
- Limit the projects that agencies and jurisdictions can apply to in the future
- Outline needs for all modes of transportation in the corridor

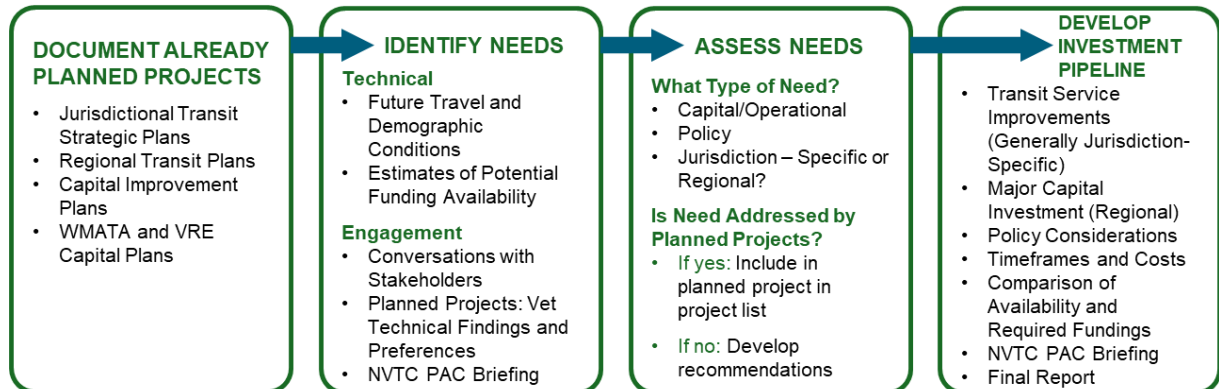
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Study Process

The study included four phases to understand projected travel trends in the corridor and opportunities for future projects (previously planned by agencies or new) to help meet emerging needs. **Figure 4** details the four phases and activities conducted throughout the study.

Figure 4: Phases of the Study



Throughout the duration of the study, the team engaged stakeholders from across the region to provide feedback on the needs and potential projects that may be able to leverage funding through either funding program. Stakeholders included all eligible applicants including counties, towns, cities, and transit providers along with state and regional stakeholders.

- Arlington County
- City of Fairfax
- City of Falls Church
- City of Manassas
- City of Manassas Park
- Fairfax County
- Loudoun County
- Metropolitan Washington County of Governments (MWCOG)
- Northern Virginia Transportation Authority (NVTA)
- OmniRide
- Prince William County
- Town of Vienna
- Virginia Department of Transportation (VDOT)
- Virginia Passenger Rail Authority (VPRA)
- Virginia Railway Express (VRE)
- Washington Metropolitan Area Transit Authority (WMATA)

The first round of engagement was held in spring 2025 with individual jurisdictions, meeting in person to discuss the findings of the **Existing and Future Conditions Chapter**. The second stakeholder engagement process was held in fall 2025 to gather feedback to discuss and refine the list of projects identified in existing plans and studies. Stakeholder engagement informed the project list discussed in the **Stakeholder Engagement Chapter**.

History of the Tolling Along the I-66 Corridor

The Transform 66 project included improvements to both *Inside the Beltway* and *Outside the Beltway* segments of I-66. VDOT led and funded the improvements to the I-66 *Inside the Beltway* segment and is responsible for collecting the toll revenue. VDOT began tolling on the *Inside the Beltway* portion of I-66 in December 2017. The first MOA between the Commonwealth Transportation Board (CTB), VDOT, and NVTC was signed in January 2016, and provided NVTC with the authority to select transit and other transportation projects for funding with toll revenues once tolling on I-66 *Inside the Beltway* was set to begin in late 2017. An amended and restated MOA was executed in January 2017, which clarified the time frame in which the widening of I-66 would occur as well as providing additional detail on the use of future toll revenues, duration of tolling, and ability for NVTC to issue debt to finance projects.

The MOA was amended again in January 2020, expressing a desire of the Commonwealth and NVTC to use future toll revenues to help fund the construction of a new bridge (Long Bridge) over the Potomac River to expand capacity for commuter and intercity rail service connecting Virginia and Washington, DC, and to construct Metro Rail-related improvements at and around the Rosslyn Metro Rail Station that would facilitate the additional movement of passengers and relieve congestion on the Blue, Orange, and Silver Metro Rail lines. This version of the MOA also provided a payment schedule (“Minimum Annual Transit Investment”) for toll revenue payments for *Inside the Beltway* funding to NVTC and provided for an additional annual payment to NVTC for Commuter Choice projects from *Outside the Beltway* funding (“Concessionaire Payment to NVTC”). These “Minimum Annual Transit Investments” provide funding for the Commuter Choice grant program which furthers the MOA’s improvement goals to maximize person throughput and improve multimodal mobility and reliability throughout the corridor.

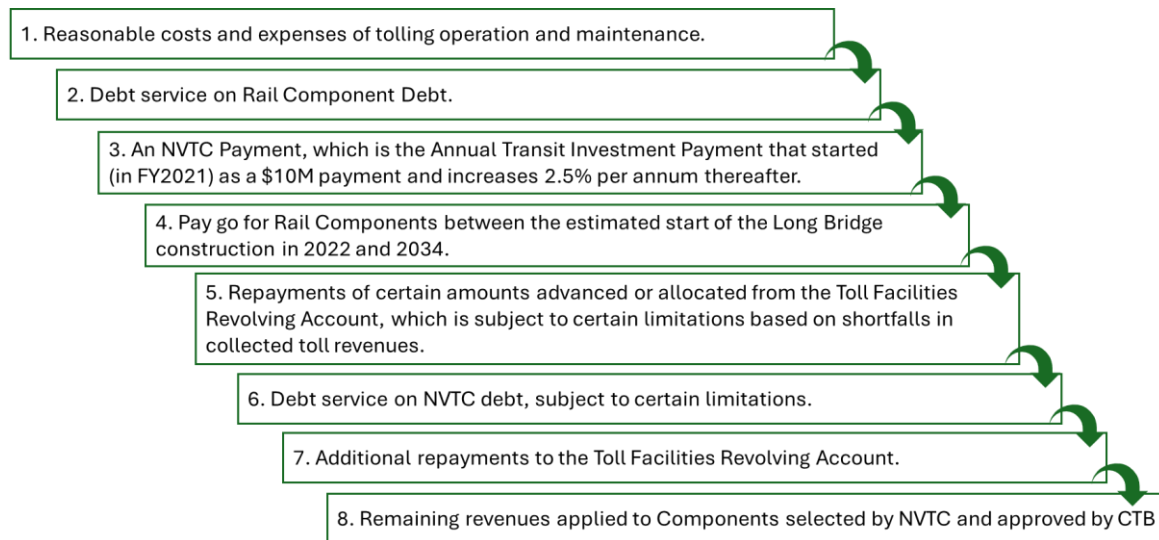
Finally, a third amended and restated MOA was executed in May 2021, clarifying certain provisions for the potential use of toll revenues to fund the Long Bridge and Rosslyn Metro Rail area related improvements.

Revenues from both the *Inside the Beltway* and *Outside the Beltway* programs increase by 2.5 % annually, through 2057 (ITB) and 2065 (OTB). In addition to the required minimum payments, Commuter Choice may receive additional funding if toll revenue *Inside the Beltway* exceeds projections in a given year. The MOA provides for a “waterfall,” or a prescribed set of categories (in order) to which excess toll revenue is programmed. Within that structure is a category for NVTC to receive additional funding for Commuter Choice projects. The “waterfall” is shown below in **Figure 5**.

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Figure 5: I-66 Inside the Beltway Toll Revenue Funding Waterfall⁴



For the I-66 segment *Outside the Beltway*, the Commonwealth and I-66 Express Mobility Partners (the concessionaire) are governed by the Transform 66 *Outside the Beltway* Project Comprehensive Agreement. This agreement included a one-time \$500 million concession fee to the Commonwealth for 15 projects recommended by the Northern Virginia Transportation Authority (NVTA) and approved by the CTB. The tolling on the *Outside the Beltway* segments began in 2022 with the western segment beginning tolling in September 2022 and eastern segment in November 2022. The agreement includes annual transit payments from Express Mobility Partners to VDOT, which are then transferred to DRPT for investments in transit that benefit toll payers. The payments are planned to sunset in fiscal year (FY) 2065. High-occupancy vehicle (HOV) requirements were set at HOV 2+ from 2017 through December 2022 for *Inside the Beltway* segments of I-66. The HOV requirement increased to HOV 3+ *Inside the Beltway* in December 2022 to be consistent with other HOV requirements on nearby express lanes, such as I-395, I-95, and I-495. *Outside the Beltway* has been HOV 3+ since the opening of the express lanes.

⁴ https://novatransit.org/uploads/Projects/i66commuterchoice/CC_I-66_MOA_Amend3_2021-05.pdf (see Page 5)

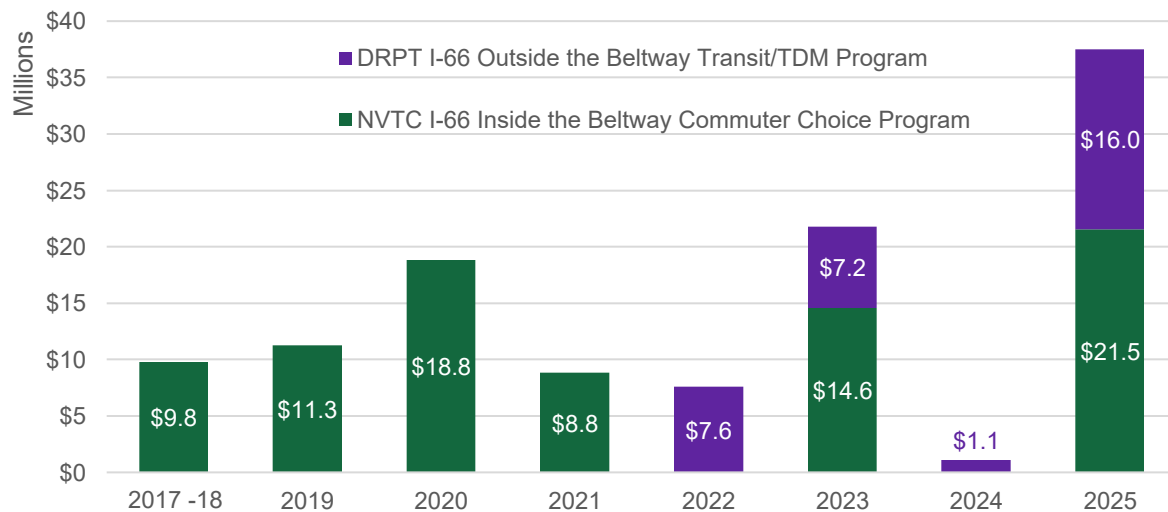
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I-66 Corridor Funding Programs

Both the *Inside the Beltway* and *Outside the Beltway* funding programs have supported multimodal projects along the I-66 corridor. The *Inside the Beltway* focused I-66 Commuter Choice program began funding projects in 2017 and the *Outside the Beltway* program began funding projects in 2022, following the opening of the express lanes. The award levels by program and year are illustrated in **Figure 6**. The following sections provide details specific to the Commuter Choice and *Outside the Beltway* programs' processes and history. **Appendix A: Annual Transit Payment Schedule** includes the annual transit payments for each of the programs.

Figure 6: Program Funding Awarded to Projects by Fiscal Year



Note: I-66 Commuter Choice funding was awarded through an annual call for projects between 2017 and 2021. With the introduction of I-395/95 Commuter Choice funding in 2020, I-66 Commuter Choice funding switched to a biennial funding cycle beginning with the FY 2023–2024 call for projects.

Inside the Beltway (Commuter Choice)

Program Process

The I-66 Commuter Choice grant application process evaluates projects submitted by eligible applicants, as illustrated in **Figure 7**. Each round, NVTC assesses whether the projects are eligible based on criteria outlined in the MOA, which includes maximizing person throughput, improving mobility, supporting new and diverse travel options, and enhancing safety and reliability. Projects must provide benefits to toll payers *Inside the Beltway* but may start *Outside the Beltway*. Once projects are deemed eligible, they are then scored and ranked to develop a program of projects to be funded by the program. Other program stakeholders include DRPT, which helps to determine project eligibility, and the CTB, which has the final authority over the projects approved in the program. The program currently does not have a funding match requirement and can fund up to 100% of the total project cost if all activities are eligible for funding.

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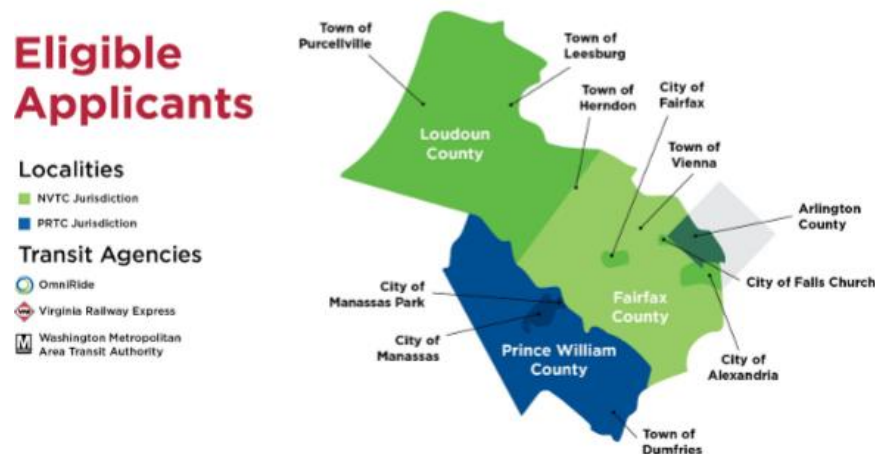
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Program History

FY 2017–2018 was the first round of the I-66 Commuter Choice program, and funding was awarded annually to projects along the I-66 corridor between 2017 and 2021. In 2019, the Commuter Choice program was expanded, with new funding for projects along the I-395/95 corridor. To create a more streamlined process for awarding funds to projects in both corridors, the program transitioned to an alternating award schedule in 2021, with funding awarded to projects in each corridor biennially.

The program has continued to provide grant funding for projects along the I-66 corridor every two years, resulting in six rounds of funding (as of early 2026). Since inception, NVTC has received 89 applications for funding across six rounds (excluding withdrawals, ineligible projects, or those referred to the I-66 *Outside the Beltway* program). The program has funded 63 projects and awarded more than \$84 million to projects in the I-66 corridor. **Figure 8** details funding awards across the 10 applicant jurisdictions/agencies. The program has funded projects in six categories, shown in **Figure 9**. As the program has developed over time, more funding has been awarded toward enhanced transit service renewal projects, with over half of the funding awards in round six funding continuing operations of bus services.

Figure 7: I-66 Commuter Choice Eligible Applicants



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Figure 8: I-66 Commuter Choice Funding Amount by Applicant

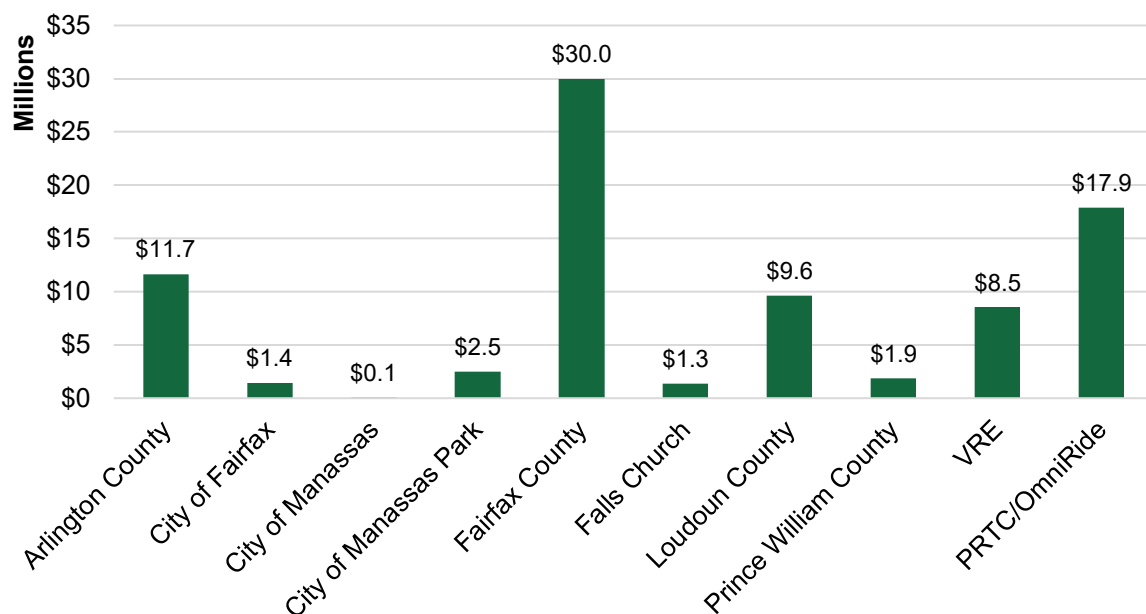
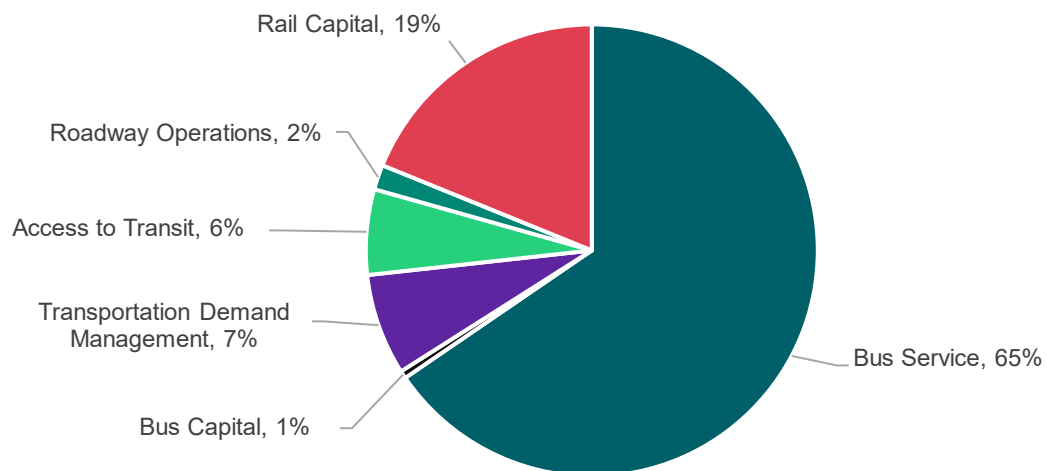


Figure 9: I-66 Commuter Choice Total Award by Project Type



Note: All Commuter Choice projects are categorized into one of the above project types, though some projects include elements of more than one category. For example, some bus service projects include the purchase of buses to implement enhanced service.

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Outside the Beltway

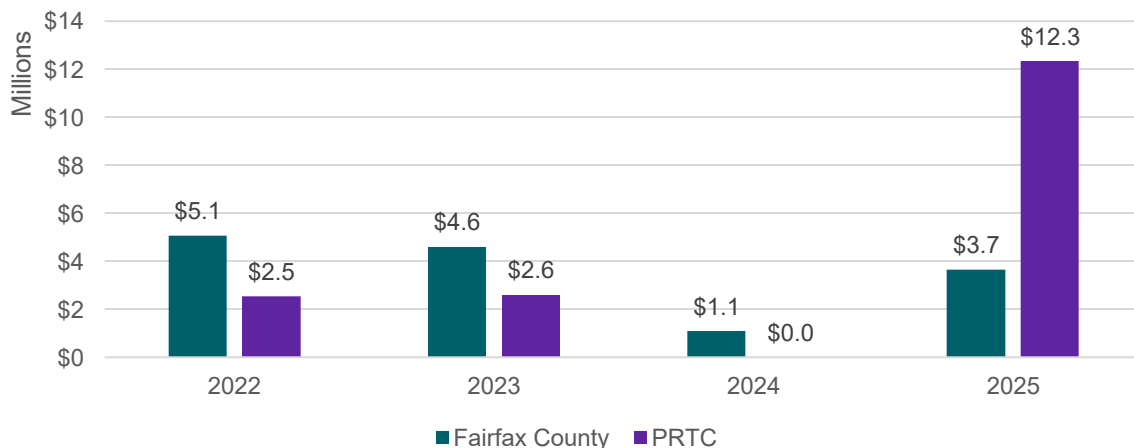
Program Process

The *Outside the Beltway* program receives applications annually from agencies and jurisdictions between December 1 and February 1 and executes grant agreements in the first quarter of the fiscal year (after July 1st), aligning with DRPT's transit operating and capital grants process. The funds may be used for transit and travel that benefit toll payers between Haymarket and the I-66/I-495 interchange. I-66 *Outside the Beltway* only runs through Prince William County and Fairfax County, but other jurisdictions and agencies are still eligible to apply. The eligibility and review process are less defined than the Commuter Choice program *Inside the Beltway* but still requires projects to benefit the toll-payer. The program currently does not have a funding match requirement and can fund up to 100% of the total project cost if all activities are eligible for funding.

Program History

The first round of annual funding was in FY 2022, with a total of four annual funding cycles completed (as of spring 2025). Since the program's inception, the only applicants have been Fairfax Connector and PRTC's OmniRide, both transit providers. This is, in part, due to these services being identified as recommendations from previous studies. Over the four cycles of I-66 *Outside the Beltway* funding, the program has awarded more than \$31 million to support both capital projects (~40% of funds going towards bus purchases), and operating service (~60% of funds going towards commuter bus service). **Figure 10** details the award amounts for the I-66 *Outside the Beltway* funding program since its inception by jurisdiction.

Figure 10: I-66 Outside the Beltway Funds Awarded by Fiscal Year



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Previous I-66 Corridor Multimodal Studies

Inside the Beltway and *Outside the Beltway* segments of I-66 have been studied in various regional and local agency studies. The following studies identified potential (non-binding) multimodal recommendations for corridor projects and served as precursors for the development of this study:

- I-66 Multimodal Study *Inside the Beltway* published by VDOT in 2012
- I-66 Corridor Improvements Project (*Outside the Beltway*) – Transit/TDM Technical Report published by DRPT in 2016
- I-66 Corridor (*Outside the Beltway*) Transit & TDM Plan Update⁵ published by DRPT in February 2020

The following section offers a high-level overview of how these plans built upon one another over time and contributed to the current context. Greater detail on each study is available in **Appendix B: Previous I-66 Corridor Multimodal Studies (Details)**.

Across all three studies, there is a consistent emphasis on recommending corridor-wide multimodal solutions to be paired with roadway improvements to address identified challenges in the I-66 corridor. Each plan conducted a refreshed analysis of the current and future conditions of the corridor. The analysis integrated recommendations or policy changes that had been advanced since the previous study. In addition to unique challenges, the analyses across all three identified challenges with congestion, limited transit capacity, gaps in multimodal connectivity, and need for effective corridor-wide management. To respond to these challenges, the study included a suite of recommendations that leveraged a variety of strategies and applied to multiple modes. Key themes of the recommendations include expanding and enhancing bus and rail service through the corridor, strengthening TDM strategies, and enhancing roadway operations. The earlier plans also recommended policy considerations to pair with the suggested multi-modal suite of recommendations. Additionally, the plans highlighted the need to reassess and consider the implementation timeline, scope, and phasing of the recommendations to align with current conditions in the corridor.

⁵ <https://drpt.virginia.gov/studies-and-reports/i-66-corridor-transit-and-transportation-demand-management-plan-update/>

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Local and Regional Studies Impacting the Corridor

I-66 is closely intertwined with the surrounding transportation networks. Significant future investment is anticipated for the I-66 corridor, including planned improvements to rail, bus, roadway, and park-and-ride networks. The following plans and studies were reviewed to identify planned projects by jurisdictions and agencies that could apply for one or both I-66 corridor funding programs in the future.

- I-66 Transit and TDM Plan (2020)
- Arlington Transit Strategic Plan (TSP) FY 2025–2034
- Arlington FY 2025–2034 Capital Improvement Plan (CIP)
- Blue/Orange/Silver Capacity and Reliability Study (2023)
- 2025 Better Bus Network
- City of Fairfax FY 2025 Budget
- City of Fairfax 2035 Comprehensive Plan
- City of Falls Church FY 2025–2030 CIP
- City of Manassas FY 2025 CIP
- City of Manassas Transportation Master Plan (2019)
- City of Manassas 2045 Comprehensive Plan
- City of Manassas Park Active Transportation Plan (2023)
- City of Manassas Park Comprehensive Plan – Transportation and Mobility Chapter (2012)
- CUE Transit Development Plan (TDP) (In development as of 2025)
- Envision Route 7 (Ongoing)
- Fairfax County Connector FY 2023–2033 TSP
- Fairfax County Transportation Priorities Plan
- I-66 Transit and TDM Tech Report (2016)
- Loudoun County FY 2025–2034 TSP
- Loudoun County Capital Needs Assessment FY 29-40
- Langston Blvd Corridor Plan (2023)
- Northern Virginia Bus Transit Analysis (2024)
- NVTB Bus Rapid Transit Action Plan (2025)
- OmniRide FY 2020–2029 TSP
- Prince William FY 2025–2030 CIP
- SMART SCALE (Round 4 and 5 scored but not funded projects)
- TransAction Plan 2022 Update
- Town of Vienna CIP
- MWCOC Transportation Planning Board (TPB) Visualize 2050
- VPRA Transforming Rail in Virginia Project List
- VRE 2050 Financial Plan
- VRE FY 2026–2031 CIP (with refinements from VRE)
- WMATA FY 2025–2030 CIP and 10-Year Plan

Existing and Future Conditions

Guiding Topics

Travel trends along the I-66 corridor are dynamic and are influenced by changes in land use, population, and employment. Residential and employment growth is expected to continue in many of the established areas in Northern Virginia as well as new and emerging areas. Shifts in population and employment centers impact the jobs and destinations that people typically access, altering where and how they travel.

The analyses conducted through this study aimed at exploring the following topics:

- How is the corridor being used today?
- How is usage different than before the COVID-19 pandemic?
- What are the origin-destination (OD) pairs with the most trips between them?
- How, when, and why are people traveling between these pairs?
- How does the volume and behavior of these trips change based on future projections?
- Of the markets identified, which make the most sense for transit/rail?

The analyses conducted as a part of this study aim to understand past, present, and future land use trends and travel trends. This section first focuses on how regional travel trends along I-66 have changed from the pre-COVID pandemic to 2025. Secondly, the analyses utilize future projections to better understand forecasted land use changes and how those trends are anticipated to affect I-66 travel patterns in the near-term (5 to 10 years) and long-term (~20 years). This comprehensive corridor analysis also helps to identify potentially eligible projects for jurisdictions to consider for future Commuter Choice and *Outside the Beltway* grant applications.

Methodology and Sources

State, regional, and local data informed the analyses included in this study. The analysis takes into account the hours and direction of travel that tolls are in effect *Inside the Beltway* and *Outside the Beltway*, as the location and timing of active tolling reflects the types of operating and transit service projects that may be eligible for funding. *Inside the Beltway*, all lanes are dynamically tolled in the peak direction only in the morning and afternoon peak period. *Outside the Beltway*, there are general purpose (non-tolled) and dynamic-tolled express lanes that are tolled all day and in both directions.

Due to the variation in detail and precision of the data, and to allow year-to-year comparisons, most of the analyses represent an “average day” in the given year. The datasets leveraged for the analyses discussed below are shown in **Table 1**. In addition to the data listed in the following table, data relating to park-and-ride occupancy, vanpool, and carpool statistics were also analyzed.

Table 1: Datasets Leveraged for Analyses

Data	Time Period	Source
Vehicle Trip Data		
Tolling Data	2018–2025	VDOT
Travel Behavior Data	2021–2024	Replica
Vanpool Data	June 2025	OmniRide

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Data	Time Period	Source
Commuter Bus		
Loudoun County Ridership	January 2019–March 2020 January 2023–March 2024 January 2025–April 2025	Loudoun County
WMATA Metro Rail OD Data	January 2019–March 2020 January 2023–March 2024 January 2025–April 2025	WMATA
Fairfax Connector Ridership	September 2019–January 2020 January 2023–March 2024 January 2025–April 2025	Fairfax County
VRE Ridership	2019, 2024, 2025 (January–April only)	VRE
OmniRide Ridership	January 2019–March 2020 January 2023–March 2024 January 2025–April 2025	OmniRide
Places		
Census Designated Places	2020	Census
Activity Centers	2013–2024	MWCOG
Forecasts		
MWCOG Cooperative Forecast Version 10.0	2019–2045	MWCOG
MWCOG Model	2.4.6	MWCOG

The analysis integrated tolling, traffic, travel behavior data, demographic forecasts, and transit data. To uniformly track how volume and modal trends changed throughout the I-66 corridor, cutlines were introduced at eight locations, aligning with major interchanges and activity centers. Each cutline serves as a “gate” to evaluate the number of vehicles or people moving through a specific section of the corridor. OD data from the regional MWCOG Transportation Demand Model for each cutline, shown in **Figure 11**, along I-66 served as a geographic framework to which various datasets were appended, enabling consistent spatial analysis across all data sources.

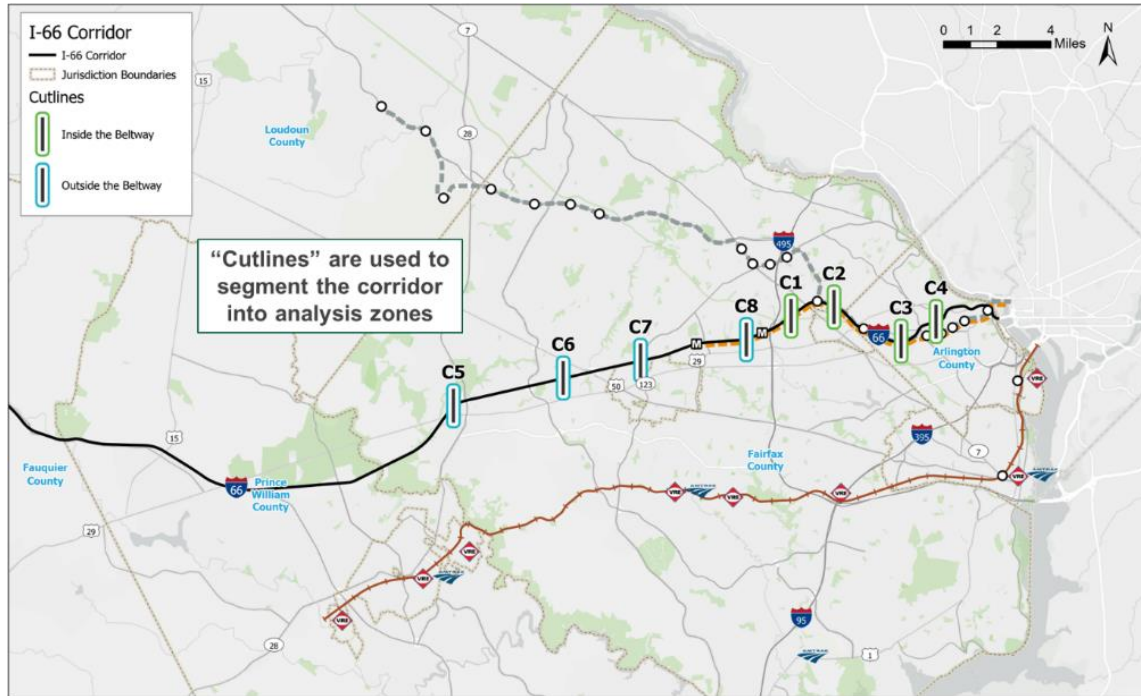
The existing conditions analyses also included:

- Evaluation of peak-hour and seasonal traffic patterns using tolling data
- Aggregation and analysis of transit ridership data within the corridor
- Demographic and travel attribute analysis, including trip purpose, using Census Block Group and Replica trip data
- Select link analyses to evaluate where trips are coming from and traveling to for each cutline/“gate” using MWCOG model data outputs
- OD analyses for areas both *Inside* and *Outside the Beltway*, based on MWCOG model data

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Figure 11: I-66 Corridor Analyses Cutlines



Inside the Beltway	Location
Cutline 1 (C1)	Between Barbour Road and Virginia Lane
Cutline 2 (C2)	Between Great Falls Street and 25th Street N
Cutline 3 (C3)	Between N Sycamore Street and Fairfax Drive
Cutline 4 (C4)	Between Fairfax Drive and Langston Boulevard
Outside the Beltway	Location
Cutline 5 (C5)	Between Route 29 and Route 28
Cutline 6 (C6)	Between Fairfax County Pkwy and US Route 50
Cutline 7 (C7)	US Route 50 and Chain Bridge Road
Cutline 8 (C8)	Nutley Street and I-495

Changing Travel Trends from 2019 to Present (2025)

Overview

In 2019, travel demand across multiple modes reached one of its highest levels since Inside the Beltway's program inception, with vehicular and transit volumes along the corridor surpassing prior-year volumes. However, with the onset of the pandemic in March 2020, volumes decreased across all modes as people followed stay-at-home orders. As general vehicular traffic volumes have continued to recover post-pandemic with return to office and non-work travel resurgence, transit ridership recovery along the corridor lagged prior to 2025, but saw gains in spring 2025 after the federal government return to office mandates. Through the analysis, the following key takeaways were identified to synthesize the existing conditions in the corridor:

Key Takeaways

The following sections discuss the key takeaways for vehicle and transit trips along the I-66 corridor.



Key Takeaways

- Traffic volumes increased more significantly in 2023 recovering closer to 2019 levels, with more spread out peak periods and the greatest travel demand occurring midweek
- A shift to higher SOV share after the pandemic has continued to persist
- Even as transit trips increased from 2024 to 2025, ridership has maintained a consistent time-of-day distribution from 2019 through 2025.
- Commuter bus services have shifted since the pandemic, and ridership is continuing to recover in 2025.
- Rail trips have increased significantly from 2024 to 2025.

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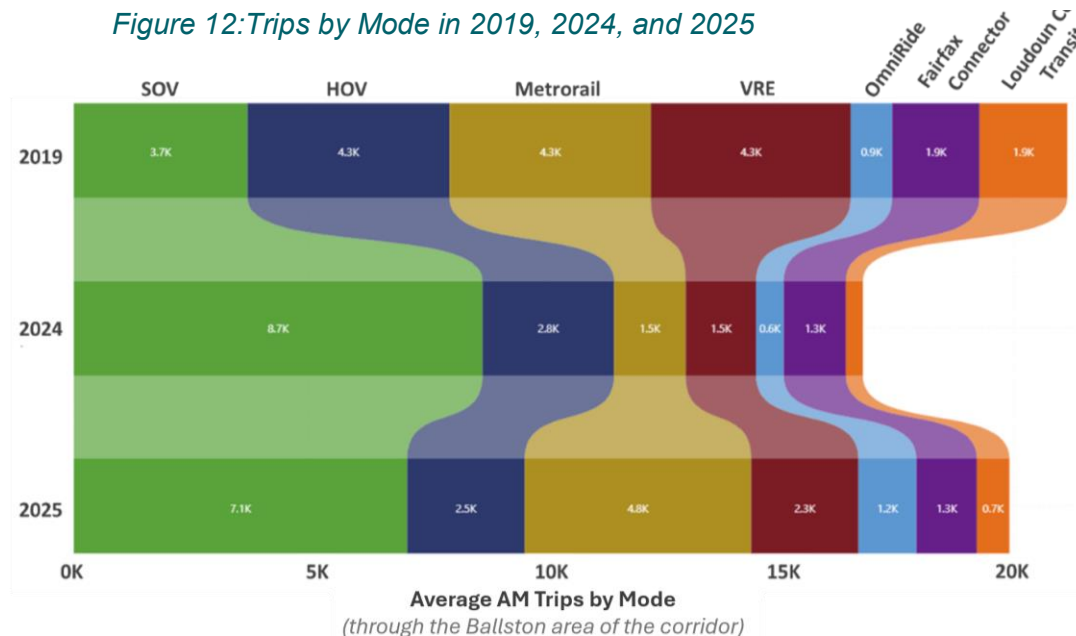
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2025 mode share more closely resembles 2019 travel trends than those seen in 2024

People use various modes to travel through the I-66 corridor, including personal vehicles, rail, and buses. **Figure 12** illustrates how people move through the I-66 corridor, *Inside the Beltway*. The data reflects a typical April weekday during AM tolling hours (5:30–9:30 AM) for inbound (eastbound) trips near Ballston. In 2019, transit represented a greater share of trips relative to SOV or HOV trips. Responding to changes in work in-office and other travel disruptions, the overall number of trips decreased but the SOV share doubled in 2024. In general, between 2019 and 2024, the number of people driving showed an overall increase and the share of HOV decreased.

Figure 12: Trips by Mode in 2019, 2024, and 2025



In 2025, the share of SOV trips declined slightly compared to 2024 but remained above 2019 levels. The federal return to office policy changes in winter 2025 potentially created more structure around work schedules. Even with more structure, the HOV share was relatively similar between 2024 and 2025, remaining at approximately 60% of the 2019 levels. Transit, rail, and bus continue to be important parts of the transportation options in the corridor. It is important to note that transit routes and service frequencies vary from year to year, thus changes in ridership are often more nuanced than just the ridership numbers. Overall, the number of transit trips through Ballston cutline from Inside the Beltway and Outside the Beltway have nearly recovered to pre-pandemic ridership, but the travel patterns and transit service provided have shifted. For example, post-pandemic, some commuter bus service shifted to local routes serving the Silver Line Phase 2, potentially transferring ridership to Metrorail.

Sources:

- Data shown above reflect data for Metro Rail, VRE, and commuter buses traversing a hypothetical line across Ballston on the I-66 corridor to obtain a comparable capture of mode share across years.
- WMATA OD AM Ridership Data 2019, 2024, and 2025, including typical day trips that start and end at all Orange and Silver line stations except Silver-to-Silver line trips (beginning and ending west of the I-66 corridor)
- VRE System Plan 2050 Update Ridership Trends and Market Analysis and typical day ridership
- Loudoun County 2019, 2024, and 2025 typical day commuter bus ridership
- Fairfax Connector 2019, 2024, and 2025 typical day commuter bus ridership
- OmniRide 2019, 2024, and 2025 typical day commuter bus ridership

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Single-occupancy vehicle (SOV) share increased in 2020 and remained constant thereafter

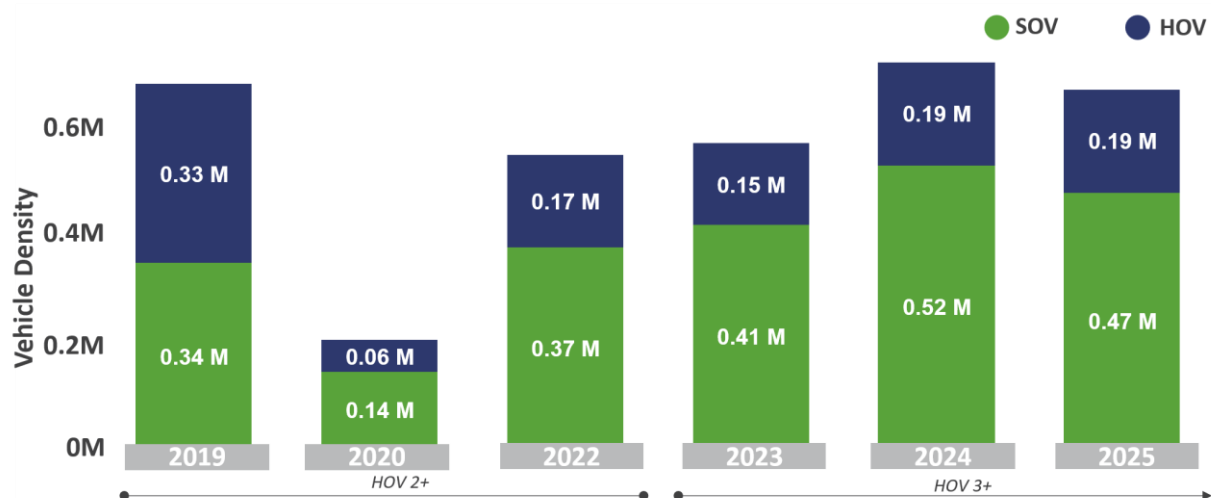
Examining year-over-year vehicle density trends (measure of number of vehicles on the road), volumes dropped sharply in 2020, followed by a moderate recovery in 2022 and 2023. By 2024, vehicle density exceeded 2019 levels, but in 2025 it declined again, leveling with 2019 values. **Figure 13** illustrates the changes for April of each year. While 2022 marked a modest return to previous travel densities, the mode split showed a different trend.

Figure 14 illustrates an approximate 50% SOV/50% HOV split in 2019, shifting to nearly 70% SOV/30% HOV in 2020. This shift appears to be persistent even as overall vehicle densities increased and recovered post-pandemic. Contributing factors may include travel patterns shifting away from carpooling (often referred to as “slugging” in Northern Virginia) along the corridor as a result of behavioral changes post-pandemic. Another travel trend related to the pandemic is the increase in hybrid work and/or flexible work schedules. As more people work remotely several days a week, paying tolls occasionally may be more acceptable and coordinating carpools may be more challenging. Additionally, the change from HOV 2+ to HOV 3+ in December 2022 may have shifted two-person carpool trips previously counted as HOV to SOV.

What is vehicle density?

Vehicle density is the number of vehicles per lane mile and is used by VDOT to determine the tolling algorithm. Density is normalized by lane-mile length, so longer segments with more volume can be equally compared to shorter segments with less volume across different sections of the corridor.

Figure 13: Inside the Beltway Volume and Mode Split Trends

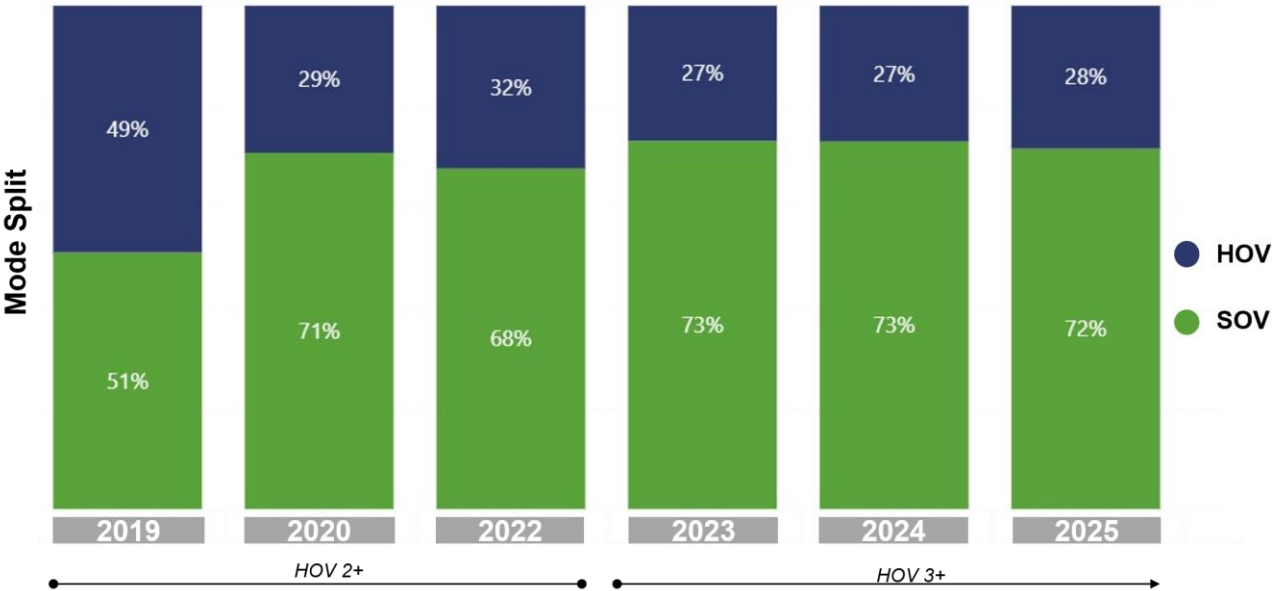


(Source: VDOT Peak Hour I-66 Tolling Data April 2018-2025. Data for 2021 has been omitted due to data quality)

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Figure 14: Inside the Beltway Mode Split Trends



(Source: VDOT Peak Hour I-66 Tolling Data April 2018–2025)

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The peak of commuting travel has spread across more AM and PM hours since 2019

On a commuter-oriented facility like I-66, it is expected that there will be a higher level of trips in one direction during the AM peak and in the other direction during the PM peak, indicating that most trips during those periods are home to work and vice versa. On the I-66 corridor, this pattern was evident pre-pandemic; however, post-pandemic, travel trends have shifted towards more flexible commuting patterns. In the PM peak in 2019, approximately 60% of the trips on I-66 were traveling directly to home compared to 2024, in which approximately 50% of the trips on I-66 are traveling home, with the other 50% traveling for other purposes. This may be due to “trip chaining” on the way home, including shopping, eating, or participating in recreational activities, or other non-commuters using the I-66 facilities for non-work and shorter trip purposes.

Additionally, the point where the travel behavior changed from outbound home-based work trips to return-home commuting shifted from around 10:00 AM in 2019 to closer to 12:00 PM in 2024.

Figure 15 illustrates the evolution of volume, trip purpose, and time of day from 2019 to 2024. According to the Replica travel demand data in the I-66 corridor, which pulls samples of location-based data to infer trip purpose, in 2019, there was a significant peak of work trips starting around 7:00 AM. Following the pandemic, while the volume is approximately the same, the AM peak hour has expanded into a period that lasts from 7:00 AM to noon.

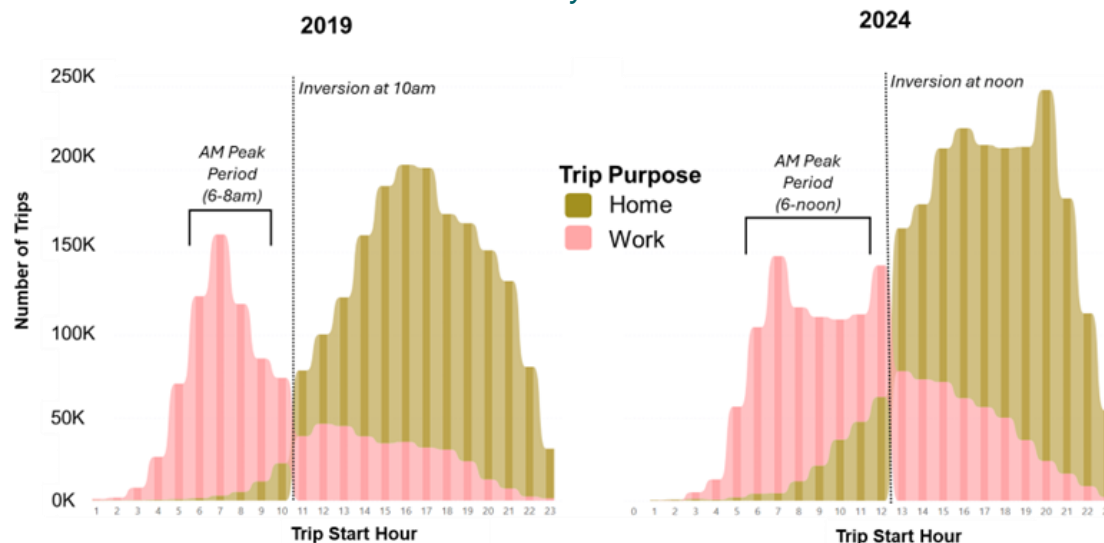
Additionally, there is a higher volume of “to work” trips in the afternoon in 2024 compared to 2019, indicating a potential increase in flexible work patterns. In the afternoon/evenings in 2019, volumes continued to build between 4:00 to 5:00 PM before tapering off. In 2024, there is a similar expansion of trips into a peak period between 3:00 PM to 9:00 PM. The changing trends

may reflect an increase in hybrid and flexible work schedules, spacing out peak commuting times.

What is Replica data?

Replica is a mobility data platform that models how, when, where, and why people travel using a **synthetic population** derived from anonymized sources like mobile devices and connected vehicles. Because it is a representative model rather than directly observed, Replica is best suited for identifying **general travel trends** (e.g., mode choice, trip purpose) and providing context alongside traditional data like traffic counts.

Figure 15: Trips by Time of Day and Trip Purpose for I-66 Eastbound Inside the Beltway



(Source: Replica Typical Weekday Travel Demand Data)

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Traffic was slow to recover in 2021 and 2022, but more significantly increased after 2023

I-66 *Inside the Beltway* traffic densities recovered at varying rates depending on the roadway segment, shown in **Figure 16**. After a drop in vehicle density in 2020 due to the pandemic, densities began to recover in 2021 and continued to grow between 2022 and 2025. Unlike with transit ridership, changes in in-person office requirements in spring 2025 did not result in a significant spike in traffic densities compared to 2024 levels. Overall, eastbound trips in the morning were slower to recover overall in comparison to westbound traffic in the afternoon peak.

On the I-66 *Outside the Beltway* express lanes, tolling began in November 2022 and is not established enough to determine long-term trends in traffic density. During the few years that tolling on the *Outside the Beltway* lanes has been active, the data showed similar steady growth in densities eastbound and westbound. From 2023 to 2024 there was an approximately 11% increase in vehicle density, and between 2024 and spring 2025 there was an approximately 2.5% increase. *Outside the Beltway* traffic density data for 2023, 2024, and 2025 is shown in **Figure 17**.

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Figure 16: Vehicle Traffic Density on I-66 Inside the Beltway by Year



(Source: VDOT Peak Hour I-66 Tolling Data April 2018-2025)

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Figure 17: Vehicle Traffic Density on I-66 on Express Lanes Outside the Beltway by Quarter



(Source: VDOT All Day I-66 Tolling Data April 2023–2025, Express Lanes Only)

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In 2025, trips closer to Washington, DC are recovering to 2019 levels faster, with the greatest traffic densities occurring on Wednesday

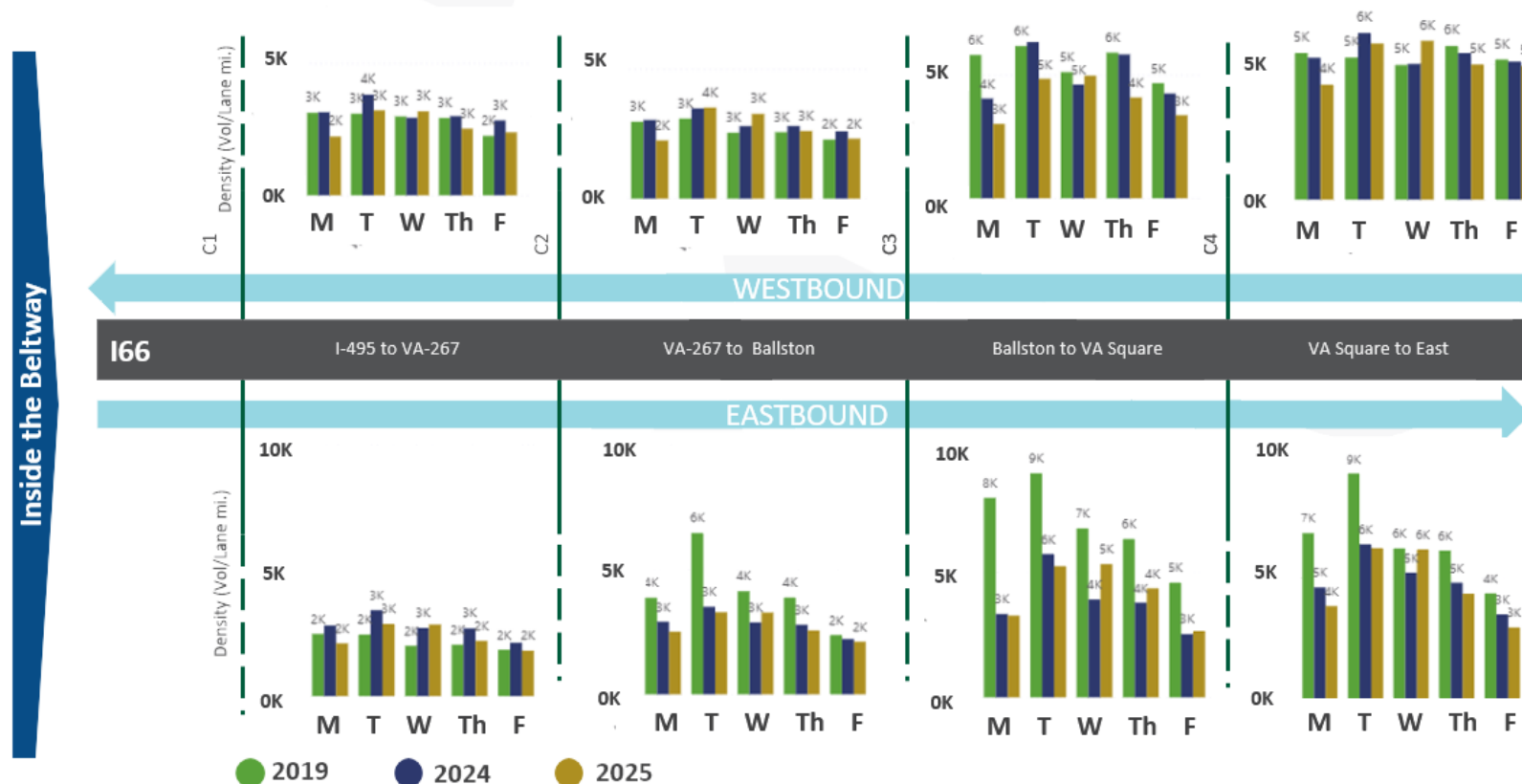
Figure 18 illustrates the change in vehicular density along the I-66 corridor by day of week in 2019, 2024, and 2025. The I-66 *Inside the Beltway* data is limited to the peak period and peak direction when tolling is in effect. Generally, the traffic densities follow a bell curve, where the middle of the week has the most traffic densities across all years and parts of the corridor. The extent to which Monday and Friday serve as outliers varies by travel direction and cutline. For example, westbound trips between N Sycamore Street and Great Falls Street (to the left of C3) have a relatively subtle change in vehicle densities by day of week, whereas eastbound, between N Sycamore Street and Fairfax Drive (to the right of C3), is much more variable by day of week.

While most sections of the corridor have recovered their pre-pandemic traffic, westbound has recovered to pre-pandemic levels to a greater extent than the eastbound direction. During the AM peak period, the inbound (eastbound) densities increased significantly east of the N Sycamore Street and Fairfax Drive (to the right of C3) across all three years. This trend may be representative of travelers using the innermost sections of I-66 for shorter trips, or potentially the influx/outflux of drivers from VA-267 (and other nearby exits/entrances) to the I-66 corridor.

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Figure 18: Vehicular Density on I-66 by Day of Week



(Source: VDOT Peak Hour I-66 Tolling Data 2018–2025)

Average vehicular density is greatest mid-week (Tuesdays, Wednesdays, and Thursdays), ranging from approximately 4,000 to 5,000 vehicles/lane mile. In comparison, volumes are lower on Mondays and Fridays, with Friday exhibiting the lowest average density at approximately 2,000 to 3,000 vehicles.

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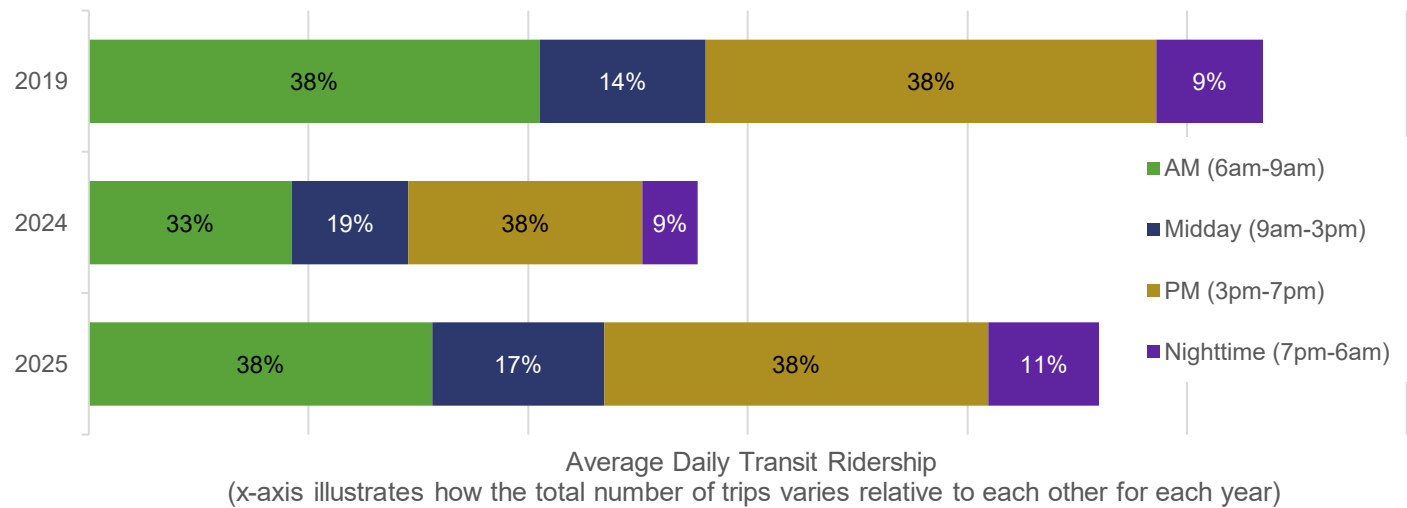
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 **Even as transit trips increased from 2024 to 2025, ridership has maintained a consistent time-of-day distribution from 2019 through 2025**

Transit ridership continues to recover after significant declines due to the pandemic and shifts in hybrid and remote work trends. From 2019 to 2024, transit ridership on the WMATA Orange and Silver lines, VRE Manassas Line, OmniRide, Fairfax Connector, and Loudoun County Transit commuter buses that utilize I-66 recovered approximately half of their pre-pandemic ridership as shown by the length of the bars in **Figure 19**. Transit ridership between 2024 and 2025 almost doubled, recovering to approximately 85% of pre-pandemic ridership.

Figure 19 also illustrates the distribution of ridership across an average day in 2019, 2024, and 2025. While the average ridership has changed over time, the distribution of ridership throughout daily time periods is relatively similar. AM and PM periods still experience the greatest share of riders, which indicates that many users along this corridor are still using transit exclusively for peak commuting and not for other trip purposes that are often spread throughout the day. This may also reflect the variation in service (coverage and frequency) available during the peak periods versus non-peak hours.

Figure 19: I-66 Transit Ridership by Time of Day



(Source: WMATA, OmniRide, VRE, Loudoun County Transit, Fairfax Connector)

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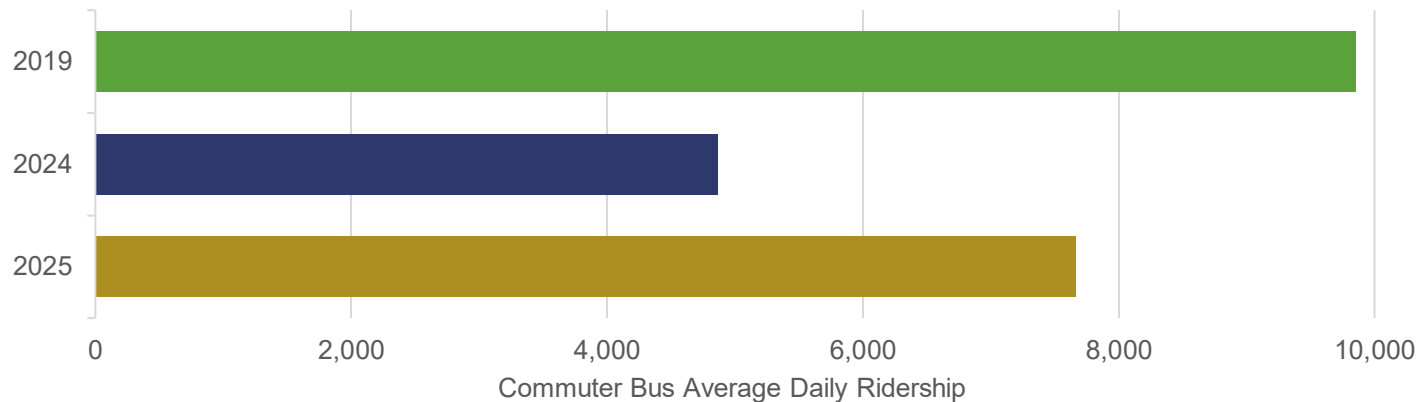
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Commuter bus services have shifted since the pandemic, and ridership is continuing to recover

Commuter bus routes have evolved since 2019 to reflect changing commuting patterns, adapting origins and destinations to park-and-ride locations, and key employment centers. Many of the commuter bus trips that serve I-66 commuters originate along I-66 *Outside the Beltway* and are destined for key employment centers in Arlington County and Washington, DC. It is important to note that many of the commuter bus routes that were in operation in 2019 have experienced some change in service (route and/or frequency) compared to 2025. **Figure 20** shows a modest increase in I-66 corridor commuter bus ridership in 2025, moving closer to 2019 ridership. Commuter bus ridership is closely tied to service frequency. Many transit operators described overcrowding on existing routes, suggesting ridership could increase if additional trips were provided.

Figure 20: I-66 Corridor Commuter Bus Average Daily Ridership



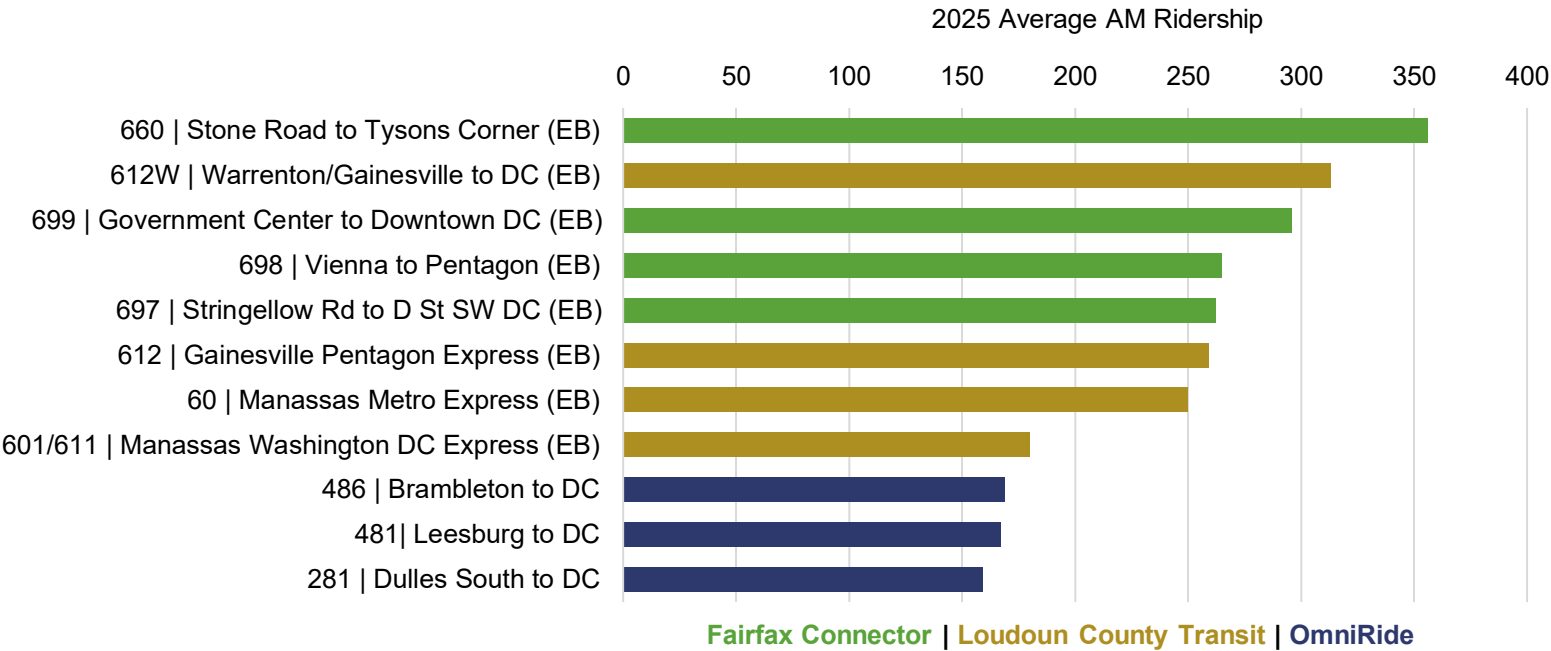
(Source: Fairfax, OmniRide, LCT Spring 2019, 2024, and 2025 average daily ridership for routes serving commuters along the I-66 corridor)

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Existing commuter bus routes along the I-66 corridor with the greatest ridership in 2025 are shown in **Figure 21**.

Figure 21: Post-Pandemic Transit Average Daily Ridership



(Source: Fairfax Connector, OmniRide, Loudoun County Transit 2024 Ridership Data)

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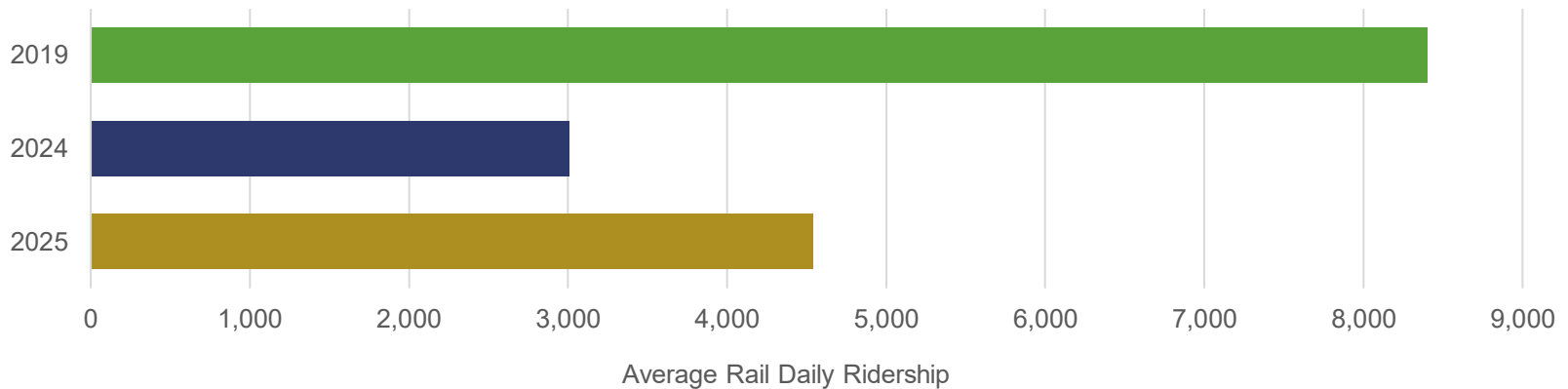
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Rail trips have increased significantly from 2024 to 2025

In the I-66 corridor, VRE and Metro Rail provide rail connections for riders both *Inside the Beltway* and *Outside the Beltway*. Both Metro Rail and VRE ridership increased significantly from 2024 to 2025, recovering to 90% and 55% of 2019 ridership respectively. **Figure 22** and **Figure 23** illustrate the increases for VRE's average daily rail ridership on the Manassas Line and Metro Rail's average daily ridership for trips starting and/or ending at stations along the Orange and Silver lines in Virginia.

Figure 22: Average Daily Ridership for VRE Commuter Rail in the I-66 Corridor

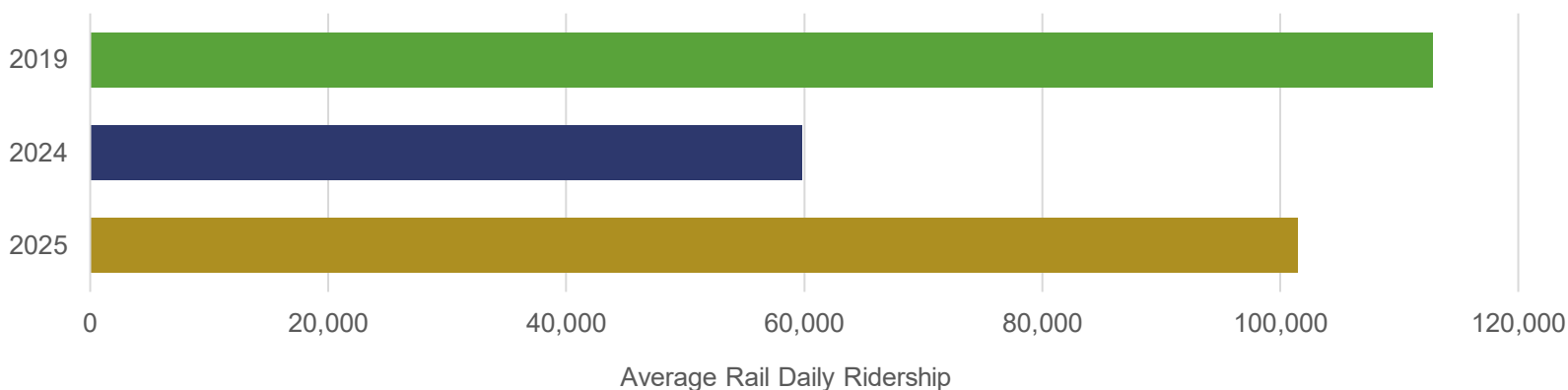


(Source: VRE 2019, 2024, and 2025 Ridership Data. Includes average weekday daily ridership for all trips starting or ending along the Manassas VRE Line in Virginia)

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Figure 23: Average Daily Ridership for Metro Rail in the I-66 Corridor



(Source: Metro Rail 2019–2020 & 2023–2024: January through March Ridership Data and Metro Rail 2025: April Ridership Data. Includes average weekday daily ridership for all trips starting and/or ending at stations along the Silver and Orange lines in Virginia)

Metro Rail (Orange and Silver line) and VRE (Manassas Line) origins and destinations are similar between 2019, 2024, and 2025. Nearly all the morning period top origin and destination pairs end at stations in Washington, DC. In 2025, the origins of the top Metro Rail AM OD pairs include Vienna, Ballston, Rosslyn, and Courthouse, all destined for Farragut West. Foggy Bottom, McPherson Square, and Metro Center are other common AM destinations for Metro Rail trips. Along the VRE Manassas Line, in 2025 most riders got onto the train at either the Broad Run, Manassas, and Burke Center stations. The majority of riders got off at the L'Enfant Station, with Union Station and Crystal City being the second and third most popular stations for exits, respectively.

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Vanpool trips complement the existing transit network in the I-66 corridor

Vanpooling, carpooling, and “slugging” along the I-66 corridor have fluctuated over time. Data on HOV usage offers some insight into these shared-ride patterns, as do formal vanpool and carpool programs that track participation. As discussed previously, the HOV share of vehicles on I-66 decreased from pre-pandemic levels, though it has been consistent between 2024 and 2025. OmniRide vanpool data shows a slight increase of 9 additional vanpools and 45 additional people utilizing vanpools from 2024 to 2025. The top origins and destinations for these vanpools are shown below in **Table 2**. In addition to the carpools and vanpools formally tracked, there are informal carpools and vanpools organized within workplaces, neighborhoods, and park-and-ride lots that also travel through the corridor.

Table 2: OmniRide Vanpool Top Origins and Destination Pairs

Top OD Pairs	Count of Riders
Ashburn – Arlington County	34
Front Royal – Fairfax County	22
Gainesville – DC	18
Winchester – DC Linden – Fairfax County	17
Centreville – DC Warrenton – Fairfax County	15

(Source: OmniRide vanpool data for June 2025)

Beyond the trips captured in HOV data and those tracked by agencies managing vanpool and carpool programs, many of which offer rider incentives, there are also informal carpools and vanpools traveling through the corridor.

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Future Corridor Trends

Growth Overview

Commuters consider travel time, congestion, cost, and other factors when determining their daily route and mode of travel. Changes in population and employment growth can impact trip commuting patterns and OD pairs. As new employment centers continue to emerge along the I-66 corridor, travel patterns may shift, moving trips closer to employment centers or other activity centers emerging for travelers. The MWCOG regional traffic forecasting model (Round 10.0 Cooperative Forecast approved by the

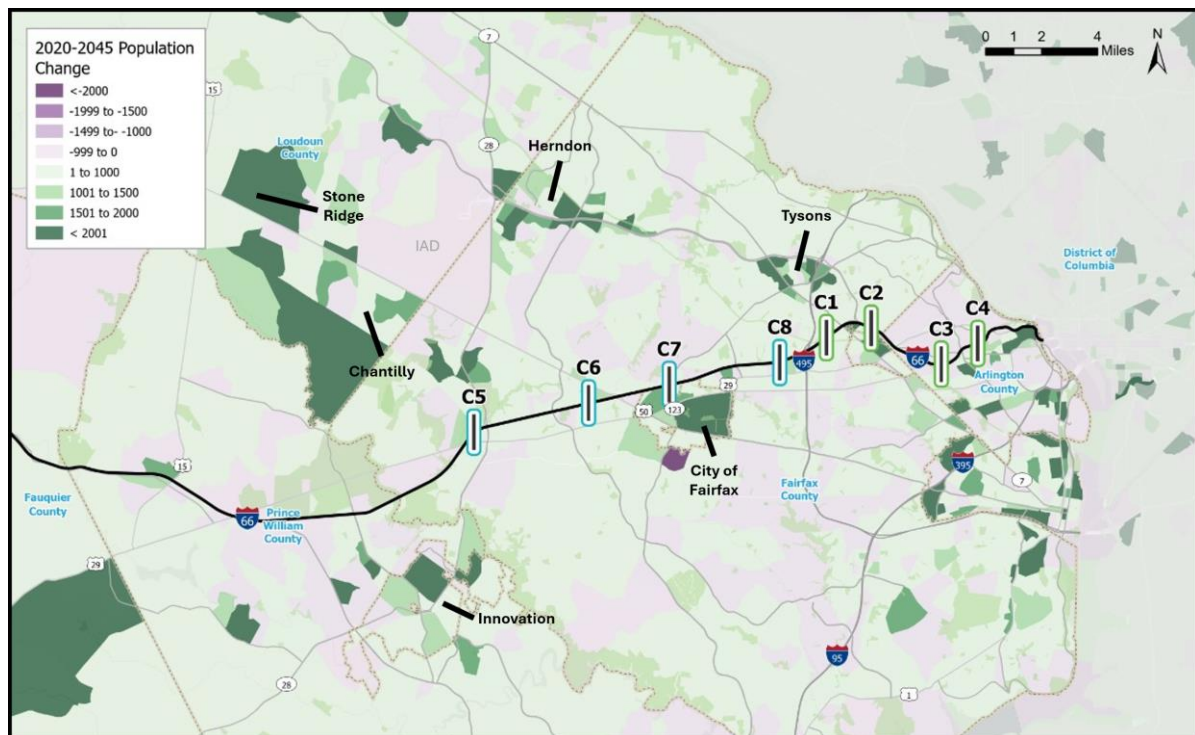


Key Takeaways: Growth Overview

- Total population growth between 2020 and 2045 is projected to be the greatest in the Stone Ridge, Chantilly, Herndon, Tysons, City of Fairfax, and Innovation (in Prince William County/City of Manassas) areas.
- Total employment growth between 2020 and 2045 is projected to be the greatest in Dulles, Herndon, Tysons, and Innovation (in Prince William County/City of Manassas) areas.

COG Board of Directors June 14, 2023) incorporates local land use plans and growth projections into a regional model to understand the relative long-term growth in the region. The model projects significant population growth between 2020 and 2045 in areas of Fairfax, Loudoun, and Prince William Counties. **Figure 24** illustrates the population growth that will likely affect travel along the I-66 corridor. Growth is concentrated in areas including Tysons, the Dulles Toll Road corridor, Stone Ridge/Chantilly areas, and the City of Fairfax. Data is reported by traffic analysis zone (TAZ).

Figure 24: Projected Population Growth 2020–2045



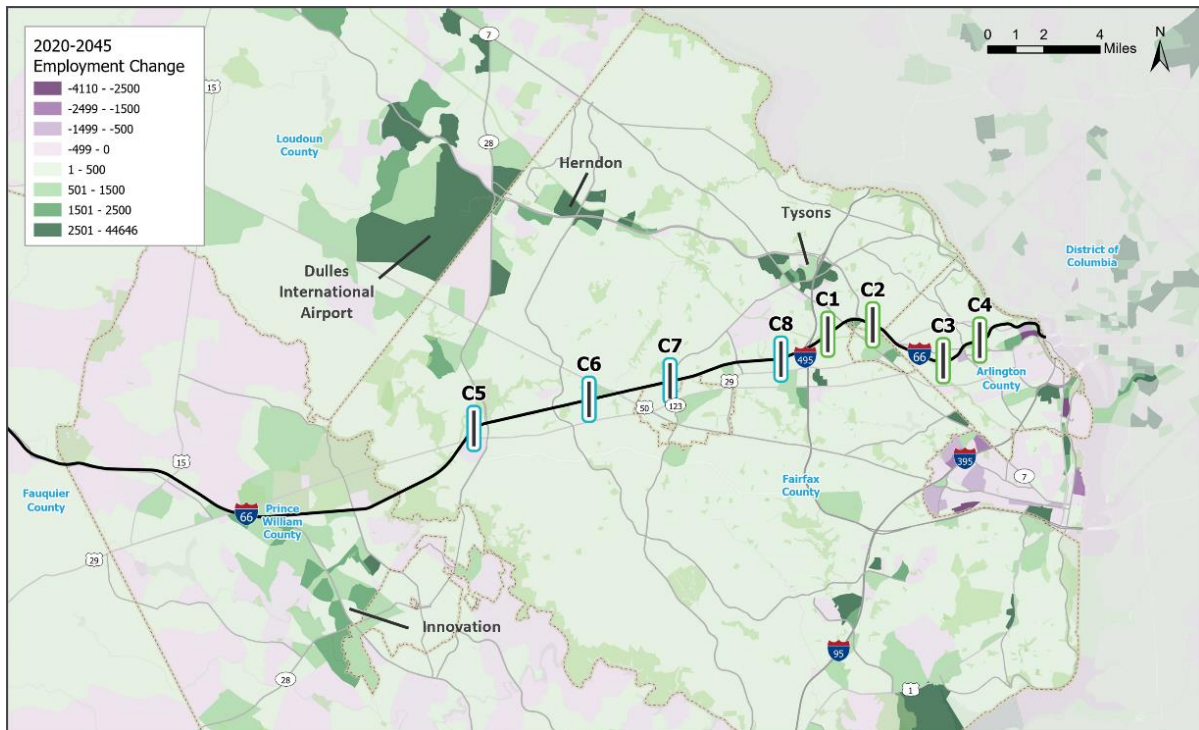
(Source: MWCOG Model Round 10.0 Cooperative Forecast, TAZ Totals)

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Projected employment growth also shows future development concentrated outside of the region's inner core. **Figure 25** shows anticipated employment growth between 2020 and 2045. Future employment growth is concentrated in the Dulles and Reston areas, Tysons, and the Innovation District in Prince William County/City of Manassas.

Figure 25: Employment Growth 2020–2045



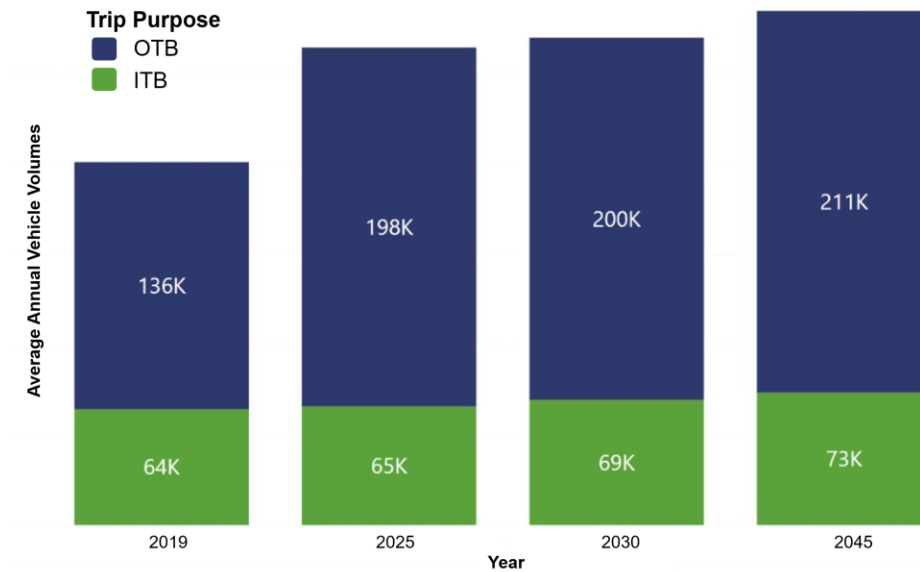
(Source: MWCOG Model Round 10.0 Cooperative Forecast, TAZ Totals)

Travel flows are anticipated to continue evolving with changes to land use, population, and employment. As these changes occur, the corridor's transit operators have the opportunity to shift routes and add capacity to meet this changing demand. Areas with growing employment and residential markets outside the region's traditional inner core are projected to experience an increase in trips. Modeling projections show future vehicular volumes traveling *Inside the Beltway* will remain similar to current volumes while growing on *Outside the Beltway* portions, shown in **Figure 26**.

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Figure 26: Forecasted Average Annual Vehicle Volumes ITB and OTB (AM and PM Only, Between Falls Church and Fair Oaks)

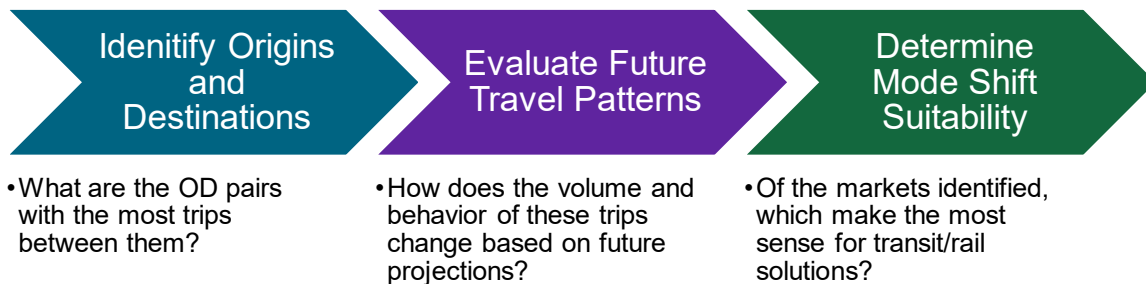


(Source: MWCOG Round 10.0 Cooperative Forecast TAZ Totals)

Analysis Methodology

The following analyses aim to understand the changes in origins and destinations throughout the I-66 corridor, both *Inside the Beltway* and *Outside the Beltway*. The analysis used the MWCOG Cooperative Forecast Version 10.0 to model future travel trends along the corridor.

Figure 27: Methodology to Analyze Future Corridor Trends



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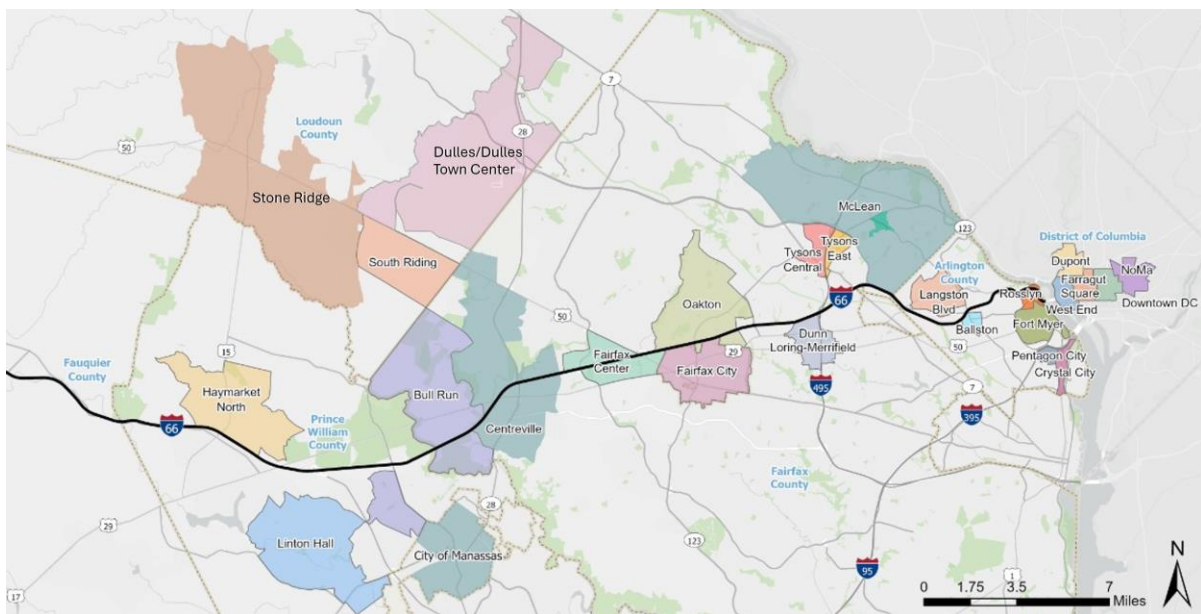
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The methodology, shown in **Figure 27**, begins by identifying the top OD pairs for vehicular trips using a portion of the I-66 corridor during tolling hours across the region between 2025 and 2045. To better understand the origins and destinations of both current and anticipated future trip levels, volume changes between 2025 and 2045 were evaluated. The final step focuses on determining the OD pairs that could be served by projects funded through either Commuter Choice or the I-66 Outside the Beltway programs. It is important to note that this analysis focused on larger markets in which a realistic number of trips could leverage non-SOV modes.

Origins and destinations are defined first by the MWCOG Activity Centers and undefined locations are then correlated to Census designated places.

Figure 28 illustrates the MWCOG activity centers or census designated places, in cases where they are not defined as MWCOG activity centers. These activity center and census designated place geographies are used to consolidate trips within their boundaries and provide useable origin and destination names. The centroids of these areas represent the origin and destination dots on the following maps.

Figure 28: Origin and Destination Markets



(Source: MWCOG Activity Centers and Census Designated Places)

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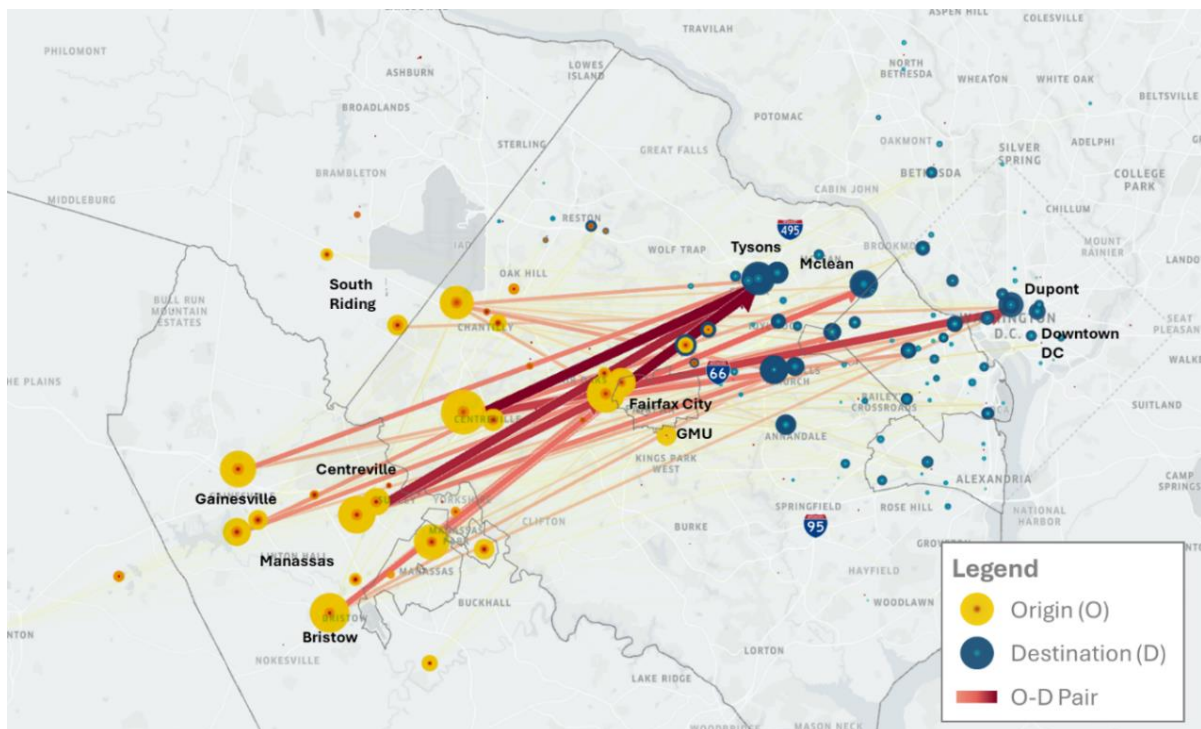
Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Identify Top Origins and Destinations

In the following figures the origins, denoted by yellow-orange dots, and destinations, denoted by blue dots, are sized based on how many trips are forecast to end or begin in the TAZ that use either a portion of I-66 *Inside the Beltway* or *Outside the Beltway* during the AM peak period. The intensity and thickness of the red line between the pairs indicate the number of trips traveling between the two specific TAZs.

Figure 29 and **Figure 30** illustrate the OD pairs for I-66 *Outside the Beltway* segments projected for 2025 and 2045. The top origin TAZs are mostly west of Route 50 and destined for TAZs west of Route 7.

Figure 29: I-66 Outside the Beltway Top OD Pairs for 2025

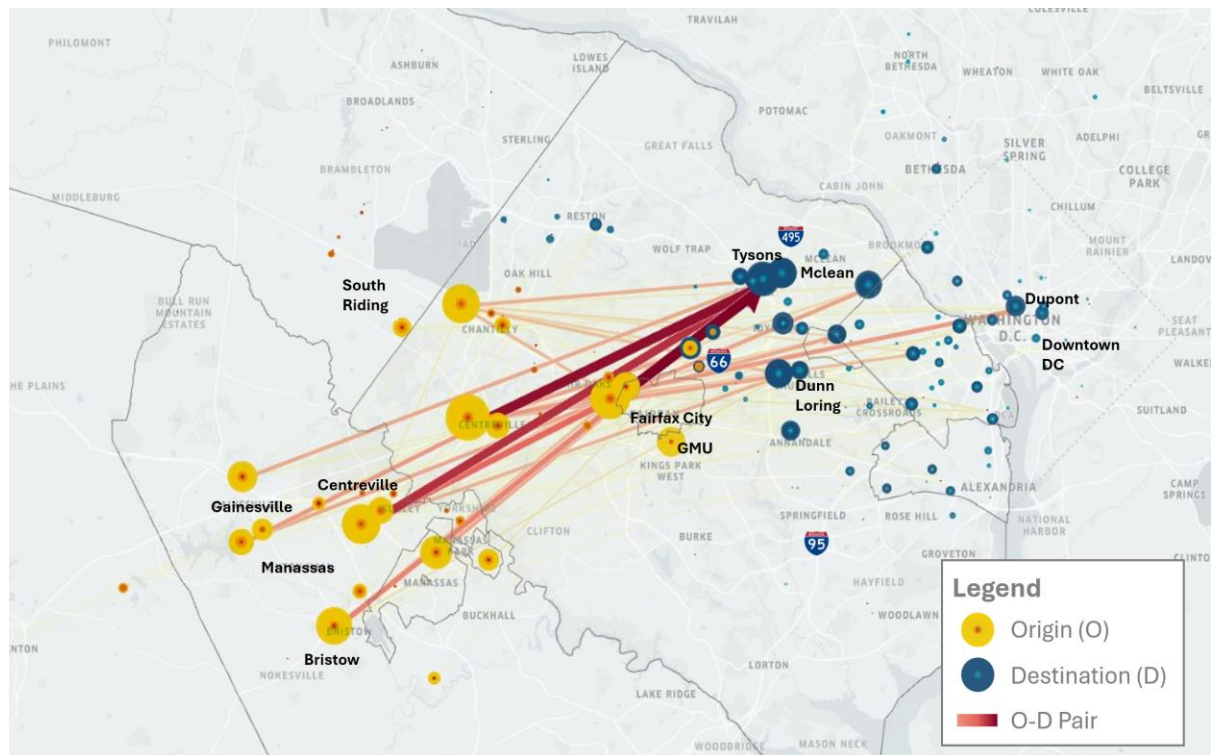


(Source: MWCOC Model, Round 10.0 Cooperative Forecast, AM period)

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Figure 30: I-66 Outside the Beltway Top OD Pairs for 2045



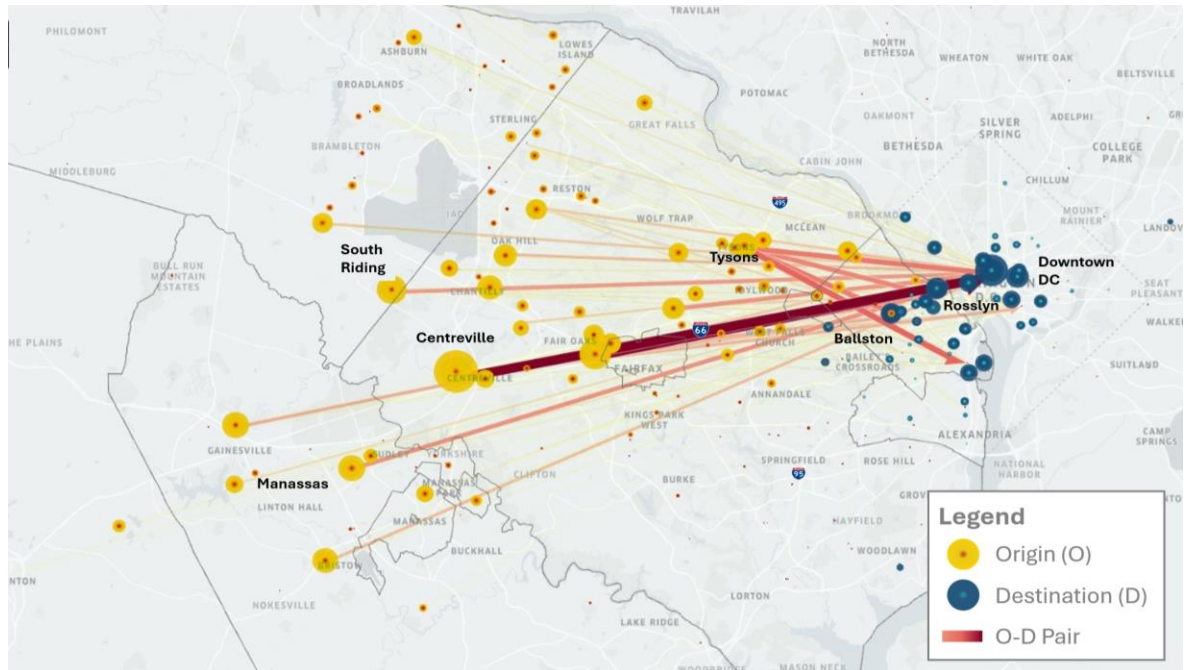
(Source: MWCOC Model Round 10.0 Cooperative Forecast, AM period)

Figure 31 and **Figure 32** show the top OD pairs for *Inside the Beltway* segments in 2025 and 2045. Significant growth in trips both beginning and ending in the Tysons area for both *Outside the Beltway* and *Inside the Beltway* segments is anticipated, illustrating the area's future as both a residential and employment hub.

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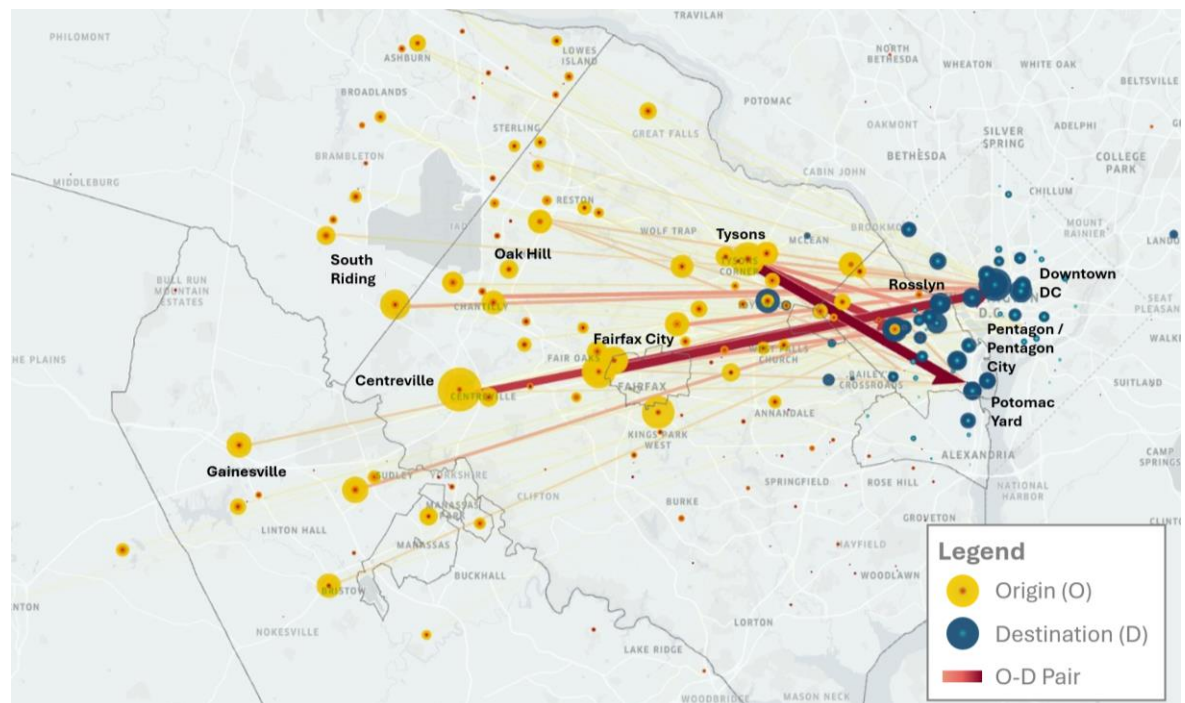
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Figure 31: I-66 Inside the Beltway Top Origins and Destinations for 2025



(Source: MWCOG Model, Round 10.0 Cooperative Forecast, AM period)

Figure 32: I-66 Inside the Beltway Top Origins and Destinations for 2045



(Source: MWCOG Model, Round 10.0 Cooperative Forecast, AM period)

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Future Travel Patterns

The top origins and destinations along the inside and outside the beltway portions of I-66 vary. The following sections identify the modeled emerging and evolving markets specific to vehicle trips traveling along their respective portions of the I-66 corridor.



Key Takeaways: Future Travel Patterns

- Top travel markets are relatively similar between 2025 and 2045, though destinations shift west towards Tysons and Fairfax County in 2045.
- Future volumes for OD pairs traveling on the inside the beltway portion of I-66 generally decrease between 2025 and 2045, whereas OD pairs utilizing I-66 outside the beltway generally increase from 2025 to 2045.

I-66 Outside the Beltway Origins and Destination Markets

Top markets for projected vehicle trips traveling along a segment of I-66 *Outside the Beltway* begin further west than trips that take I-66 *Inside the Beltway*. Some of these trips are projected to end before the I-495 interchange, while others are shifted from destinations in the Downtown DC core to emerging employment centers in Tysons and Dunn Loring. Top OD pairs include Centreville to Tysons and Fairfax Center (area west of City of Fairfax detailed in **Figure 28**) to Tysons. **Table 3** and **Figure 33** detail the top origin and destination pairs for vehicle trips utilizing a segment of I-66 *Inside the Beltway* during the morning peak period from the MWCOG model. Many of these origin and destination pairs are reflected as a reverse pair in the afternoon peak period. For example, the top OD pair, Centreville and Tysons Central/East, is estimated to contribute 1900 vehicles to I-66 eastbound outside the beltway trips during the morning peak period. Showing a reciprocal trend in the afternoon peak period, 2025 westbound trips are anticipated to begin in Tysons (includes Tysons Central and Tysons East as shown in **Figure 28**) to Centreville as shown in **Table 4** and **Figure 34**.

Table 3: Projected Vehicle Volumes for Top AM OD Pairs on I-66 Outside the Beltway

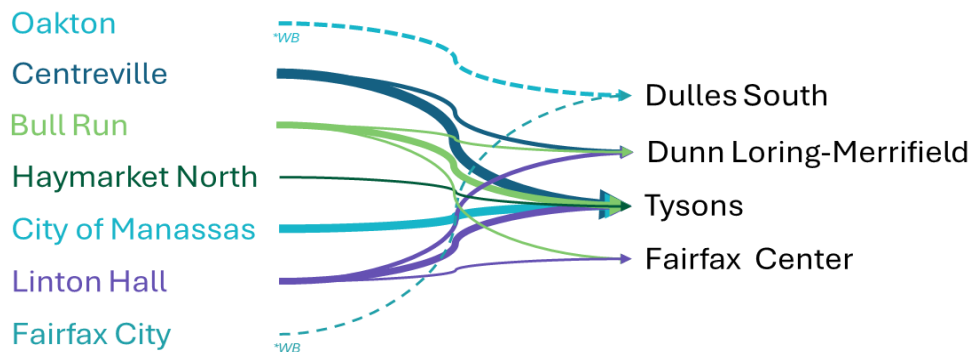
AM OD Pair	2019	2025	2045	Difference (2019–2045)
Centreville – Tysons	850	1550	1900	+ 1050
City of Manassas – Tysons	850	1050	1200	+ 350
Linton Hall – Tysons	1150	1350	1400	+ 250
Bull Run – Tysons	800	1100	1300	+500
Oakton – Dulles South * WB	500	650	750	-
Centreville – Dunn Loring-Merrifield	600	700	700	+ 100
Linton Hall – Dunn Loring-Merrifield	800	900	700	- 100
Bull Run – Dunn Loring-Merrifield	550	750	650	+ 100
Haymarket North – Tysons Central	750	1250	1050	+ 300
Fairfax City – Dulles South *WB	300	450	650	-
Bull Run – Fairfax Center	350	600	550	+ 200
Linton Hall – Fairfax Center	500	700	550	+ 50

(Source: MWCOG Model Round 10.0 Cooperative Forecast, AM, Eastbound unless otherwise noted)

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Figure 33: Projected Vehicle Volumes for Top AM OD Pairs on I-66 Outside the Beltway



Note: The thickness of the line corresponds to the magnitude of the trips traveling between the origin and destination. The exact magnitude is shown in Table 4.

(Source: MWCOG Model Round 10.0 Cooperative Forecast, AM, Eastbound unless otherwise noted)

Table 4: Projected Vehicle Volumes for Top PM OD Pairs on I-66 Outside the Beltway

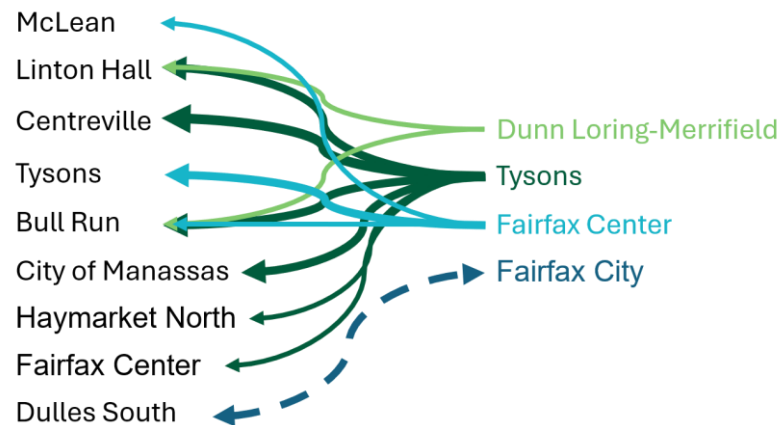
PM OD Pair	2019	2025	2045	Difference (2019–2045)
Tysons – Centreville	1450	1850	2350	+ 900
Fairfax Center – Tysons *EB	250	1200	1700	+ 1450
Tysons – Bull Run	750	1300	1600	+ 850
Tysons – City of Manassas	850	1400	1600	+ 750
Tysons – Linton Hall	1000	1500	1600	+ 600
Dulles South – Fairfax City *EB	600	650	950	+ 350
Fairfax City – Dulles South	400	700	850	+ 450
Fairfax Center – Bull Run	500	900	850	+ 350
Tysons – Fairfax Center	350	1300	1500	+ 1200
Tysons – Haymarket North	650	1350	1300	+ 650
Fairfax Center – McLean * EB	700	850	800	+ 100
Dunn Loring-Merrifield – Bull Run	700	850	800	+ 100
Dunn Loring-Merrifield – Linton Hall	850	1000	800	- 50

(Source: MWCOG Model Round 10.0 Cooperative Forecast, PM, Westbound unless otherwise noted)

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Figure 34: Projected Vehicle Volumes for Top PM OD Pairs on I-66 Outside the Beltway



Note: The thickness of the line corresponds to the magnitude of the trips traveling between the origin and destination. The exact magnitude is shown in Table 5.

(Source: MWCOG Model Round 10.0 Cooperative Forecast, PM, Westbound unless otherwise noted)

I-66 Inside the Beltway Origin and Destination Markets

Investigating OD pairs that travel along some portion of I-66 *Inside the Beltway* during the AM tolling period, many of the origins are similar to that of *Outside the Beltway* segments, but with destinations in Arlington and Washington, DC. The top origin markets include Centreville, Fairfax Center, and Tysons. Top AM destinations include Farragut Square, Downtown DC, and the Rosslyn/Ballston corridor. In general, many of the projected volumes are expected to decrease by 2045, though trips beginning in Tysons are a notable exception. The majority of the top PM OD pairs reflect the reverse commute (from the AM trends), with additional destinations such as McLean and Oakton. The top AM OD pairs are detailed in **Table 5** and PM OD pairs are detailed in **Table 6** and **Figure 36**.

Table 5 and **Figure 35** below and PM OD pairs are detailed in **Table 6** and **Figure 36**.

Table 5: Projected Vehicle Volumes for Top AM OD Pairs on I-66 Inside the Beltway

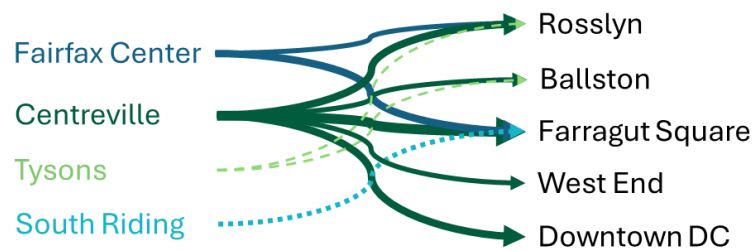
Top AM OD Pair	2019	2025	2045	Difference (2019–2045)
Centreville – Farragut Square	550	600	400	- 150
Centreville – Downtown DC	350	300	200	- 150
Fairfax Center – Farragut Square	300	350	250	- 50
Centreville – Rosslyn	250	300	200	- 50
Centreville – Ballston	150	300	200	+ 50
Fairfax Center – Rosslyn	250	250	200	- 50
Centreville – West End	250	250	150	- 100
South Riding – Farragut Square	250	300	200	- 50
Tysons – Ballston	50	300	250	+ 200
Tysons – Rosslyn	50	250	150	+ 100

(Source: MWCOG Model Round 10.0 Cooperative Forecast, AM Tolling Period, Eastbound Only)

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Figure 35: Projected Vehicle Volumes for Top AM OD Pairs on I-66 Inside the Beltway



Note: The thickness of the line corresponds to the magnitude of the trips traveling between the origin and destination. The exact magnitude is shown in Table 6.

(Source: MWCOG Model Round 10.0 Cooperative Forecast, AM, Eastbound)

Table 6: Projected Vehicle Volumes for Top PM OD Pairs on I-66 Inside the Beltway

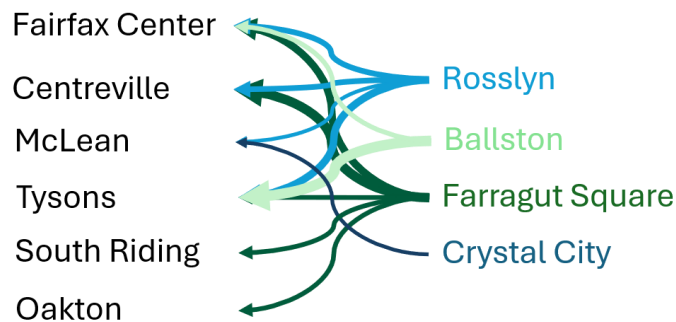
Top PM OD Pair	2019	2025	2045	Difference (2019-2045)
Farragut Square – Centreville	550	600	400	- 150
Farragut Square – Fairfax Center	300	450	350	+ 50
Rosslyn – Fairfax Center	250	350	300	+ 50
Rosslyn - McLean	400	200	200	- 200
Rosslyn – Tysons	200	400	550	+ 350
Ballston – Tysons	400	550	750	+ 350
Ballston – Fairfax Center	200	250	250	+ 50
Rosslyn – Centreville	250	300	250	-
Farragut Square – Oakton	250	300	200	- 50
Farragut Square – South Riding	200	300	200	-
Crystal City - McLean	300	200	200	- 100

(Source: MWCOG Model Round 10.0 Cooperative Forecast, PM Tolling Period, Westbound Only)

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Figure 36: Projected Vehicle Volumes for Top PM OD Pairs on I-66 Inside the Beltway



(Source: MWCOG Model Round 10.0 Cooperative Forecast, PM Tolling Period, Westbound Only)

Note: The thickness of the line corresponds to the magnitude of the trips traveling between the origin and destination. The exact magnitude is shown in Table 7.

Jurisdiction Specific Origins and Destinations

To better understand the emerging markets within specific jurisdictions and help identify potential future projects for one or both grant programs, travel demand was analyzed on a jurisdiction-by-jurisdiction basis. illustrates the top vehicular origin (in each jurisdiction) and destination pairs for vehicular trips utilizing either I-66 *Inside the Beltway* or *Outside the Beltway* during tolling hours in 2030 and 2045. While these are the top markets for each jurisdiction, they do not all have the same quantity of projected trips. In general, Fairfax, Loudoun, and Prince William Counties have the highest projected trip volumes, increasing substantially by 2045.

Determine Mode Shift Suitability

Overview

Figure 37 provides a high-level overview of the process used to identify which of the leading travel markets may be good candidates for a potential mode shift to transit and/or rail. To identify the magnitude of the available market, a mode shift propensity factor (percentage) is applied to the travel markets. The mode shift propensity is a combination of seven demographic and infrastructure factors, shown in **Table 7**, that typically indicate a greater likelihood to shift from SOV to transit and/or rail. Other factors such as in-person/hybrid work requirements, weather, tolling costs, and network congestion can significantly affect individuals' commuting and travel choices. However, they are not easily quantified and were not included in this analysis. The key target markets identified through this analysis will be explored in greater detail in the following section.

Figure 37: Identifying the Target Markets

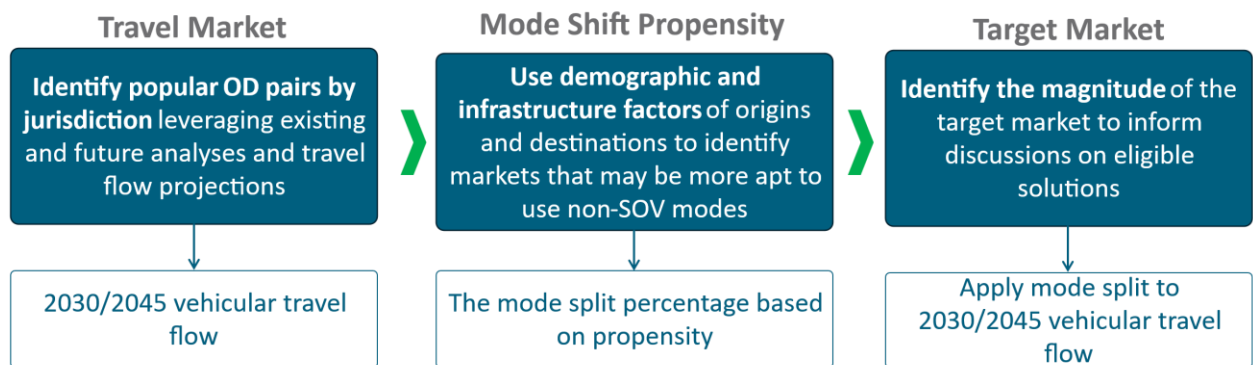


Table 7: Demographic and Infrastructure Factors of the Mode Shift Propensity

Demographic/Infrastructure Factors (7)		To Identify
	OD pair currently served by transit	<i>Existing propensity</i>
	Origin above 75th percentile (relative to NOVA) of share of households (HH) with access to a car based on LEHD Employment Data 2022	<i>Potential park-and-ride lot users</i>
	Origin above 75th percentile (relative to NOVA) of income per capita based on ACS 5-year census estimates	<i>Potential commuter bus users and users who may pay the tolls</i>
	Origin above 75th percentile (relative to NOVA) of share of zero-car HH's based on ACS 5-year census estimates	<i>Transit-dependent populations</i>
	High-capacity transit within 0.5 miles of origin	<i>Users near existing transit</i>

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Demographic/Infrastructure Factors (7)		To Identify
	Park-and-ride within 2 miles of origin	<i>Users near existing park-and-ride lots</i>
	Paid/Limited Parking at destination	<i>Users with higher parking costs</i>

Future Target Markets

To identify the future target markets, the study team analyzed the largest travel markets and highest propensities for mode shift projected for 2030 and 2045. The aim was to identify OD pairs with the greatest target market, which is calculated by multiplying the travel market size by a mode shift percentage based on the mode shift propensity.



Key Takeaways: Future Target Markets

- The greatest target markets often originate *Outside the Beltway* in Prince William, Fairfax, and Loudoun Counties and end at a variety of destinations across Northern Virginia and Washington, DC.

The top target markets are primarily represented by origins *Outside the Beltway*. Many of the target markets have origins in Fairfax County, Loudoun County, and Prince William County and are destined for Fairfax County, Arlington County, and Washington, DC.

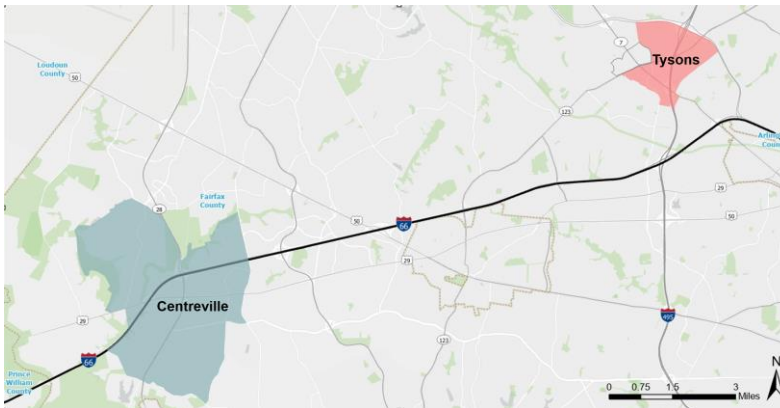
The study team engaged agency and jurisdiction stakeholders to review and discuss the top markets for each of the jurisdictions, which are detailed in **Appendix C: Jurisdiction by Jurisdiction Top Origins and Destination Pairs and Propensity**. The following section compiles the top future markets regardless of agency or jurisdiction. The following markets are included in the discussion:

- Centreville to Tysons
- Dulles South to Tysons
- Linton Hall to Tysons
- Linton Hall to Fairfax Center/City of Fairfax
- Dulles Town Centre/Dulles to Farragut Square/Downtown DC
- Centreville to Farragut Square/Downtown DC
- Centreville to Rosslyn/Ballston

The next section discusses each of the OD pairs independently. Within each subsection, icons indicate the travel market, target market, and relevant demographic or infrastructure factors. The discussion also provides additional mapping and context regarding current multimodal considerations and future growth. It should be noted that these future target markets are based on projections from the MWCOG model and will likely be dynamic as policies and travel conditions evolve. Eligible grantees may apply for projects that serve markets not covered in the following discussion.

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Centreville to Tysons

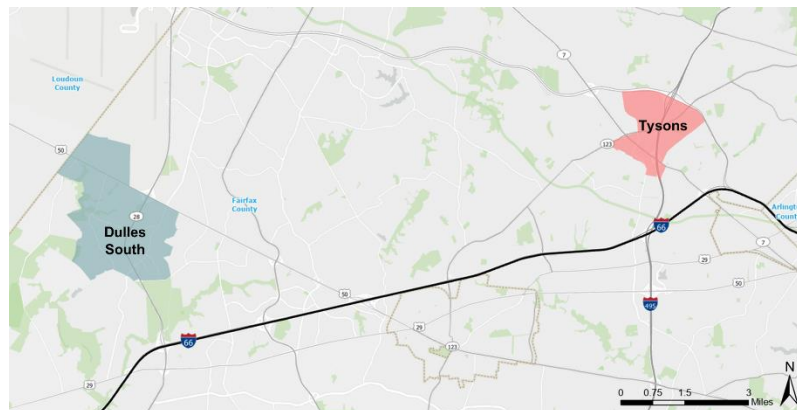
Travel Market (AM + PM): 2030:
3000 | 2045: 4000

Target Market: 200 – 400

Mode Shift Propensity: Medium



Vehicular trips traveling between Centreville and Tysons may utilize I-66 *Outside the Beltway*. Parallel routes include US Route 50 to Chain Bridge Road/Maple Road or Cedar Lane. The OmniRide Manassas Metro Express route currently connects riders between the Balls Ford Lot and Tysons, though users from the Centreville area would need to drive the opposite direction to access the service. Additionally, Loudoun County Transit provides service from the Stone Road and Sully Road Park-and-Ride Lots to the Herndon Metro Rail Station, which provides access via the Silver line to Tysons. Access to park-and-ride locations, existing transit service, and paid/limited parking at the destination result in a *medium* mode shift propensity. Growth is expected to be significant through 2045.



Dulles South to Tysons

Travel Market (AM + PM) |
2030: 1700 / 2045: 1700

Target Market: 115 – 200

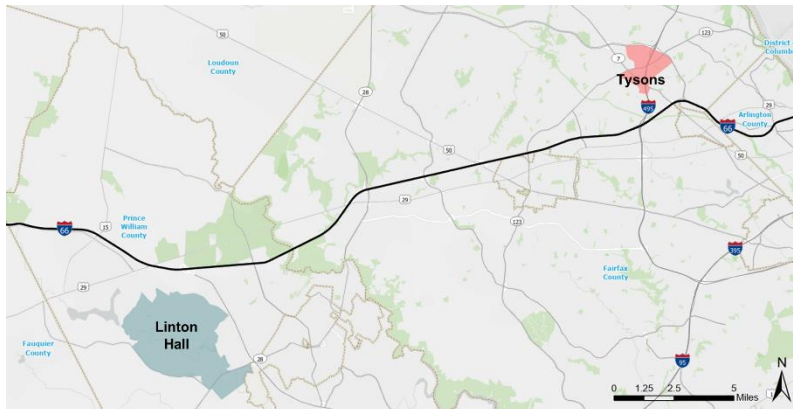
Mode Shift Propensity: Medium



Vehicular trips traveling between Dulles South and Tysons may use I-66 *Outside the Beltway* general purpose or express lanes, VA 267 (also tolled), or the local network. Fairfax Connector provides service from the Stone Road and Sully Road Park-and-Ride Lots to the Herndon Metro Rail Station, which provides access via the Silver line to Tysons. Access to park-and-ride locations, existing transit service, and paid/limited parking at the destination result in a *medium* mode shift propensity. Growth is projected to remain relatively constant between 2030 and 2045.

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Linton Hall to Tysons

Travel Market (AM + PM):

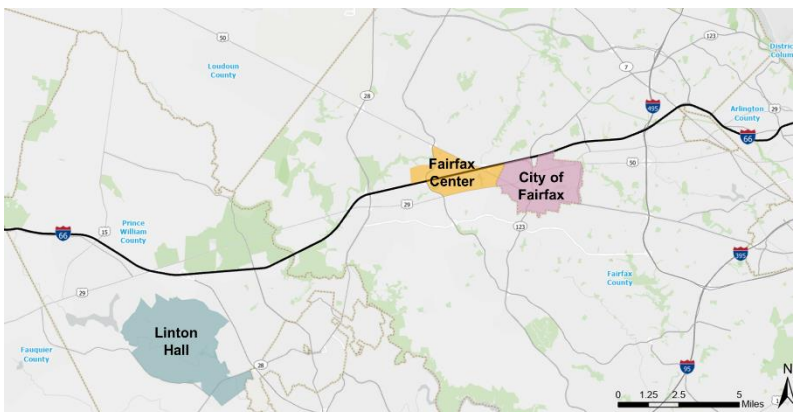
2030: 1700 / 2045: 1800

Target Market: 110 – 200

Mode Shift Propensity: Medium



Vehicular trips traveling between Linton Hall and Tysons may utilize the I-66 *Outside the Beltway* general purpose or express lanes. Parallel non-interstate routes include US Route 29 to Chain Bridge Road. The OmniRide Manassas Metro Express route currently connects riders between the Balls Ford Lot and Tysons. There are a few commuter park-and-ride lots available to travelers including the University Blvd and Balls Ford lots. Greater access to more than one car per household, availability of park-and-ride options, and paid/limited parking at the destination result in a *medium* mode shift propensity. Growth in trips is anticipated through 2030 then will remain consistent through 2045.



Linton Hall to Fairfax Center/City of Fairfax

Travel Market (AM + PM) |

2030: 1600 / 2045: 1500

Target Market: 100 – 170

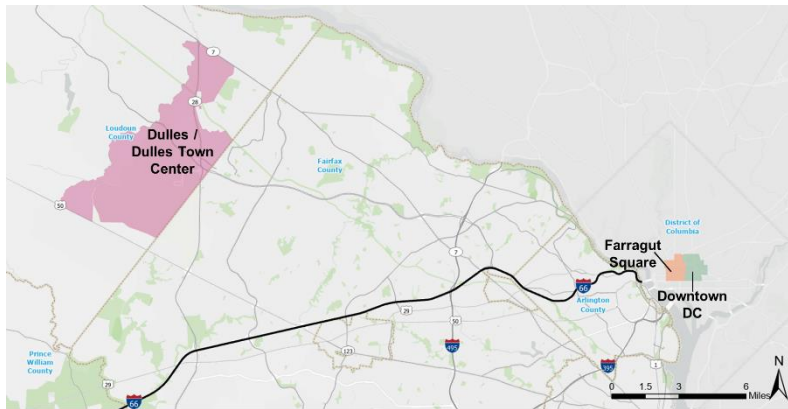
Mode Shift Propensity: Medium



Vehicular trips traveling between Linton Hall and City of Fairfax and/or Fairfax Center may use the I-66 *Outside the Beltway* general purpose or express lanes or US Route 29. There are a few commuter park-and-ride lots available to travelers including the University Boulevard and Balls Ford Lots, but no transit service currently exists linking this pair. Greater access to more than one car per household, availability of park-and-ride options, and paid/limited parking at the destination result in a *medium* mode shift propensity. Growth is anticipated to remain relatively constant from modeled 2025 trips through 2045.

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Dulles/Dulles Town Center to Farragut Square/Downtown DC

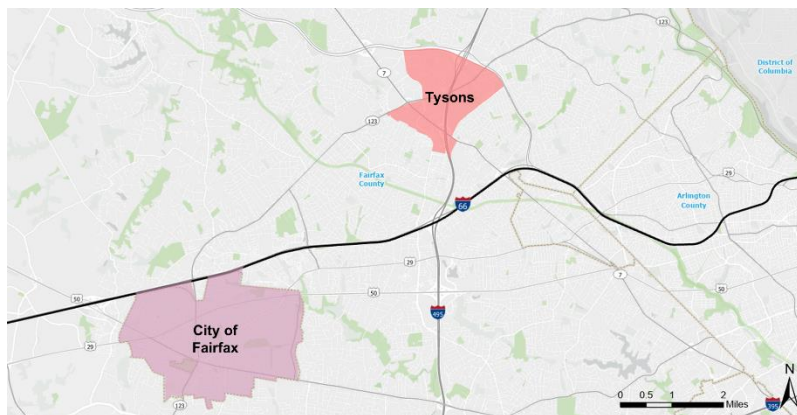
Travel Market (AM + PM) |
2030:1000 / 2045: 1400

Target Market: 80 – 150

Mode Shift Propensity: Medium



Vehicular trips traveling between Dulles and Dulles Town Center to Farragut Square and Downtown DC may use both the *Inside* and *Outside the Beltway* portions of I-66. This market is currently served by Loudoun County Transit Commuter Bus service from the Dulles Transit Center, local bus service to the Silver line, and the Silver line itself. Access to park-and-ride lots, high-capacity transit, and existing service result in a *medium* mode shift propensity. Moderate growth is anticipated between 2030 and 2045.



City of Fairfax to Tysons

Travel Market (AM+PM): 2030:
1100 / 2045: 1400

Target Market: 80 – 150

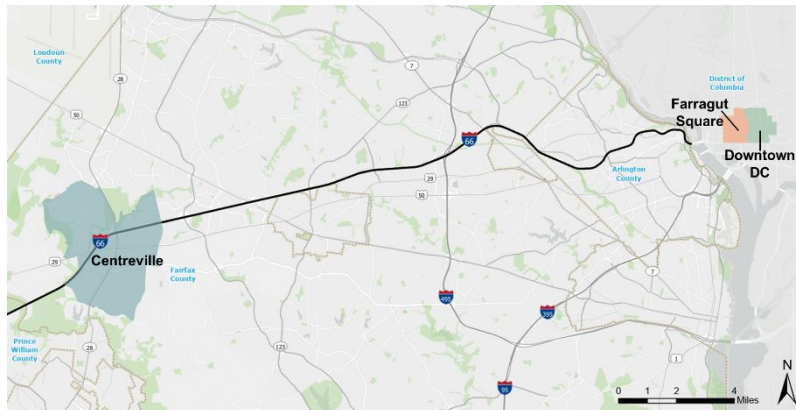
Mode Shift Propensity: Medium



Vehicular trips traveling between City of Fairfax and Tysons may utilize the *Outside the Beltway* portion of I-66 or Chain Bridge Road/Maple Road. Travelers may also utilize the Vienna – Fairfax – GMU Station to take the Metro Rail, though it requires a transfer from the Orange to the Silver line. The access to transit, availability of park-and-ride options, and paid/limited parking at the destination result in a *medium* mode shift propensity. Growth in trips is anticipated through 2030 and 2045.

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Centreville to Farragut Square/Downtown DC

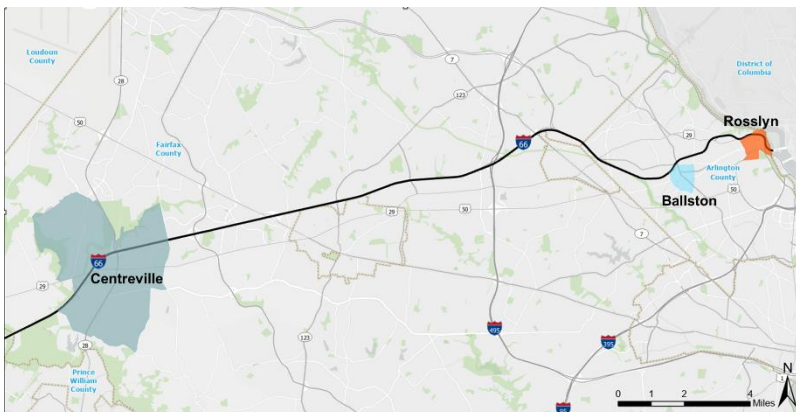
Travel Market (AM Only):
2030: 1000 / 2045: 750

Target Market: 55 -100

Mode Shift Propensity: Medium



Vehicular trips traveling between Centreville and Downtown DC may utilize one or both portions of I-66. Travelers have non-tolled options such as US Route 50 and US Route 29. Several non-direct transit options are available for travelers including Fairfax County buses serving the Vienna Metro Rail Station which provides access to Downtown DC via the Orange line, or buses serving the Herndon Metro Rail Station providing access via the Silver line. The existing transit service, availability of park-and-ride options, and paid/limited parking at the destination result in a *medium* mode shift propensity. The number of trips is anticipated to decrease slightly between 2030 and 2045.



Centreville to Rosslyn/Ballston

Travel Market (AM Only): 2030: 800 / 2045: 500

Target Market: 35 – 65

Mode Shift Propensity: Medium



Vehicular trips traveling between Centreville and the Rosslyn/Ballston corridor may utilize one or both portions of the I-66 corridor. Travelers have non-tolled options such as US Route 50 and US Route 29. Several non-direct transit options are available for travelers including Fairfax County buses serving the Vienna Metro Rail Station which provides access to downtown DC via the Orange line and buses serving the Herndon Metro Rail Station providing access via the Silver line. The existing transit service, availability of park-and-ride options, and paid/limited parking at the destination result in a *medium* mode shift propensity. The number of trips is anticipated to decrease slightly between 2030 and 2045.

Stakeholder Engagement



Key Takeaways

- The projects previously identified in local and regional plans and studies generally align with the travel demand identified in the existing and future conditions analysis.
- Projects from larger jurisdictions tend to better meet the program goals than projects from smaller jurisdictions.
- Operational and/or near-term projects tend to have more clearly defined timelines and costs than larger-scale capital projects.
- Jurisdictions highlighted unique project opportunities for the corridor including cross-jurisdictional partnerships, emerging technologies, and TOD.
- Jurisdictions identified considerations for successfully deploying transit along the corridor
- Planned bus rapid transit (BRT) projects serving the corridor provide an opportunity to make meaningful investments in longer-term, transformational mobility projects.
- Project implementation depends on a variety of factors such as design, procurement, and funding availability.
- Strategic, multi-agency coordination between infrastructure and transit service is necessary to maximize the efficiency and benefits of investments.
- Coordinated planning for projects along I-66 and parallel routes such as, US Route 29, US Route 50, Metro Rail Orange and Silver lines, and the VRE Manassas Line, will enhance efforts to move more people in the corridor.

Overview of Stakeholder Engagement Process

The study team engaged stakeholders from across the region to provide feedback on the needs and potential projects. This input helped to refine projects that may be eligible to apply for funding available through 2057 (I-66 Commuter Choice program) and 2065 (DRPT I-66 OTB program). Stakeholders included eligible applicants such as counties, towns, cities, and transit providers along with state and regional stakeholders. The first engagement was held in spring 2025 through in-person meetings with individual jurisdictions (at their headquarters and/or NVTC offices). The second engagement was held in fall 2025 to gather feedback on and refine the draft project list.

Spring One-on-One Meetings

Overview

After the existing and future conditions analysis, the study team engaged regional stakeholders. The purpose of the spring 2025 one-on-one meetings was to validate the findings and discuss emerging origins and destinations specific to each jurisdiction or agency. The study team met with the following 13 organizations for hour-long workshops:

- | | |
|-------------------------|-------------------------|
| • Arlington County | • WMATA |
| • City of Fairfax | • OmniRide |
| • City of Manassas Park | • Prince William County |
| • City of Manassas | • Town of Vienna |
| • City of Falls Church | • VDOT |
| • Fairfax County | • VRE |
| • Loudoun County | • VPRA |

Key Takeaways

The projects previously identified in local and regional plans and studies generally align with the travel demand identified in the existing and future conditions analysis

Jurisdictions, many of which conduct their own independent planning efforts, saw alignment between their studies and the findings of the existing travel pattern and future growth analysis. During the one-on-one meetings, many jurisdictions noted that the transit landscape is dynamic and rapidly changing. Travel patterns in the region also respond to changes in work-from-home policies, thus many transit providers experienced significant increases in ridership in spring 2025. Stakeholders' feedback about the significant changes experienced in spring 2025 prompted the study team to re-analyze existing conditions to reflect spring 2025 travel trends.

Projects from larger jurisdictions tend to better meet the program goals than projects from smaller jurisdictions

Smaller jurisdictions expressed difficulties finding projects that align with Commuter Choice policies and evaluation criteria surrounding person throughput. Many of the projects that smaller jurisdictions are advancing focus on safety and access infrastructure improvements as well as travel demand management programs. Staff highlighted the challenges in applying for and securing Commuter Choice funding for these types of projects, as their applications tend to be less competitive. Jurisdictions noted that partnerships with neighboring counties and/or transit providers are critical in providing transportation options for their residents and visitors.

Operational or near-term projects tend to have more clearly defined timelines and costs than larger-scale capital projects

Applicants identified short-term operational support as a key part of future applications. The group discussed larger capital projects, but overall applicants were less certain or had less detail on scope, timeline, or budget for these projects. Many of the larger capital projects are multijurisdictional or in early stages of planning, thus it may be more nebulous for a jurisdiction to identify how it may be funded in the future. Additionally, stakeholders highlighted challenges with the person throughput Commuter Choice criteria for capital projects in which the demand may not be present at the time of construction but expected to grow as the area develops.

Jurisdictions identified considerations for successfully deploying transit along the corridor

When discussing planned programs and projects, agencies identified considerations as projects are advanced to serve commuters in the corridor. These considerations include the following:

- Regional consistency in connecting bus transit to Metro Rail and/or providing commuter bus that may run parallel to rail transit
- Commuter bus service from suburb-to-suburb and to businesses park type land uses have been less successful in the past than ones serving more urban areas
- Bus bays or other infrastructure to support increased commuter service into employment hubs is limited by land and curb availability
- Trip demand and congestion in the non-peak direction on I-66 could be served by *Outside the Beltway* program, but not *Inside the Beltway* program

Fall Multijurisdictional Workshop

Overview

The study team hosted a multijurisdictional meeting on October 30, 2025. The workshop brought regional stakeholders together and created an opportunity for localities and agencies to interact with the universe of projects collected throughout the study, including those within their purview along with those in related jurisdictions. The following jurisdictions were in attendance of the workshop, and the study team provided materials to all stakeholders to engage with after the workshop.

- Arlington County
- City of Fairfax
- Fairfax County
- Loudoun County
- WMATA
- NVTA
- MWCOG
- OmniRide
- Prince William County
- Town of Vienna
- VRE
- VDOT

The study team shared findings from the renewed transit and vehicle analysis from spring 2025. Many of these findings are discussed in the **Existing and Future Conditions Chapter**. The activity portion of the workshop provided stakeholders with the opportunity to review a list of projects by their jurisdiction that could potentially be eligible for I-66 *Inside the Beltway* Commuter Choice funding or I-66 *Outside the Beltway* grant funding. The methodology to develop the project lists is discussed in the following section.

Key Findings

In general, agencies anticipate a continuing need for commuter bus support, both operating assistance and strategic capital investments such as the purchase of buses to enable enhanced service. Staff from multiple agencies also expressed interest in advancing BRT implementation efforts across the region, including NVTA's *Bus Rapid Transit Action Plan*. Additionally, jurisdictions highlighted the need for a regional approach and regional coordination to create a system that complements each other and integrates different transit services more seamlessly. As an example, VDOT emphasized the need for early coordination regarding the future expansion of park-and-ride lots, as they own numerous lots used by transit operators in the region. Jurisdictions noted that some of the draft timeline estimates would need to be pushed later to be more realistic. Project-specific jurisdiction feedback was integrated into the final project list.

Planned BRT projects serving the corridor provide an opportunity to make meaningful investments in longer-term transformational mobility projects

Recent and ongoing BRT studies, including the NVTA *BRT Action Plan* and individual jurisdictional efforts, were discussed at the fall workshop as strategies to address future demand. Many of the planned BRT corridors have the potential to provide benefits to toll payers and commuters on I-66 *Inside the Beltway* and *Outside the Beltway*. These projects are seen as significant steps toward improving reliability and frequency, two key factors that drive meaningful shifts in travel behavior. Additionally, stakeholders mentioned the importance of supportive infrastructure such as leveraging redevelopment opportunities for new park-and-ride facilities, improving access to and from express lanes, and expanding mobility hubs and microtransit to better connect transit riders to future BRT

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service. Together, these supportive elements help to realize the full benefits of these larger capital and operational investments.

Project implementation depends on a variety of factors such as design, procurement, and local funding availability

A key focus of the fall workshop was validating the estimated opening year or starting year of capital and operating projects. Stakeholders expressed higher confidence in start-year estimates for near-term projects, with uncertainty increasing for projects projected beyond 2035. For capital projects, various project phases, such as planning, environmental clearance, design, and right-of-way acquisition need to be completed prior to the construction and opening of a project. Although new or expanded bus services can be easier to implement than large capital projects, there are also factors that can influence the ability to launch the proposed services. These include staffing availability, local funding availability, bus bay availability, historical performance of certain route types, and other operational considerations that impact the feasibility and timing of new services.

Strategic, multiagency coordination from planning to transit service or infrastructure is necessary to maximize the efficiency and benefits of investments

The workshop offered a valuable forum for stakeholders across the region to view not only the projects they are advancing but also those planned by other jurisdictions. This shared visibility led to meaningful discussions about the importance of communication and coordination when planning projects in the corridor. For example, park-and-ride operators/owners need to coordinate directly with transit operators to manage and optimize the usage of park-and-ride lots. Furthermore, stakeholders also highlighted the importance of collaborating early when publicly owned parcels near the corridor are being considered for redevelopment. In addition to focusing on trip origins, participants discussed the operational challenges associated with where buses drop off passengers and park during the day, noting that curb space and parking options are particularly limited in dense commercial areas.

Coordinated planning for projects along I-66 and parallel routes such as, US Route 29, US Route 50, Metro Rail Orange and Silver lines, and the VRE Manassas Line, will enhance efforts to move more people in corridor

These roadways and transit options provide important alternatives to traveling on I-66 and have the potential to absorb additional trips without adding to congestion on I-66. Many projects included in the final project list are associated with these roadways or transit options. The project list provided an opportunity for stakeholders to review overlapping projects or services to identify the most up-to-date plans and opportunities for collaboration. Coordinated planning to support phased or synchronized project implementation will enhance efforts to move more people in the corridor. In some cases, projects may be implemented in sequence, such as increased bus frequency and then a BRT project, and thus may not be directly duplicative. Stakeholders also reviewed and revised their project lists to remove directly duplicative projects. Across all conversations, stakeholders underscored the need for continued collaboration to build a seamless, cross-jurisdiction transit and transportation network that effectively serves the I-66 corridor's evolving travel needs.

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Conclusions

Stakeholder engagement throughout the study process provided the study team with valuable insights into how jurisdictions and agencies are planning for evolving travel trends and supporting person throughput during tolling periods along the I-66 corridor. Broader planning efforts conducted by these jurisdictions identified similar travel patterns, including growth in key activity centers such as Tysons and Innovation District (in Prince William County/City of Manassas). Stakeholders were generally aligned on the need for continued investment in transit and rail service, as well as multimodal infrastructure that expands travel options. There was also broad recognition of the importance of ongoing regional coordination to effectively implement these solutions.

Stakeholders also identified several challenges and opportunities to advance these projects. Many noted uncertainties in project timelines, given the range of dependencies related to funding, design, and coordination that must be resolved as projects move forward. Representatives from smaller jurisdictions also highlight challenges in competing for and securing funding, particularly for projects that may have lower impacts on person throughput compared to larger-scale investments. Stakeholders also highlighted that proactive collaboration and partnerships can help better leverage opportunities, maximizing impacts and improving return on investment.

The takeaways from the stakeholders informed the development of a project list that could be eligible for one—or both—of the *Inside the Beltway* or *Outside the Beltway* grant programs in the future. Stakeholder engagement insights also helped the study team evaluate policy modifications that may help to better fund projects that benefit toll payers in the I-66 corridor.

I-66 Needs Assessment Project List

Overview

The goal of the project list is to understand the multimodal needs in the I-66 corridor that could be eligible for either of the funding programs. To better understand the demand from planned projects, the study team compiled a list of projects that could be eligible from the I-66 *Inside the Beltway* Commuter Choice funding program and DRPT's I-66 *Outside the Beltway* funding program. The study team developed the initial list by reviewing publicly available planning documents and engaging in collaborative discussions with stakeholders. The study team then compared the initial list of planned projects against modeled future travel patterns to identify any gaps between planned projects and areas with the greatest projected future travel demand. Overall, the planned projects aligned with the emerging OD pairs. Only a small number of additional proposed projects were created by the study team for jurisdictions to consider as future enhancements to the I-66 corridor (jurisdictions are not required to advance any of the proposed projects).

The following sections describe the methodology used to develop the I-66 Needs Assessment project list, definitions and assumptions for the analysis, key takeaways, and the final project list.

Methodology

Review local, regional, and state planning documents

The study team began the process by reviewing local, regional, and state plans to root the I-66 Needs Assessment project list in existing planning documents. Projects that could be eligible and competitive for one or both programs in the future were included in the initial project list:

- I-66 Transit and TDM Plan (2020)
- Arlington TSP FY 2025–2034
- Arlington FY 2025–2034 CIP
- Blue/Orange/Silver Capacity and Reliability Study (2023)
- 2025 Better Bus Network Redesign
- City of Fairfax FY 2025 Budget
- City of Fairfax 2035 Comprehensive Plan
- City of Falls Church FY 2025–2030 CIP
- City of Manassas FY 2025 CIP
- City of Manassas Transportation Master Plan (2019)
- City of Manassas 2045 Comprehensive Plan
- City of Manassas Park Active Transportation Plan (2023)
- City of Manassas Park Comprehensive Plan – Transportation and Mobility Chapter (2012)
- CUE TDP (In development as of 2025)
- Envision Route 7 Studies (Ongoing)
- Fairfax County Connector FY 2023–2033 TSP
- Fairfax County Transportation Priorities Plan
- I-66 Transit and TDM Tech Report (2016)
- Loudoun County FY 2025–2034 TSP
- Loudoun County Capital Needs Assessment FY 2029–2040
- Langston Blvd Corridor Plan (2023)
- Northern Virginia Bus Transit Analysis (2024)
- NVRTA Bus Rapid Transit Action Plan (2025)
- OmniRide FY 2020–2029 TSP
- Prince William FY 2025–2030 CIP
- SMART SCALE (Round 4 and 5 scored but not funded projects)
- TransAction Plan 2022 Update
- Town of Vienna CIP
- MWCOC TPB's Visualize 2045
- VPRA Transforming Rail in Virginia Project List
- VRE 2050 Financial Plan
- VRE FY 2026–2031 CIP (with refinements from VRE)
- WMATA FY 2025–2030 CIP and 10-Year Plan

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When reviewing existing planned projects and programs, the study team collected available information below and further tabulated the information relative to fully understanding the project demand in the corridor.

Information collected from planned documents

- Jurisdiction/Operator/Applicant
- Scope
- Location
- Cost (and dollar year)
- Opening/starting year
- Funding status

Information tabulated by the study team:

- Project OD
- Potential eligibility toward *Inside the Beltway* or *Outside the Beltway* funding programs
- Project category and type

The inclusion of information in the I-66 Needs Assessment project list depends on the amount of information available in planning documents and collected from stakeholders. The availability of information varied—some projects may have a specific scope, cost, and timeline, while other projects still may have multiple alternatives or potential scopes and no timeline. In cases where multiple alternatives were available, the alternative with the greatest cost was included in the project list.

The study team acknowledges that the I-66 Needs Assessment project list developed for this study is not exhaustive of all projects in the region or those that could provide benefits to the corridor. As previously noted, a project does not need to be on this list to apply for funding in the future. Projects not included generally fell into one of several categories: projects early in development, projects for which cost information was unavailable, or project types such as trail and TDM projects that typically have lower throughput potential. Several projects within these categories were cited by jurisdictions during the stakeholder engagement process, and as noted above may be eligible to seek funding for one or both funding programs in the future.

Importantly, the exclusion of these projects from this list does not reflect their value. All project types contribute to a robust transportation network and many may be paired with enhancements to transit or infrastructure or be more competitive for other funding programs.

Compare the project list with future travel patterns

A key step in refining the I-66 Needs Assessment project list is comparing the projects planned by jurisdictions with the future top OD trends identified in the **Existing and Future Conditions Chapter**. Based on the MWCOG regional traffic forecasting model (Round 10.0 cooperative forecast) analysis discussed in the **Existing and Future Conditions Chapter**, Tysons, City of Fairfax, Chantilly, and Stone Ridge show the greatest population growth from 2020 to 2045. In terms of employment, Tysons, Herndon, and Innovation District (in Prince William County/City of Manassas) areas of Northern Virginia show some of the greatest growth from 2020 to 2045. As population and employment centers grow and change over the years, new pairs of ODs and travel patterns emerge. The top 44 ODs represent some existing OD pairs as well as some emerging OD pairs.

In general, the OD pairs identified through this study's analysis aligned with the travel patterns that stakeholders are planning for from their own internal analysis. Furthermore, there is general alignment between the projects planned by jurisdictions and top ODs. Some OD pairs were not served by any of the planned projects. During stakeholder engagement, the study team facilitated discussions around unserved OD pairs tailored to the amount of demand (potential mode shift). Many of the possible

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solutions included new or enhanced bus service, first and last mile connections, and capital investments in high-capacity transit to improve access and/or travel time reliability.

Appendix D: Travel Demand and Project Need Summary provides a crosswalk of the top ODs and if they align with existing transit services, proposed transit services, or if there is a need to develop a placeholder project for the future service. The study team developed a handful of projects for OD pairs that were not addressed by any existing or planned projects but are expected to experience future demand, which included:

- City of Fairfax to McLean
- City of Fairfax to Joint Base Fort Myer-Henderson Hall
- Dulles (Dulles Airport, Sterling, and Dulles Town Center) to Downtown DC
- Linton Hall to City of Fairfax

The projects that were created by the study team are not intended to prescribe projects that jurisdictions and/or operators should or need to advance. Rather, the developed projects are intended to financially quantify the funding to meet the proposed demand to contribute to the overall corridor cost. The assumptions for developing these projects are included in **Appendix E: Assumptions for Study Team Created Projects**.

Categorize projects for trends analysis

To ensure consistency across projects included in local, regional, and statewide plans, the study team developed a standardized set of attributes for each project. **Table 8** provides definitions for these attributes. Some attributes restate or synthesize information from existing planning documents, while others are specific to this study and are indicated with an asterisk*.

Table 8: I-66 Needs Assessment Project List Attributes and Definitions

Attribute	Definition
Program Eligibility*	Preliminary determination of program eligibility based on provided project information <i>*Note: this does not guarantee eligibility.</i>
Project Name	Brief descriptive title for the project
Study Team Understanding of Scope	Based on the description provided by the jurisdiction and/or a description created by the study team
Project Type	Identifies if a project is enhanced bus, new bus, Metro Rail, high-capacity transit, park-and-ride, or commuter rail/passenger rail
Project Category	Minor capital, major capital, mega capital, transit service, and rail operating service categorization based on draft cost
Proposed Time Horizon	Estimated years in operation and/or capital need year It is assumed that transit services will continue once they are initiated.

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Attribute	Definition
Estimated Cost (2026 Dollars)	Reflect costs provided by jurisdictions, converted to 2026 dollars Costs aim to capture total demand, not necessarily the portion eligible for grant funding. For operating projects without cost information, the study team estimated costs using previously defined assumptions.
Program Eligibility	Denotes which (or both) programs a project could be eligible for in the future
Jurisdictions	Identifies the jurisdictions that a project is related to via their planning or geographic location

Project category is a key attribute used to organize and analyze the I-66 Needs Assessment project list. Projects are grouped into categories including, capital projects (minor and major), operating projects, and mega projects (including mega capital and rail operating services) to distinguish whether a project is primarily capital or operations focused and to reflect the relative scale of its cost. **Table 9** defines each project type and provides examples within each category.

Table 9: Project Categories

	Project Category	Cost Range	Types of Projects
Capital Projects	Minor Capital	< \$5M	Bus purchases, parking expansions, transit center renovations
	Major Capital	\$5M - \$100M	Metro Rail station access improvements, VRE infrastructure
Operating Projects	Transit Service	< \$50M (annually)	Existing route extensions and/or frequency improvements, new commuter and local routes
Mega Projects	Mega Capital	> \$100M	BRT projects, Metro Rail station improvements, VRE rolling stock
	Rail Operating Service	> \$50M (annually)	VRE operating for 2030 and 2050 service levels

Two attributes with the greatest uncertainty are the draft time horizon and draft estimated cost. Some projects have identified potential implementation timelines, while others are in the planning stages and do not yet define a time horizon. As previously noted, stakeholder engagement helped to refine implementation time horizons. Project costs also vary in level of precision, reflecting differences in project maturity from conceptual planning to projects nearing construction, where more detailed cost information is available. Reported costs reflect the information available in existing planning documents and any refinements from stakeholders and are often presented as total project costs. These costs may include items that are not eligible for funding. -

I-66 Needs Assessment Project List Overview

The project list compiles planned projects from more than 30 existing planning documents or initiatives and discussions with stakeholders. The resulting list includes 38 operating projects and 51 capital projects that help meet much of the future travel demand identified in the travel demand analysis. Project costs range from small capital and operations improvements of a few million dollars to large multi-billion-dollar transformational projects. Projects are spread across the I-66 corridor from Arlington

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to western Prince William County, touching nearly every county, town, city, and transit operator. Additionally, the projects identified in the list encompass a variety of project types including new and enhanced bus service, the construction of transit supportive infrastructure such as transit centers and park-and-ride lots, and rail operational and capital improvements.

The purpose of the I-66 Needs Assessment project list is to understand projects planned in the corridor that could seek future funding from NVTC's Commuter Choice *Inside the Beltway* or DRPT's I-66 *Outside the Beltway* funding programs, how they align with future travel patterns, and the magnitude of the total demand for funding for these projects. The purpose of this project list is **not** to

- Require or prescribe jurisdictions or operators to advance specific projects
- Create an advantage for any projects included in this list for future applications and scoring
- Exclude projects not included on this list from applying for funding in the future

Projects that are included on this list will still need to go through the eligibility review and scoring processes for each of the programs. The complete project list can be found in **Appendix F: I-66 Needs Assessment Project List**.

Key Findings



Key Takeaways

- 89 identified projects, totaling \$16.8 billion, are distributed across project types, though mega projects dominate the total demand cost.
- Over half of the projects (47) are eligible for both funding programs.
- Operating demand is relatively consistent over the program lifespans, while minor and major capital has peaks throughout the program lifespan.
- New and enhanced bus projects represent the most common project type.
- 89 projects are distributed across local jurisdictions, regional entities, and transit operators.
- Mega projects opening and/or their operating years are shifted towards the latter half of the programs' lifespans.

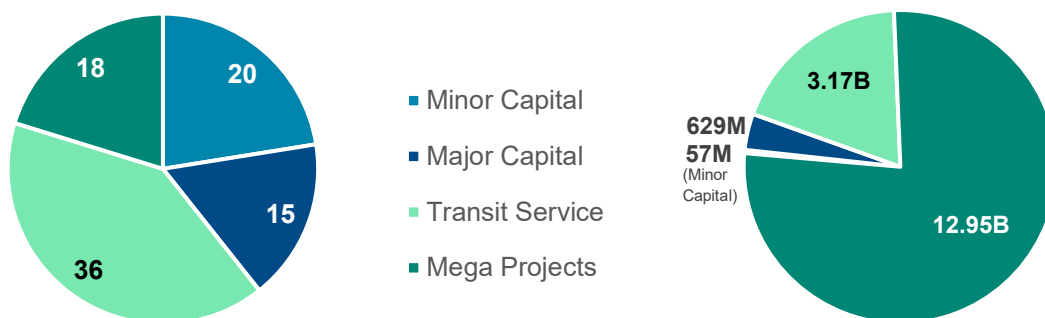
89 identified projects, totaling \$16.8 Billion, are distributed across project types, though mega projects dominate the total demand cost

The 89 projects included on the list reflect approximately \$16.8 billion investment in travel options for I-66 commuters. The project list reflects projects that could be eligible for either of the funding programs and strongly align with the program goals to improve person throughput. The study team acknowledges that this list is not an exhaustive list of all projects in or around the I-66 corridor. The projects are nearly evenly distributed across project types as shown in **Figure 38**. Transit service has a slightly larger share of the total projects at approximately 40% of all projects. Historically, approximately 65% of the projects within the Commuter Choice and 60% of the projects within the DRPT I-66 *Outside the Beltway* program fall within the transit service category. Mega projects on this project list—20% of all projects—account for nearly 80% of the total project costs. Overall, costs range from \$2 million to \$3 billion and reflect total project costs. Some of the project activities included in these costs may not be eligible for funding within these two programs. Mega projects account for approximately \$12.9 billion of the total demand in the corridor, meaning there is \$3.9 billion of minor capital, major capital, and transit service demand planned.

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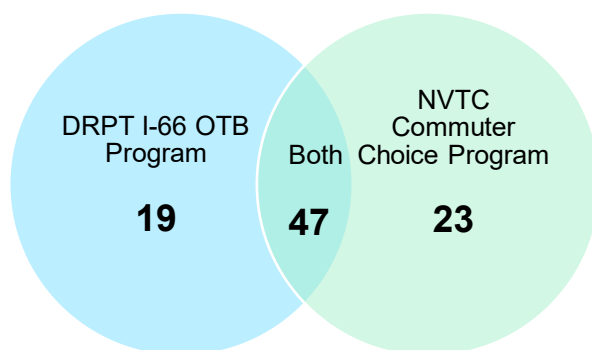
Figure 38: Project Type and Cost (in 2026 dollars) Distribution



Over half of the projects (47) could be eligible for both funding programs

Travel patterns and demand often cross jurisdictional boundaries as well as funding programs with geographic constraints. Historically, NVTC and DRPT have worked together to fund a variety of projects

Figure 39: Potential Project Eligibility to DRPT and NVTC Funding Programs



that transverse the *Inside the Beltway* and *Outside the Beltway* corridors, NVTC's Commuter Choice program has funded projects that begin Outside the Beltway, for example, but provides benefits to *Inside the Beltway* toll payers. Over half of the planned project list also could be eligible for either or both funding programs. **Figure 39** details the distribution of projects eligibility for each of the programs as well as projects that could be eligible for both programs.

Operating demand gradually increases over the program lifespans, while minor and major capital has peaks throughout the program lifespan

Figure 40 illustrates the total cost of the project list in 5-year increments between 2025 and 2057, with 2051–2057 being a 7-year period. In general, there is approximately \$300 million to \$600 million dollars (2026 dollars) of demand every 5 years.

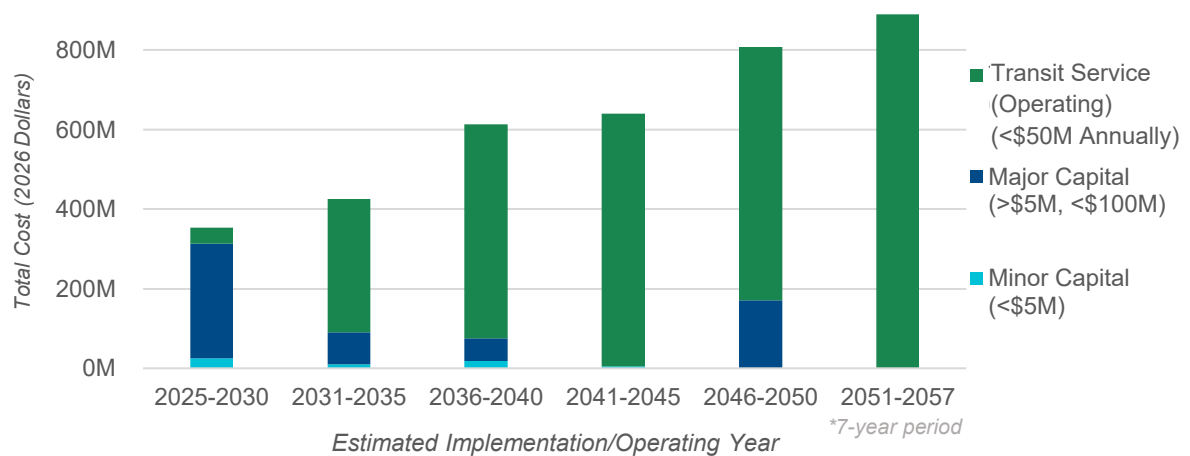
Transit operating projects (primarily commuter bus services) play a key role in providing connections between emerging ODs. Plans for investment in enhanced, refined, or new bus services are gradually increasing through 2057, and they can more easily adapt to changing travel patterns across the entire program lifespan. Many projects planned by jurisdictions and/or operators begin in 2030 to respond to projected growth of employment centers across Northern Virginia. A key assumption is that once initiated, a transit service project is assumed to continue operating through 2057. The study team understands that transit service operators will adapt, refine, and scale their services to respond to travel demand over time.

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As discussed by stakeholders, capital projects have much more uncertainty if their “opening year” is not projected within the next 5 to 10 years. Minor and major capital projects are most concentrated in the next 5 years and towards 2050. Many of the minor and major capital projects respond to existing or near-term future demand. Mega capital projects are discussed in one of the following key takeaways.

Figure 40: Project List by 5-Year Period and Project Category (excluding mega projects)



New and enhanced bus projects represent the most common project type

Another lens to view the data through is the project type. Unlike project category, which categorizes project based on cost, project type characterizes the type of improvement and/or mode. The project list includes the following project type categories:

- **New Bus** projects include operational demand for new services along the corridor, as well as capital demand that enable new service such as bus purchases and transit centers, or bus bays.
- **Enhanced Bus** projects include operational demand for enhanced services (increased frequency or coverage) along the corridor, as well as capital demand that enable enhanced service such as bus purchases and transit centers, or bus bays.
- **High-Capacity Transit** projects include the capital demand for BRT projects
- **Metro Rail** projects include Metro Rail station access and reliability improvements
- **Park-and-Ride/Access** projects include parking expansion projects that enable future enhanced commuter bus and/or VRE rail service.
- **Commuter Rail/Passenger Rail** projects include a variety of VRE projects to realize their 2030 and 2050 service vision.

Table 10 details the distribution of these project types across the entire project list and each of the programs. As noted, over half of the projects are eligible for both programs. New and enhanced bus service projects are the most common, representing 50 of the 89 projects. The majority of the Metro Rail and high-capacity transit projects are eligible for one program or the other, whereas new and enhanced bus and commuter rail improvements are more often eligible for either Metro Rail programs. While there is not a project that corresponds with the Metro Rail operations, there is future demand for operational enhancements and funding demand.

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Table 10: Project Focus Distribution Across Programs

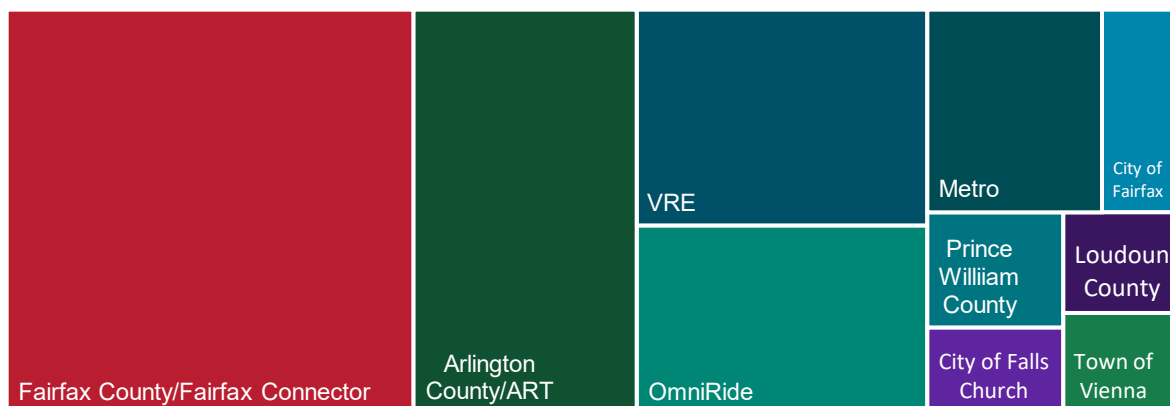
	Eligible for ITB Only		Eligible for OTB Only		Eligible for Both Programs		Total
	Capital	Operations	Capital	Operations	Capital	Operations	
New Bus	0	1	5	4	7	8	25
Enhanced Bus	0	9	1	1	7	7	25
High-Capacity Transit	6	3	5	3	3	0	20
Metro Rail	4	0	0	0	1	0	5
Park-and-Ride /Parking	0	0	0	0	3	0	3
Commuter Rail	0	0	0	0	9	2	11
Total	10	13	11	8	30	17	89

89 projects are distributed across local jurisdictions, regional entities, and transit operators

The 89 projects included in the project list span a range of potential grantees. Transit operators account for the greatest share of projects, reflecting the strong focus on new and enhanced bus projects. There are also 32 projects that require collaboration between multiple jurisdictions and/or the applicant is not defined. These projects are often larger capital projects such as Metro Rail infrastructure improvements or BRT projects. While many of these applicants have applied to the *Inside the Beltway* Commuter Choice program in the past, applications to the *Outside the Beltway* program have been limited to Fairfax Connector and OmniRide.

Figure 41 details the number of projects by applicant.

Figure 41: Number of Projects included on the List by Jurisdiction/Entity/Operator



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Mega projects opening and/or their operating years are shifted towards the latter half of the programs' lifespans

Mega projects account for most of the total project demand (\$12.9 billion of \$16.8 billion) along the I-66 corridor. Two mega projects include rail operations for VRE's 2030 and 2050 service vision along the Manassas Line. The remaining 16 mega projects are primarily investments in BRT capital infrastructure that would lay the groundwork for future rapid bus service. As many of these projects are in early planning phases, the demand for funding reflects high-level estimates. Additionally, funding estimates for mega projects represent the total funding demand for projects, which often include activities that are not eligible for either program and/or would not be fully funded by either of these funding programs. This project category has a significant impact on the total demand (\$) on either or both of the programs in any particular 5-year period. Stakeholders suggested shifting the opening year of many of these projects towards the latter half of the program lifespans as many will need to go through the planning and design processes, as well as secure funding from other sources.

Figure 42 illustrates the level of investment projected within the mega projects category. There is a peak in the near term as well as in the latter years of the program lifespan. As previously noted, the demand curve could significantly change if a particular project is advanced or delayed. **Table 11** provides an overview of the projects within the mega project category.

Figure 42: Project List by 5-Year Period and Project Category (only mega projects)

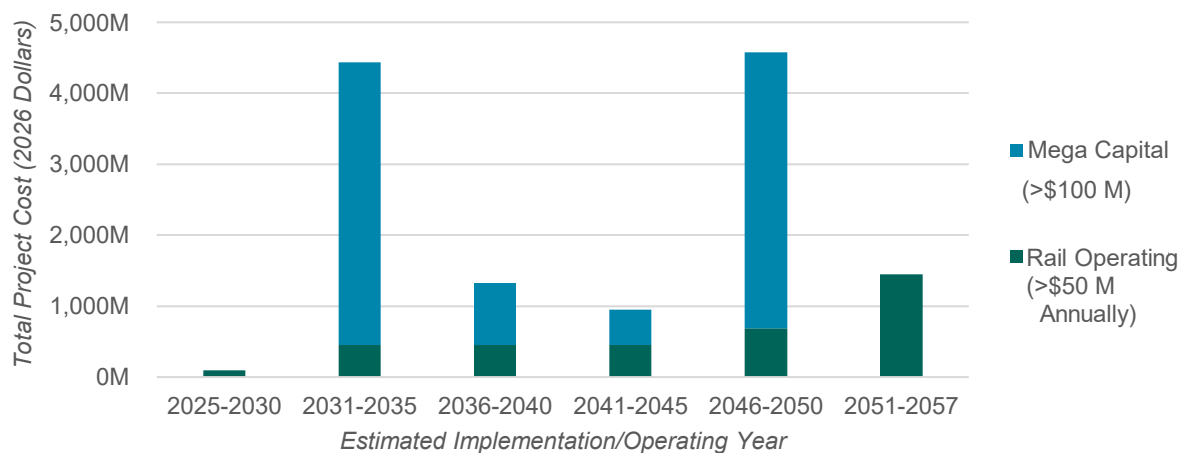


Table 11: Overview of Mega Projects

(includes projects with annual operations demand >\$50 million or capital demand/ > \$100 million in 2026 dollars)

ID	Project Name	Study Team Understanding of Scope
11	East Falls Church Metro Rail Station Second Entrance	This Metro Rail station project is located at the East Falls Church Metro Rail Station. This capital project advances the planning, design, and construction of a full second entrance to the station.
12	Arlington Boulevard BRT – Capital	This high-capacity transit project is located between Dunn Loring-Merrifield Metro Rail Station, the Pentagon, and Crystal City via Arlington Boulevard (US Route 50). This capital project provides BRT infrastructure for the route. This project is connected to Project ID 13.

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ID	Project Name	Study Team Understanding of Scope
14	Langston Boulevard BRT – Capital	This high-capacity transit project is located between Dunn-Loring Merrifield Metro Rail Station, East Falls Church Metro Rail Station Rosslyn, Georgetown, and Farragut North via US Route 29. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 15.
18	Braddock Road BRT/Express Bus Service	This high-capacity transit project is located between Union Mill Road and Lincolnia Road via Braddock Road. This project provides new BRT or express bus service and may include improvements, such as vehicles, exclusive bus lanes, park-and-rides, large bus stations/facilities, etc.
20	Vienna to Rosslyn Express Bus Service	This high-capacity transit project is located between the Vienna Metro Rail Station to the Rosslyn Metro Rail Station via I-66. This capital project provides enhanced passenger facilities, vehicles, stops/stations, transit signal priority, or priority treatments.
21	Fairfax Towne Center/Fair Oaks Mall to Washington, DC BRT	This high-capacity transit project is located between Fairfax Towne Center, Fair Oaks Mall, Rosslyn, and Washington, DC via US Route 29. This project provides transit priority treatments, additional vehicles, maintenance/storage facilities, improved bus service along the corridor and may include additional vehicles, maintenance/storage facilities, customer information, mobility hubs, expanded service, bus stops, and access facilities.
44	Chain Bridge Road BRT – Capital	This high-capacity transit project is located between George Mason University, Oakton, Vienna, Tysons, and McLean via Chainbridge Road and Dolley Madison Boulevard. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 45.
46	Route 7 BRT – Capital	This high-capacity transit project is located between Spring Hill and Mark Center Transit Station serving many intermediate destinations including Tysons, City of Falls Church, and Bailey's Crossroads via Route 7. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 47.
48	High-Capacity Transit Extension from Vienna Metro Rail Station to Centreville	This high-capacity transit project is located between the Vienna Metro Rail Station and Centreville in the I-66 corridor. This capital project provides improvements that would extend high-capacity transit in the corridor including transit priority treatments, increased frequency and span of service, expanded supporting infrastructure, improved customer information and experience, and enforcement of bus lanes.
52	Vienna and Tysons Metro Rail Access Improvements	This Metro Rail station project is located near Vienna and Tysons Metro Rail Stations. This capital project provides access improvements by completing all sidewalks within a half mile of the stations. Additionally, the project will provide a trolley or circulator bus along Maple Avenue to connect with the stations as well as a parking garage along the route.

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ID	Project Name	Study Team Understanding of Scope
53	Fairfax Boulevard BRT – Capital	This high-capacity transit project is located between Centreville, Fair Oaks, and Dunn Loring via US Route 29. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 54.
58	Blue, Orange, and Silver Line Capacity and Reliability Project – Capital	This Metro Rail project is located at the Rosslyn Metro Rail Station serving the Blue, Orange, and Silver Metro Rail lines. This capital project improvements include expanded capacity and access improvements at the Rosslyn Station, rail modernization, and other capital improvements.
59	Blue, Orange, and Silver Line Capacity and Reliability Project Alternative 2 BRT Recommendation – Ballston to Rosslyn	This enhanced bus project is located between Ballston Metro Rail Station to Rosslyn Metro Rail Station via Clarendon and Wilson Boulevard. This capital project provides for future BRT service along the route, facilitating passenger movement into Rosslyn and connecting customers to other BRT services into Georgetown and Downtown DC.
72	I-66 Express BRT – Capital	This high-capacity transit project is located between Haymarket, Centreville, and Vienna via Lee Highway (US Route 29) and I-66. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 73.
81	Manassas Line Operations – 2030	This commuter rail project is located along the VRE Manassas Line. This operations project provides annual operating cost for the 2030 level of service. The enhanced service levels will increase the total number of daily trains on the VRE Manassas Line from 32 to 52.
82	Manassas Line Operations – 2050	This commuter rail project is located along the VRE Manassas Line. This operations project provides annual operating costs for the 2050 level of service.
88	Rolling Stock (Railcar) Expansion – Phase 2	This commuter rail project supports the procurement of a portion of the 78 trailer cars and seven cab cars for expanded service on the VRE Manassas Line after 2050 (Phase 2 of 2).
89	L'Enfant Station Improvements	This commuter rail project is located at the L'Enfant VRE Station. This capital project adds a fourth track through the station, improves both entrances, and constructs two new bridges across 7th Street SW and 6th Street SW.

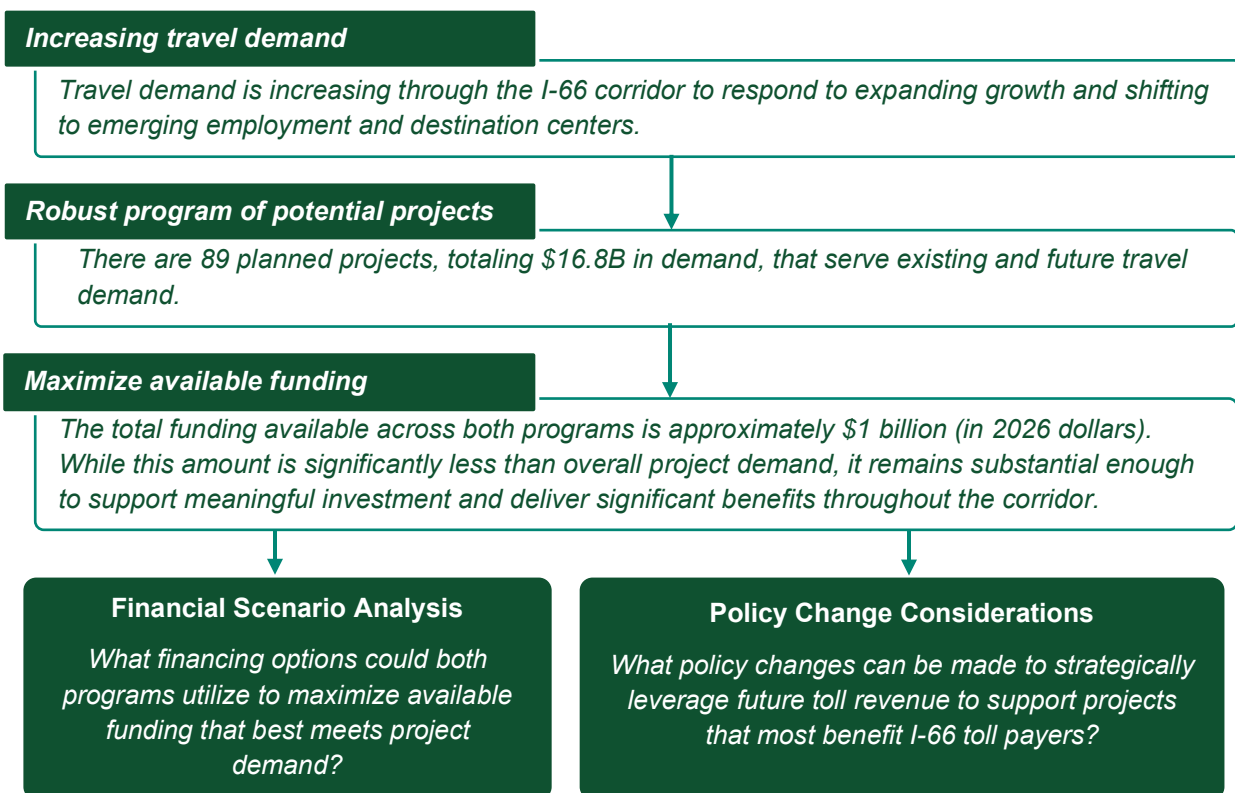
Conclusions

The project list highlights the multitude of projects planned to improve transportation options in the I-66 corridor, many of which also align with the goals of the *Inside the Beltway* and *Outside the Beltway* funding programs to provide benefits to I-66 toll payers and increase mobility throughout the corridor. Planned projects for the corridor are not limited to one project type, as investments are distributed across a range of transportation modes. These investments are geographically spread across the I-66 corridor, with many projects crossing jurisdictional boundaries and providing benefits to a wide range of commuters. ***Between 2026 and 2057, there is approximately \$3.2 billion in projected demand for transit service as well as \$13.6 billion in projected demand for capital investments in the corridor, spread across 89 projects, multiple jurisdictions, and project types.***

Investment Pipeline

Overview

The **Existing and Future Conditions Chapter** detailed the increasing and shifting trip demand that may potentially utilize I-66 for travel to emerging/sustaining employment centers. Pairing these findings with the **I-66 Needs Assessment Project List Chapter** illustrates that there is a robust program of potential projects that can help provide additional travel options for the growing number of trips along the corridor. This **Investment Pipeline Chapter** builds upon these findings by evaluating how the available funding in the I-66 *Inside the Beltway* and I-66 *Outside the Beltway* programs can help support the implementation of many of the projects planned for the corridor. The purpose of this chapter is to understand how DRPT and NVTC can leverage different financial and/or policy strategies to best serve the demand from the project list.



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Summary of Project Demand

The **I-66 Needs Assessment Project List Chapter** identified 89 projects, totaling \$16.8 billion, which are distributed across project types and the region. Much of this demand, approximately \$13 billion, is for mega capital projects such as BRT projects and rail infrastructure improvements that can provide significant improvements to transit in the corridor. With this significant magnitude of funding demand, it is important to understand how these projects are distributed across five-year windows. **Figure 43**, **Figure 44**, and **Figure 45** illustrate the anticipated project demand from 2025 to 2057. While some projects were far enough in the planning process to have a well-defined opening year, others were assigned an implementation year based on a variety of factors including stakeholder feedback, modeled travel demand, and knowledge of ongoing or planned activities related to the project. The shape of the demand curves depends on the assumed project implementation year, which may vary in the future.

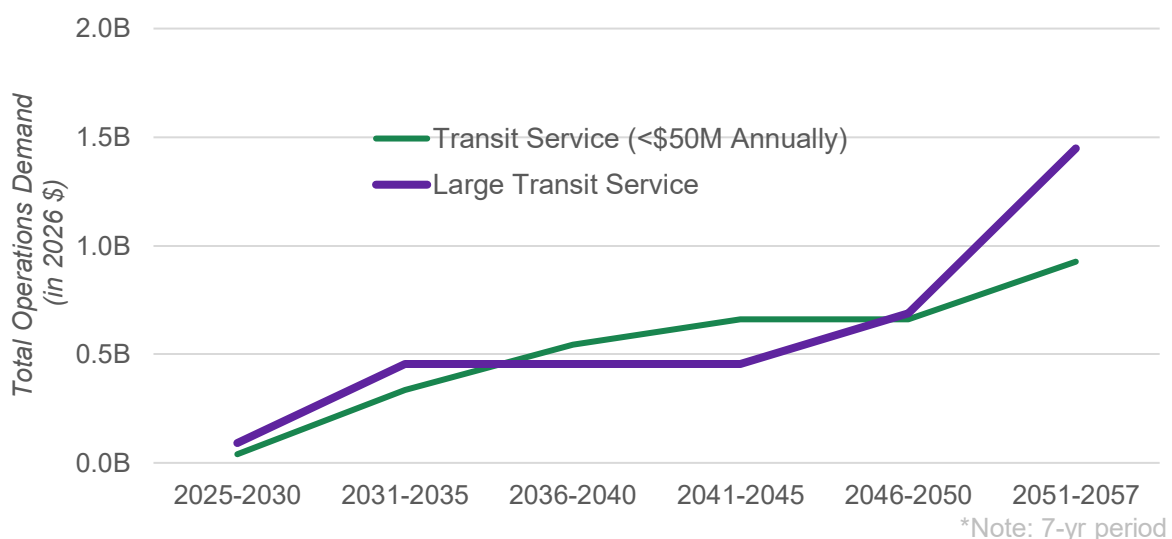


Key Takeaways

- Many (47 out of 89) projects are potentially eligible for both corridor programs.
- Transit service is distributed across the program lifecycle and increases over time due to expectations for continued service.
- Mega projects have two peaks with one around 2030 and one around 2046.

Figure 43 details the total operating demand through 2057. Many of the new or enhanced services are assumed to begin between 2030 and 2035, reflecting anticipated growth in Tysons and other major employment centers in Fairfax County. Once implemented, these services are assumed to continue through the remainder of the programs' lifespan, resulting in relatively consistent operating demand over time. The "large transit service" category represents the operating demand associated with the VRE Manassas Line consistent with its 2030 and 2050 vision. The spike at the far right of the chart reflects the additional 2 years of operating demand to reach a 7-year period, through to I-66 Commuter Choice's program lifespan.

Figure 43: I-66 Needs Assessment Project List Operating Demand (by 5-year Period)



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Figure 44 details the total minor and major capital demand across the program lifespans. Based on the assumed opening years, there is significant demand in the near-term as well as towards 2057. The initial demand is mostly driven by infrastructure to support VRE commuter rail for expansion in 2030 as well as bus vehicle purchases. In the middle years, projects include new and enhanced transit centers as well as rail fleet/infrastructure. Metro Rail and VRE projects drive the demand around 2050.

Figure 44: Project List Capital Demand (by 5-year Period)

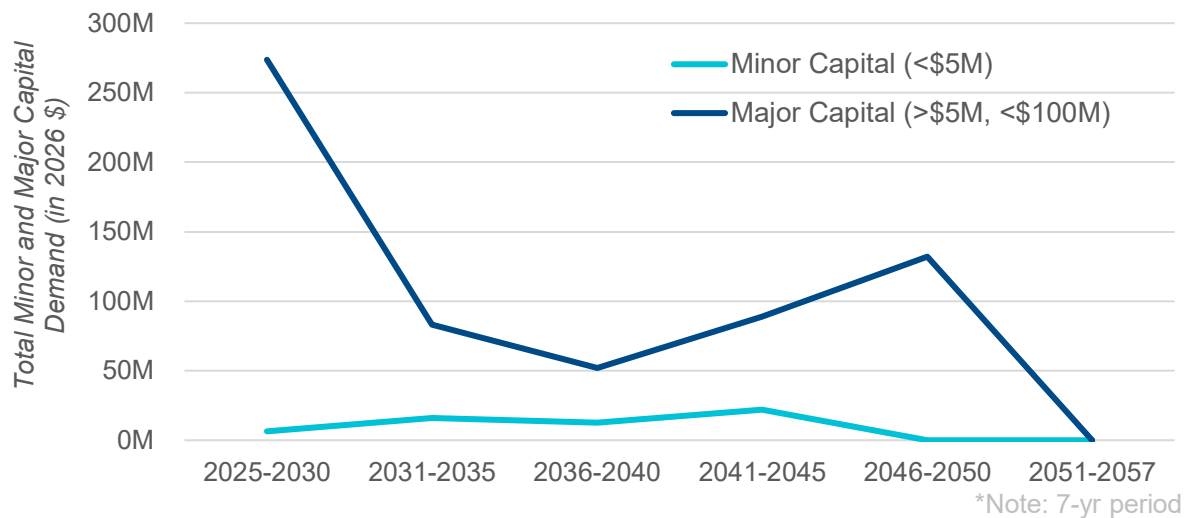
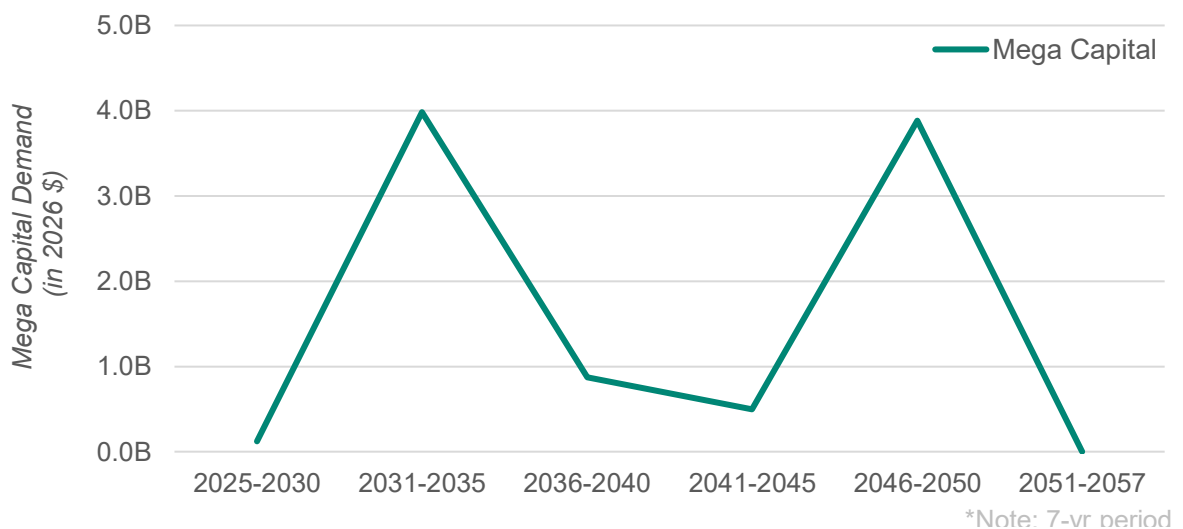


Figure 45 details the demand from mega capital projects, those that have a total cost greater than \$100 million. BRT projects contribute to demand across the next 25 years. The peak around 2035 is driven by BRT projects, Metro Rail access projects and most significantly by the Blue Orange Silver Line Capacity and Reliability Project. The peak around 2050 is also driven by BRT projects, VRE rolling stock, and the High-Capacity Transit Extension from Vienna Metro Rail Station to Centreville project.

Figure 45: Project List Mega Capital Projects Demand (by 5-year Period)



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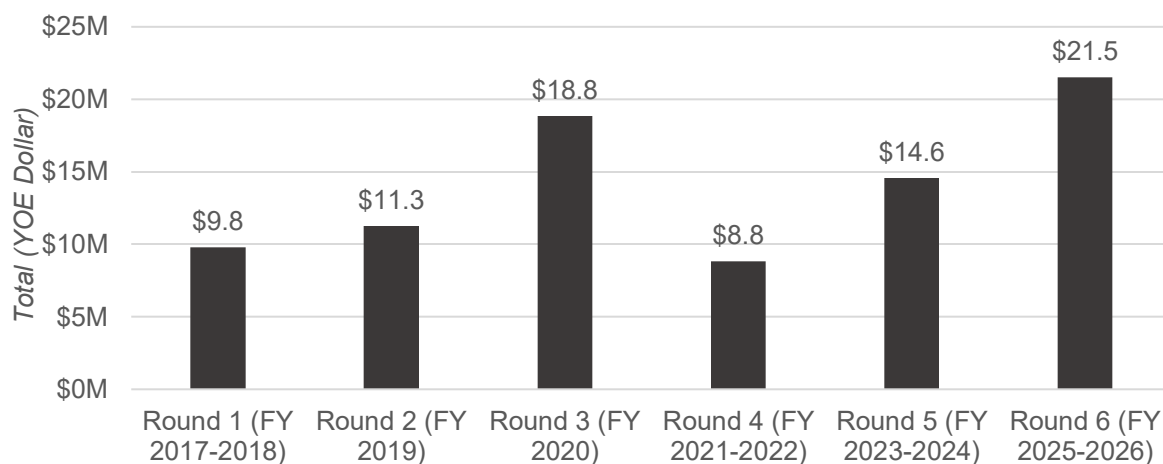
Financial Scenario Analysis

Background

Throughout the past six rounds of the I-66 *Inside the Beltway* program, NVTC has received a total of 89 eligible applications and awarded nearly \$85 million (in YOE dollars) in funding. **Figure 46** illustrates the funding awarded by round. Funding has been awarded to 10 different jurisdictions or transit agencies. Many of these awards supported transit operations across the region. Over the past six funding rounds, a small number of projects involved significant third-party coordination, however, no awards were made to multijurisdictional projects.

Due to impacts from the COVID-19 pandemic and the resulting changes in travel patterns, the I-66 Commuter Choice program has been undersubscribed in recent funding cycles, resulting in an approximately \$50 million reserve balance. (at the time this analysis was done in 2025). Looking forward, there is significant demand for funding, as detailed in the **I-66 Needs Assessment Project List Chapter**, that can leverage the available funding through the remainder of the program lifespan.

Figure 46: Funding Awarded by Round (I-66 Inside the Beltway)



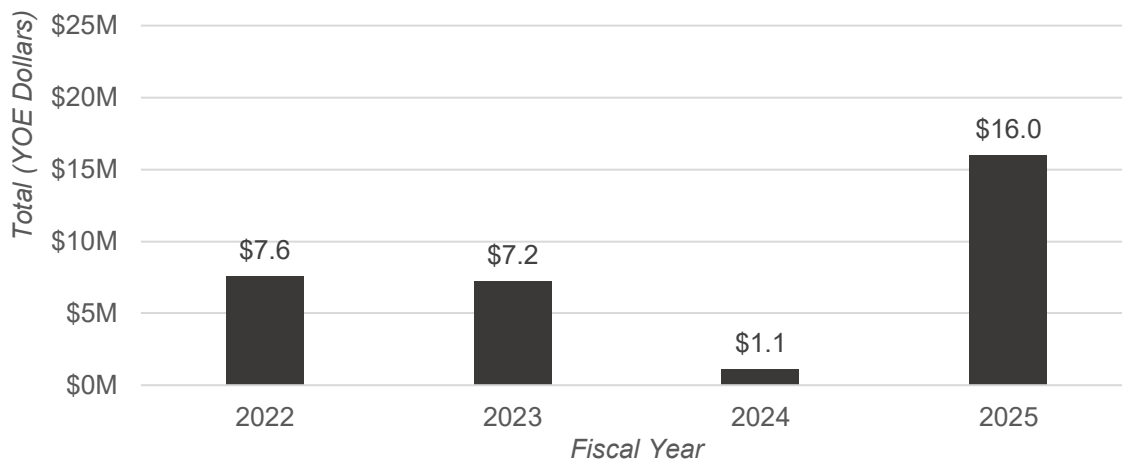
In the first four years of the I-66 *Outside the Beltway* program, the program has awarded approximately \$32 million (in YOE dollars) of awards to two transit agencies, as shown in **Figure 47**. Only one project was cancelled since 2017, accounting for less than 1% of the funding awarded. This means that awardees are implementing the projects as proposed with the awarded funding.

Looking forward, there is significant project demand to utilize the I-66 *Outside the Beltway* funding program. Stakeholder engagement throughout this project amplified the *Outside the Beltway* funding program to applicants who may have been less familiar with its process. Awareness of the program continues to grow, which may help ensure the program is fully subscribed in the future and effectively leverages the existing balance of approximately \$30 million.

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Figure 47: Funding Awarded by Fiscal Year (I-66 Outside the Beltway)



Goals

The financial analysis integrates how agencies and jurisdictions have used each program in the past as well as the project pipeline to inform a variety of scenarios that help NVTC and DRPT better understand tradeoffs of different financial strategies. The financial analysis identifies the total amount of funding available for each program individually and combined. The analysis explored changes in allocations between different expenditure options and how they align with the I-66 Needs Project List. The analysis helped to identify policy considerations needed to implement the financial scenario(s) that best meet project demand. **Figure 48** details the guiding question for the financial analysis and the two variables adjusted across the scenarios.

Figure 48: Financial Scenario Analysis Overview

Guiding Question: What financing options could both programs utilize to maximize available funding that best meets project demand?

How We Grow the Money

Financing Options

- Pay-As-You-Go (PayGo)
- Debt Financing
- Funding Reserve

How We Allocate the Money

Expenditure Options

- Minor Capital Projects
- Major Capital Projects
- Mega Capital Projects
- Transit Service Operations
- Rail Operating

The following sections detail the modeling framework, results, and tradeoffs.

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Modeling Framework

The modeling framework estimates the future financial capacity of the I-66 Commuter Choice *Inside the Beltway* and DRPT Outside the Beltway programs to support capital and operations expenses over a 30-year planning horizon (FY 2027 through FY 2057), with five financial plan scenarios for each program. These scenarios illustrate the financial capacity of each program to support varying levels of operating and capital expenditures and can be used to compare alternative funding and financing approaches tailored to upcoming needs.

The model evaluates how different financing approaches affect the future financial capacity of each tolling program, including pay-as-you-go (pay-go) funding, debt financing, and/or a funding reserve to support elements of the program. Program funds may be allocated to four project types defined in the **I-66 Needs Assessment Project List Chapter** including minor capital projects, major capital projects, mega projects and transit operations. The variables in the framework include the share of funding towards each of these project types as well as debt financing assumptions. **Figure 49** names the four scenarios, along with one sub scenario evaluated in this analysis. **Figure 49** also includes the share of the funding of each program that is allocated towards each of the expenditure types.

Note: NVTC is limited in the amount of Commuter Choice funding that may be applied to transit operations to no more than 50% of the corridor's available program funding over any nine-year period. To help maximize the support that Commuter Choice can provide for transit service improvements, NVTC segments the total operating costs for any transit service improvement project into transit and non-transit operations. The financial analysis assumes 60% of I-66 CC Operating expenditures are applied to transit operations and 40% to other operations.

Figure 49: Financial Modelling Scenarios

	Scenario 1 <i>Operating Spending Status Quo</i>	Scenario 2 <i>Maximize Transit Operations Spending</i>	Scenario 3 <i>Fund Larger Projects with Financing</i>	Scenario 3a <i>Fund Near- Term Larger Projects with Financing</i>	Scenario 4 <i>Fund Larger Projects with Funding Reserve</i>
ITB	65% Operating 35% PayGo	83% Operating 17% PayGo	65% Operating 13% PayGo 19% Major Proj 3% Debt Service	65% Operating 12% PayGo 20% Major Proj. 4% Debt Service	65% Operating 11% PayGo 24% Major Proj.
OTB	65% Operating 35% PayGo	80% Operating 20% PayGo	65% Operating 12% PayGo 20% Major Proj 3% Debt Service	65% Operating 11% PayGo 20% Major Proj. 4% Debt Service	65% Operating 11% PayGo 24% Major Proj.

Note(s): Scenario 3 assumes three equal debt issuances are assumed at 5-year intervals starting in FY 2028.

Scenario 3a assumes two debt issuances are assumed with a larger issuance in FY 2028 and smaller issuance in FY 2035.

The purpose of the financial modeling effort is to evaluate how different funding strategies may enhance or constrain NVTC's and DRPT's ability to fund projects that support the goals outlined in the MOA, including increasing person throughput. The scenarios were crafted to provide insights into the tradeoffs

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associated with each strategy and identify potential opportunities or limitations for program administration. **Table 12** outlines the key questions that the scenario is intended to help inform.

Table 12: Financial Model Scenarios Guiding Questions

Scenario	Aims to evaluate the following:
1 <i>Operating Spending Status Quo</i>	• If existing funding splits were to be carried forward, how much funding would be available for capital demand? • How well does the status quo meet capital demand?
2 <i>Maximize Transit Operations Spending</i>	• If requests for operations funding increase in the coming years, is there sufficient funding for operations to fund these projects? • How does the demand for operations funding in the Commuter Choice program relate to the 50% operations cap? • If requests for operations funding increase, will there still be enough funding to fund some capital projects (both large and small)?
3 <i>Fund Larger Projects with Debt Financing</i>	• Are bonding program funds a viable financing mechanism for larger capital projects? What volume of a project or projects? • Are there enough large capital projects identified to make bonding worthwhile?
3A <i>Fund Near-Term Larger Projects with Debt Financing</i>	• By bonding some funds for large capital while still funding some smaller-scale capital projects, would there be enough funding remaining to continue supporting some operations projects? • Specific for 3A: Can the program(s) support the near-term major capital and mega project demand?
4 <i>Fund Larger Projects with Funding Reserve</i>	• Is creating a funding reserve a viable financing mechanism for larger capital projects, and what does that look like in terms of project phasing? • Which large capital funding strategy (bonding or reserve fund) is better suited to meet capital project financing needs?

Modeling Results

Overview

The results of the financial modelling analysis provide an overview of the funding availability for operations, minor and major capital, as well as mega projects. This section illustrates available funding by five-year periods to better understand the nuance of how the funding can be leveraged and when funds would be available throughout the span of the program. Each scenario explores a different approach to grow and allocate the money that is distributed annually (following the transit payment schedule in **Appendix A: Annual Transit Payment Schedule**). The model incorporates existing carryover balances for both the Inside the Beltway and Outside the Beltway programs have and assumes that 10% of each year's carryover balance is used to fund transit operations and capital in each year of the forecast period. The model does not involve any additional revenue being what is expected based on signed agreements. This section first presents financial availability by program, expenditure type, and scenario. Secondly, funding availability is compared to the demand from the

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project list to better understand how the available funding levels relate to the project demands. To make this comparison, funding availability and project demand are reported in 2026 dollars. Lastly, this section discusses the tradeoffs of each scenario, which are similar across both programs.



Key Takeaways

- Project demand is significantly greater than funding availability for all project/expenditure types.
- Operating project demand is relatively consistent across the program lifespan, and the scenarios provide consistent funding for operating expenditures.
- Capital project demand ebbs throughout the program lifespans based on the assumed opening year of projects.
- Debt financing enables more significant investments in near-term (within the next 10 years) mega projects, some of which have already been identified by stakeholders.
- Together, both programs have approximately \$1 billion in available funding through 2057.

Note: All costs are reported in 2026 dollars unless otherwise reported

Inside the Beltway Results

Figure 50 illustrates the operating funding available by scenario for the *Inside the Beltway* Commuter Choice program. The total amount of operating funding available, given the assumptions of the modeling framework, is approximately \$360 million (in 2026 dollars) in all scenarios except for Scenario 2, which maximizes transit operating expenses, creating approximately \$450 million of operating funding availability.

Figure 50: Operating Funding Available by Scenario (Inside the Beltway)

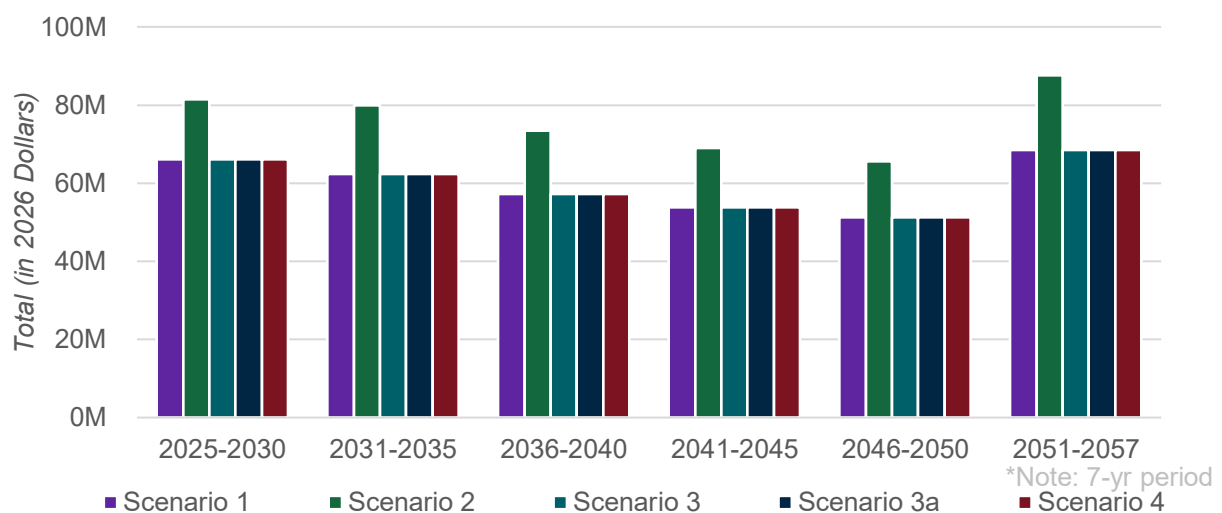


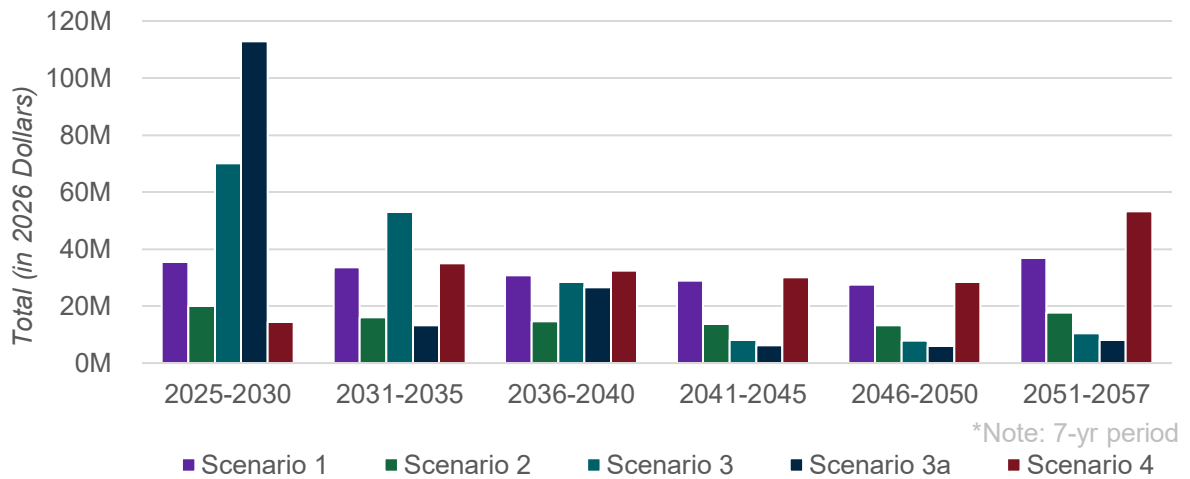
Figure 51 illustrates the capital funding available by scenario for the *Inside the Beltway* Commuter Choice program. The availability of capital funding varies more notably across the scenarios. Scenario 2 provides the lowest overall funding availability for capital projects. Scenarios 1 and 4 provide the

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greatest amount of total funding, approximately \$193 million, with Scenario 3/3a with slightly less overall capital funding of approximately \$175 million due to debt service costs. Scenario 3 and 3a provide the greatest amount of funding availability in the earlier periods of the program lifespan due to the infusion of funding received through the bonding of toll revenues.

Figure 51: Capital Funding Available by Scenario (Inside the Beltway)



A key component of the financial analysis is to understand how funding availability compares to project demand. **Figure 52** and **Figure 53** combine both availability and demand, illustrating that the demand for operating and capital funding is much greater than the overall amount of funding available. All these projects could be eligible for the *Inside the Beltway* program, and some could also be eligible for the *Outside the Beltway* program. As discussed in the **I-66 Needs Assessment Project List Chapter**, there is approximately \$9 billion in mega projects demand for the *Inside the Beltway* program. As the I-66 *Inside the Beltway* program has a funding cap of \$20 million per application (as of July 2026), and many of the total project costs are significantly greater than the funding available in a particular year, it is not anticipated that this program will fully fund any of these projects. Thus, to better compare the funding available and project demand, only 5% of mega project demand are integrated into the following charts.

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Figure 52: Operating Funding Available versus Project Demand (Inside the Beltway)

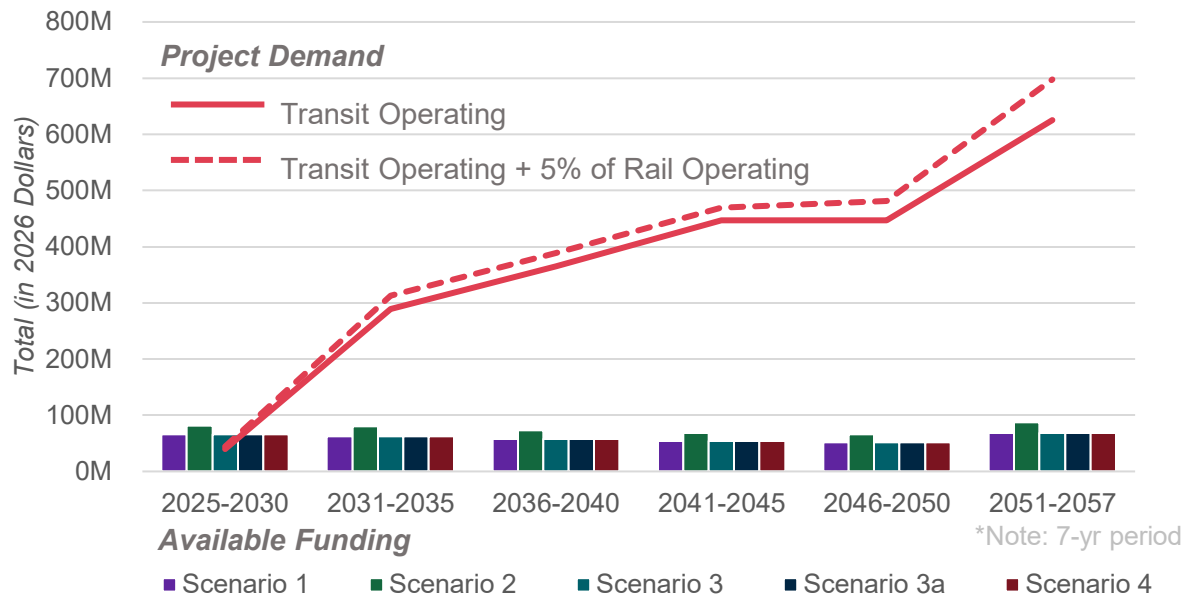
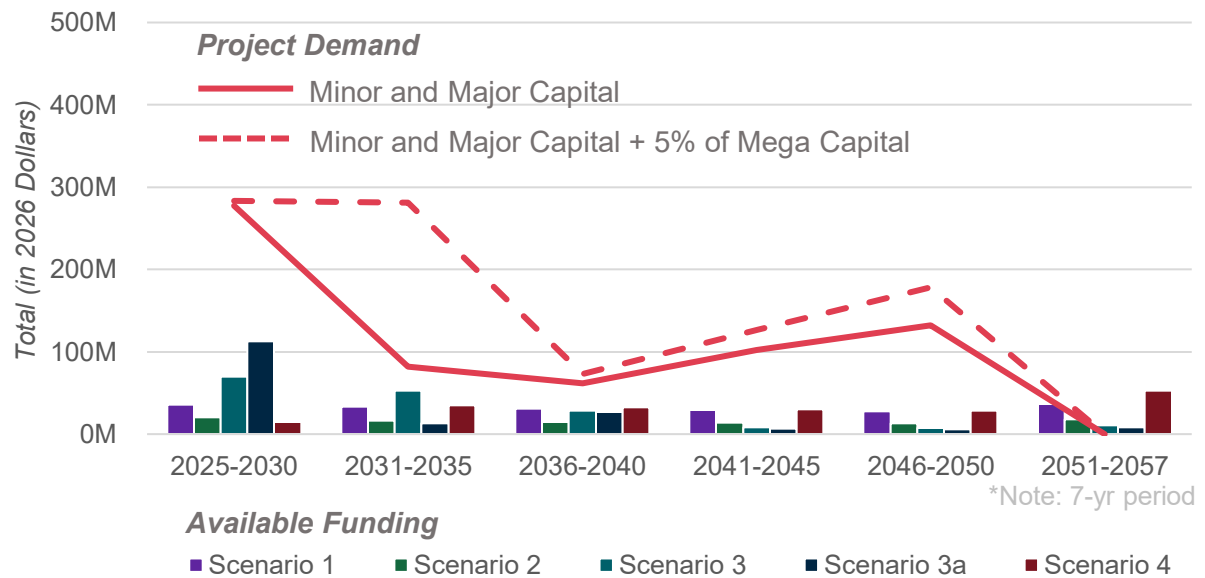


Figure 53: Capital Funding Available versus Project Demand (Inside the Beltway)



Outside the Beltway Results

Figure 54 illustrates the operating funding available by scenario for the *Outside the Beltway* program. The total amount of operating funding available, given the assumptions of the modeling framework, provide approximately \$300 million (in 2026 dollars) in all scenarios except for Scenario 2, which maximizes transit operating expenses creating approximately \$370 million (in 2026 dollars) of operating funding availability.

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Figure 54: Operating Funding Available by Scenario (Outside the Beltway)

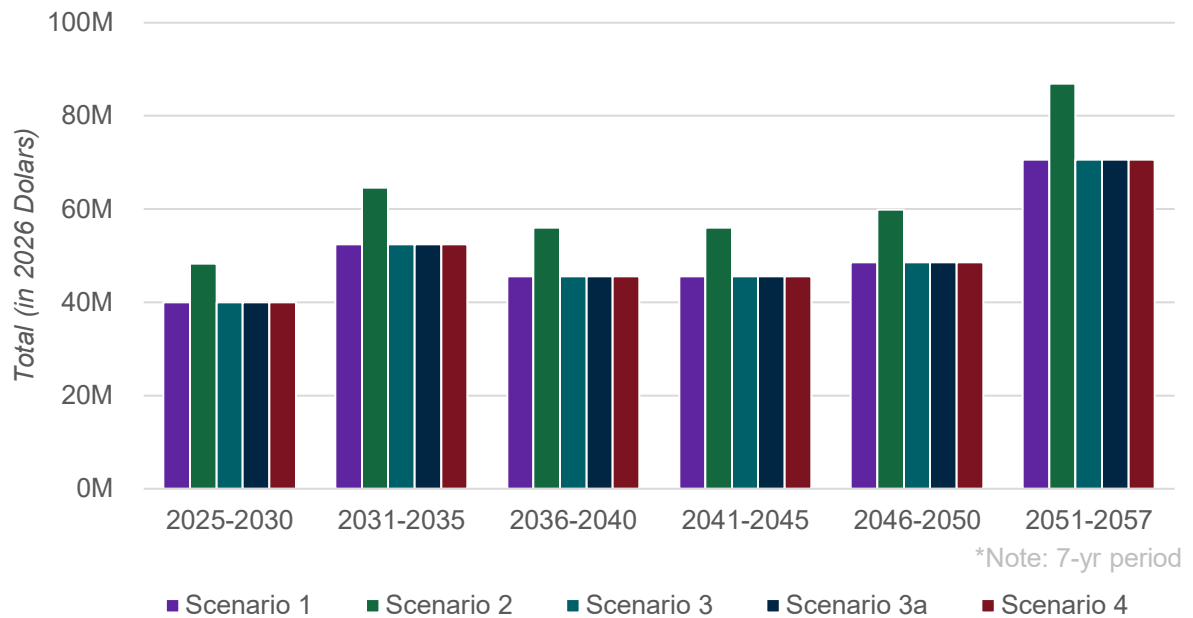
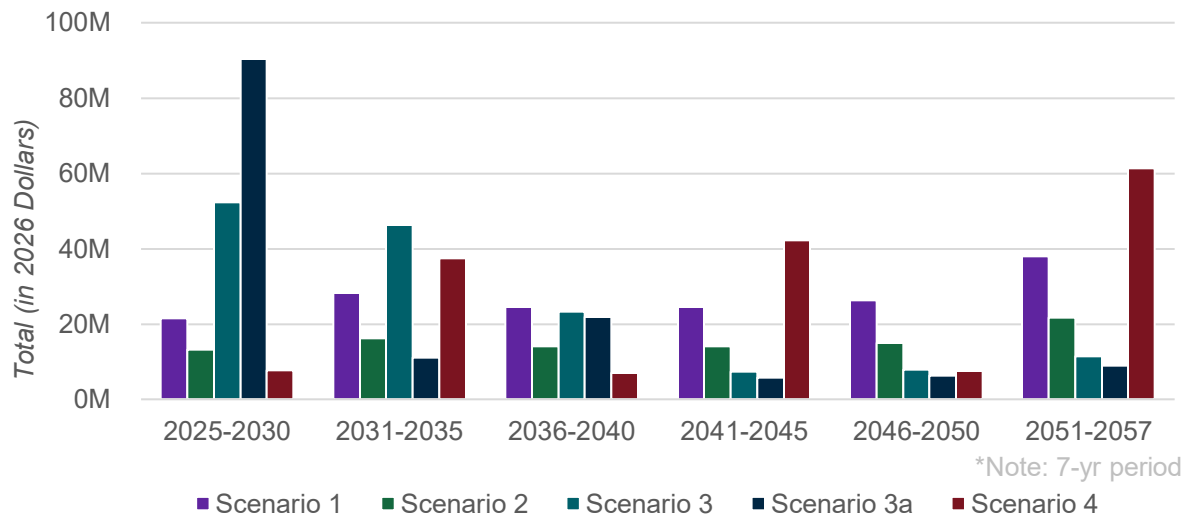


Figure 55 illustrates the capital funding available by scenario for the *Outside the Beltway* program. The availability of capital funding varies much more significantly across the scenarios. Converse to the trend for operating funding availability, Scenario 2 provides the lowest overall funding availability for capital projects. Scenarios 1 and 4 provide the greatest amount of total funding, approximately \$163 million (in 2026 dollars), with Scenario 3/3a with slightly less overall capital funding of approximately \$145 million (in 2026 dollars). Scenario 3 and 3a, do provide the greatest amount of funding availability in the earlier periods of the program lifespan.

Figure 55: Capital Funding Available by Scenario (Outside the Beltway)



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A key component of the financial analysis is to understand how the funding availability compares to the project demand. **Figure 56** and **Figure 57** combine both availability and demand, illustrating that the demand for operating and capital funding is much greater than the funding available. As discussed in the **I-66 Needs Assessment Project List Chapter**, there is approximately \$5 billion in mega projects' demand for the *Outside the Beltway* program. Approximately \$600 million of the above mega project demand could only apply for *Outside the Beltway* funding, while the remaining demand could be eligible for both programs. It is not anticipated that this program will fully fund any of these projects, thus to better compare the availability and demand, only 5% of mega project demand are integrated into the following charts:

Figure 56: Operating Funding Available versus Project Demand (Outside the Beltway)

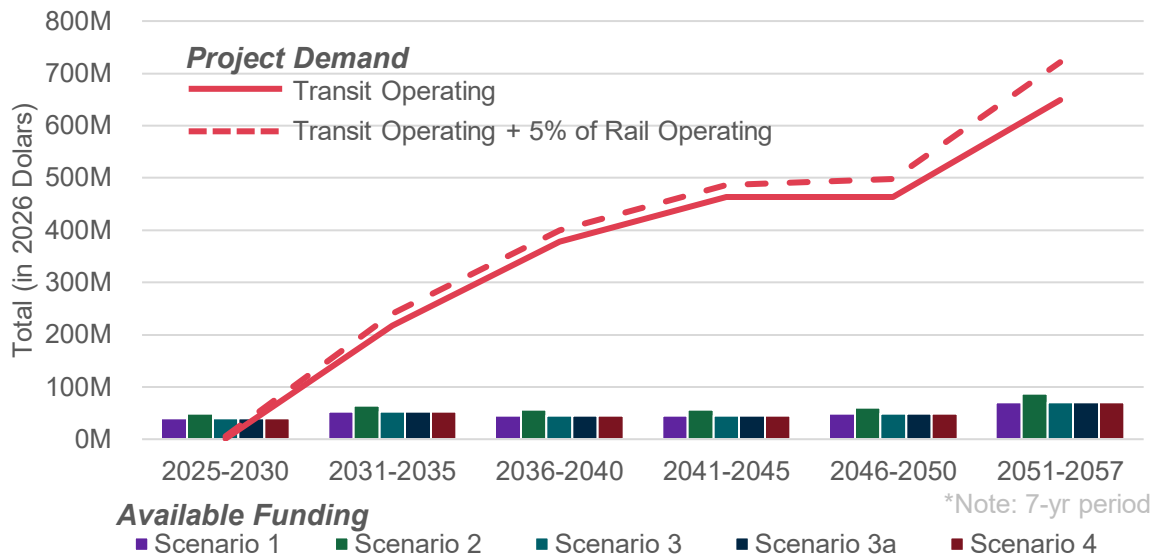
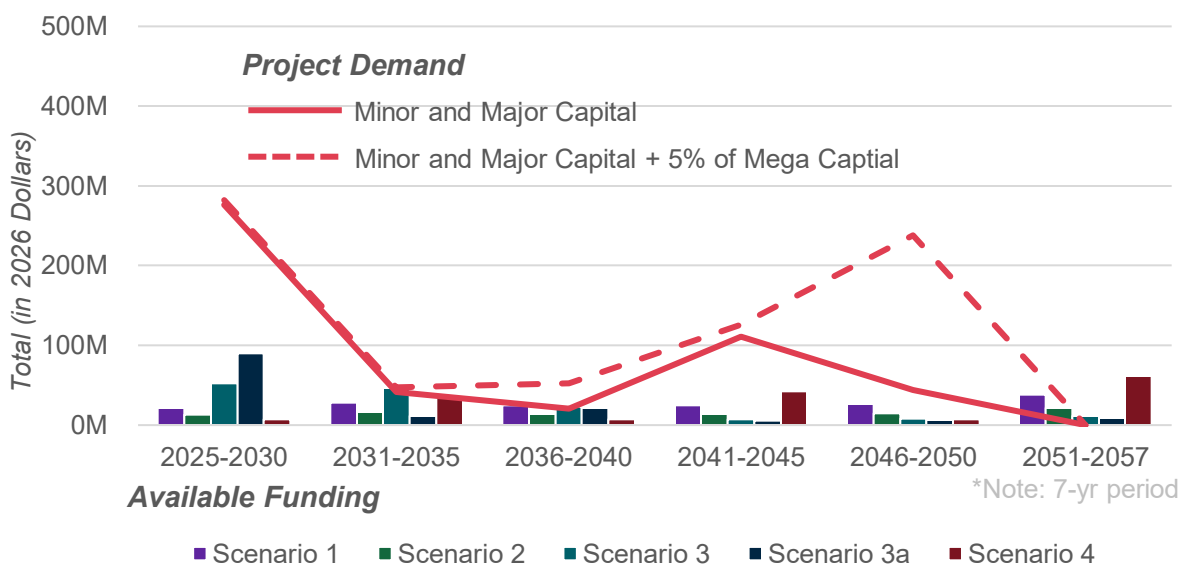


Figure 57: Capital Funding Available versus Project Demand (Outside the Beltway)



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Scenario Tradeoffs

The previous section highlighted that overall project demand is greater than funding availability. The following section focuses on how funding allocations within each scenario affect the program's ability to fund different project types and the tradeoffs associated with each of those scenarios. This section provides insights on many of the guiding questions detailed in **Table 12** at the beginning of this section. The funding availability figures in the sections below are in 2026 dollars.

Note: NVTC is limited in the amount of Commuter Choice funding that may be applied to transit operations to no more than 50% of the corridor's available program funding over any nine-year period. To help maximize the support that Commuter Choice can provide for transit service improvements, NVTC segments the total operating costs for any transit service improvement project into transit and non-transit operations. The financial analysis assumes 60% of I-66 CC Operating expenditures is applied to transit operations and 40% to other operations.

Tradeoffs by Scenario

Scenario 1 — Operating Spending Status Quo

Inside the Beltway

Funding Availability: **\$552 million**

Operating, 65% (359M)	PayGo, 35% (193M)
-------------------------------	---------------------------

Outside the Beltway

Funding Availability: **\$466 million**

Operating, 65% (303M)	PayGo, 35% (163M)
-------------------------------	---------------------------

In Scenario 1, transit operations spending is maintained at status quo levels. Approximately 65% of the available funding will go towards operating expenditures, and the remaining 35% will be applied on a pay-as-you-go basis for small-scale capital expenditures. This scenario continues to support routine capital needs through pay-go capital contributions. While this approach provides for the ability to continue funding smaller-scale capital expenditures, this scenario does not allow for substantive funding of any major or mega capital needs. Additionally, this scenario confirms that at status quo level, the *Inside the Beltway* Commuter Choice program will not reach the 50% limit on transit operations spending any time during the forecast period.

Scenario 2 — Maximize Transit Operations Spending

Inside the Beltway

Funding Availability: **\$552 million**

Operating, 83% (457M)	PayGo, 17%...
-------------------------------	------------------

Outside the Beltway

Funding Availability: **\$466 million**

Operating, 80% (372M)	PayGo, 20%...
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In Scenario 2, the share of available funding allocated towards operating expenditures is increased to closer to approximately 80% to maximize the ability to fund transit operations. The remainder of the funding is assumed to fund capital expenditures. This approach allows greater flexibility to continually fund new and enhanced transit service over several funding cycles. While providing for a significantly higher level of investment in transit operations, this scenario would restrict the program's ability to provide meaningful investment in capital projects within the corridor.

Note: In this scenario, the 50% limit on transit operations spending for the Inside the Beltway Commuter Choice funding is reached by FY 2033.

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Scenario 3 — Fund Larger Projects with Debt Financing

Inside the Beltway

Funding Availability: **\$535 million**

Mega Proj.	Operating,	PayGo,
19%	67%	13%
(106M)	(359M)	(70M)

Outside the Beltway

Funding Availability: **\$450 million**

Mega Proj.	Operating,	PayGo,
20%	68%	12%
(91M)	(303M)	(56M)

**Note: 3% of funds will go towards debt service*

Scenario 3 introduces debt financing, a mechanism for aggregating funding to create a larger, more impactful investment in major and/or mega capital projects. In this scenario, three debt issuances are assumed at 5-year intervals starting in FY 2028. The debt proceeds are sized such that no more than 25% of available funding is applied to fund debt service. It is assumed the other 65% of available funding will support operating expenditures and 10% to pay-go capital. This scenario provides flexibility to make significant capital investments early in the forecast period and avoid inflationary increases in construction costs later in forecast period. This scenario creates an enhanced ability to provide funding to one or more larger capital projects but limits the program's ability to provide funding for smaller capital projects and results in a lower amount of total funding based on the need to pay back debt. Based on assumptions presented, approximately 3%-4% of revenues (in 2026 dollars) would go to servicing debt interest over the forecast period under Scenarios 3 and 3a respectively.

Scenario 3a — Fund Near-Term Larger Projects with Debt Financing

Inside the Beltway

Funding Availability: **\$532 million**

Mega Proj.	Operating,	PayGo
20%	68%	12%
(108M)	(359M)	(65M)

Outside the Beltway

Funding Availability: **\$448 million**

Mega Proj.,	Operating,	PayGo
21%	68%	11%
(93M)	(303M)	(52M)

**Note: 4% of funds will go towards debt service*

Scenario 3a, similar to Scenario 3, leverages the long-term revenue stream for significant capital investment in the corridor, though earlier in the forecast period, through debt financing. Scenario 3a reduces the debt issuances from three to two debt issuances. It assumed that no more than 25% of available funding is committed to debt service, similar to Scenario 3. Scenario 3a changes the sizes and timing of the issuances, with the first issuance sized to provide a significant upfront infusion of capital funds. It intends to use a majority of the available debt capacity towards awards for near-term major capital or mega projects. The scenario then assumes a significantly smaller issuance would occur in 2038 to prepare for an increase in capital demand in the 2040–2050 time frame. Unique to Scenario 3a is the availability of approximately \$200 million (in 2026 dollars) of capital funding availability in the next 5 years (2026–2030). This scenario creates an enhanced ability to provide funding to one or more larger capital projects, and in a faster timeframe than in Scenario 3, but like with Scenario 3 this Scenario limits the program's ability to provide funding for smaller capital projects and results in a lower amount of total funding based on the need to pay back debt.

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Scenario 4 — Fund Larger Projects with Reserve Funding

Inside the Beltway

Funding Availability: **\$552.4 million**

Mega Proj., 24% (130M)	Operating, 65% (359M)	PayGo 11% (63M)
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Outside the Beltway

Funding Availability: **\$465.8 million**

Mega Proj., 24% (111M)	Operating, 65% (303M)	PayGo 11% (52M)
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Scenario 4 provides a predictable stream of capital project funding through the creation of a Reserve fund. This approach requires a portion of the funding to be saved or put in a Reserve account to be used for larger capital projects at a later date. While interest is earned on the Reserve deposit, this benefit is neutralized by loss in time value as some funds are stashed away for later instead of being spent in the year of availability. Delaying expenditures into the future also leads to lower purchasing power of the same funds due to inflationary increases in construction costs that may surpass general inflation and interest earnings.

Summary of Tradeoffs

Across all scenarios, total project demand substantially exceeds available funding in both programs. However, each scenario presents distinct opportunities and constraints regarding how program funds can be invested. A summary of the tradeoffs by scenario are detailed in **Table 13** below.

Table 13: Summary of Tradeoffs by Scenario

Scenario	Best to	Limits
1 <i>Operating Spending Status Quo</i>	Continue supporting smaller capital and ongoing transit operations	Funding for major or mega capital projects
2 <i>Maximize Transit Operations Spending</i>	Fund a greater share of operating expenditures than present	Funding for all types of capital projects
3 <i>Fund Larger Projects with Debt Financing</i>	Make significant capital investments in major and mega capital projects	Lower amount of overall funding for projects, need to pay financing costs
3A <i>Fund Near-Term Larger Projects with Debt Financing</i>	Earlier significant capital investments in major and mega capital projects	Lower amount of overall funding for projects, need to pay financing costs
4 <i>Fund Larger Projects with Funding Reserve</i>	Periodically substantively fund capital projects	Purchasing power due to inflation

Potential Policy Changes

Overview

Potential policy modifications provide another avenue to respond to the changing travel demand and projects that best serve I-66 commuters and toll payers. With the current policies in place, either set forth by the MOA or by the administering agency, many of the awards have been for new or enhanced commuter bus service, and associated bus capital purchases. Many of these services have requested and received renewals of operational funding, potentially resulting in future saturation of the funding programs should the pattern continue. While these capital and operational investments often provide benefits across jurisdictions, most applications are submitted by individual agencies rather than as multijurisdictional projects. Policy changes can enable both programs to better support one or more financial scenarios that most closely align with future demand for funding identified in the project list. The following chapter considers the following guiding questions,

- What policy changes can be made to **strategically leverage future toll revenue** in support of the most impactful projects?
- What policy changes are needed to best **support the financial scenario(s)** that most closely align with the project list?
- What policy changes should be implemented so that both funding programs can fund projects that best **meet program goals**?

The potential policy changes listed below are to provide information to inform decision making about potential policy changes. The list is not:

- Bundled package of policies requiring joint implementation
- Announcement of changes to the existing policy
- Recommendation of a course of action for NVTC or DRPT

Potential Policy Changes

The following sections highlight potential policy changes for each of the individual programs. Due to the similarities and complementary nature of the *Inside the Beltway* and *Outside the Beltway* programs, it is important that policy changes are considered both holistically and individually. Potential policy changes discussed below are not meant to be prescriptive, rather, they highlight areas for possible change while noting their potential benefits and drawbacks. For the *Inside the Beltway* program, all major policy changes are approved through an action by the Commission prior to implementation. For *Outside the Beltway*, all major policy changes would likely be reviewed through the Office of the Attorney General and the CTB prior to implementation.

I-66 Inside the Beltway (Administered by NVTC)

The I-66 *Inside the Beltway* program, policy, and administration is governed by the MOA approved in May of 2021. The MOA establishes the framework for the application process, eligibility requirements, and awarding structure. NVTC has also established additional program policies as defined in its Commuter Choice Handbook (which apply to both the I-66 and I-395/95 corridors). Through development of the I-66 Needs Assessment Project List and stakeholder engagement, several themes emerged regarding potential policy changes that could expand the pool of eligible projects while better supporting high-performing projects that advance program goals.

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One notable theme is the growing momentum to advance BRT projects throughout the region. Many of these projects are multijurisdictional requiring substantial funding, while offering reliable, flexible, and convenient travel options that provide corridor-wide benefits. To meaningfully support these projects, the study team explored potential policy changes to **optimize funding for larger projects**. Another emerging theme relates to the variety of eligible projects, from rail infrastructure improvements to trail improvements, and their varied impact on person throughput. With one goal of the program to maximize person throughput in the corridor and provide the strongest toll payer benefits, there is an opportunity to **streamline policies to support the best performing projects**. Potential policy changes for the *Inside the Beltway* program include the following:

ITB-A. Raising project funding limit above \$20 million

ITB-B. Expressly supporting project development activities

ITB-C. Using debt financing to help fund large capital projects

ITB-D. Creating a set-aside or reserve fund for large capital projects

ITB-E. Revising the 2-year obligation and 5-year expenditure deadlines

ITB-F. Removing the 50% cap on transit operating funding

ITB-G. Exploring parameters around project types that have historically had lower throughput increases

ITB-H. Examining match requirements

The following sections detail the existing conditions, policy considerations, relevant data and analysis, and tradeoffs for each of the policy change areas. The lettering and order of these policy change areas do not indicate priority.

Policy Change Area ITB-A: Raising project funding limit above \$20 million

Existing Condition	■ The maximum award amount outlined in the Commuter Choice Handbook is \$20M. Capital projects submitted to the program often have a total cost greater than \$20 million dollars, and that is expected to continue given the projects detailed in the I-66 Needs Assessment Project List Chapter and rising project demand.
Consideration	Increase the maximum award amount.
Relevant Data and Analysis	Over 27 capital projects planned for the corridor have demand greater than \$20 million that could be eligible for Commuter Choice funding. It is not anticipated that the maximum award amount would be in line with the total demand, as many are greater than \$50 million. ● Two operation projects have annual demand greater than \$20 million (in 2026 dollars) ■ VRE operations ● 25 capital projects have a total cost greater than \$20 million (in 2026 dollars) ■ BRT projects ■ Metro Rail station access improvements ■ VRE infrastructure improvements

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Policy Change Area ITB-A: Raising project funding limit above \$20 million (cont.)

Tradeoffs	Potential Benefits	Potential Risks
	• Provides greater ability to fund a higher share of larger capital projects that have the potential to significantly benefit the corridor • Helps close funding gaps for larger capital projects • In conjunction with debt financing or the creation of a reserve fund, could significantly enhance the program's ability to fund larger capital projects	• Could limit the ability to fund multiple smaller projects, including bus operations • May reduce the number of jurisdictions or organizations that receive funding in a given year if a few larger projects are funded

Policy Change Area ITB-B: Expressly support project development activities

Existing Condition	Currently, Commuter Choice does not provide funding for preliminary engineering and/or final design for projects with a total cost greater than \$5 million. Applicants can request funding for professional engineering and/or final design if the total request is less than \$5 million. Through stakeholder engagement, applicants highlighted that funding for the PE/final design may be challenging to secure from other sources, and expanding the Commuter Choice eligibility could provide funding for the design as well as the construction of capital projects that provide benefits in the corridor.	
Consideration	Broaden the eligibility to include project development activities for Large Capital Projects (>\$5 million) up to the maximum award amount.	
Relevant Data and Analysis	• 39 projects would likely have project development activities including: ■ BRT projects ■ Bus transfer station ■ Rail infrastructure improvements	
Tradeoffs	Potential Benefits	Potential Risks
	• Encourages development and implementation of larger capital projects • Provides greater funding options and flexibility for applicants to advance project development	• If the project is modified during the design phase or not constructed, the benefits to the toll payer may not be realized and the applicant would need to pay back funding

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Policy Change Area ITB-C: Using debt financing to help fund large capital projects

Existing Condition	To date, debt-financing has not been used to fund larger capital projects. The MOA permits the use of debt financing to support corridor investments, with limitations. NVTC has not yet developed specific policies on when and how to utilize debt financing for larger capital projects.	
Consideration	Develop policies on when and how to leverage debt-financing to more meaningfully provide funding for larger capital projects.	
Relevant Data and Analysis	- Assuming 25% of future program funding is financed, it provides ~\$123 million in capital purchasing power by 2035 (Scenario 3a) compared to ~\$70 million in Scenario 1 (Status Quo) scenario. - Assuming 25% of future program funding is financed, it provides ~\$112 million in capital purchasing power by 2030 (Scenario 3) compared to ~\$35 million in Scenario 1 (Status Quo) scenario.	
Tradeoffs	Potential Benefits	Potential Risks
	- Provides clarity for NVTC staff as well as applicants of larger capital projects about the logistics of using debt financing - Would provide the framework for the program to have a more substantial contribution towards larger capital projects - Debt financing provides near-term access to a larger pool of funding that would not be available otherwise	- Debt-financing requires interest payment that decreases overall program funding availability - Less funding would be available for transit operations and smaller capital projects - Limits funding availability in the latter half of the program lifespan - Could add the need for additional staff time and resources to execute and track financing and debt payments

Policy Change Area ITB-D: Creating a set-aside or reserve fund for large capital projects

Existing Condition	NVTC does not set aside or reserve any funding for use by a specific project type. At the end of a funding cycle, any unprogrammed funds are carried over for use in the subsequent funding cycle with no restrictions or limitations on how that funding can be programmed.
Consideration	Develop a structured approach to setting aside reserve funding for larger capital projects towards the latter half of the program lifespan. The amount of funding brought into a reserve fund could be prescribed prior to each funding cycle or occur more naturally if any unprogrammed funds are left over at the end of an application period. A policy for when to utilize reserve funding would also need to be developed.

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Policy Change Area ITB-D: Creating a set-aside or reserve fund for large capital projects (cont.)

Relevant Data and Analysis	31 projects fall into the major capital (capital demand greater than \$50 million or mega capital project categories (capital demand greater than \$100 million). - BRT projects - Rail infrastructure improvements - Park-and-ride lot expansion	
Tradeoffs	Potential Benefits	Potential Risks
	- Provides flexibility in the latter half of the program lifespan to fund larger capital projects - Allows the program to have a more substantial contribution towards larger capital projects - Provides significant funding for larger capital projects without having to pay back debt	- Reduces the available funding in the near term - Reduces funding available for operations and small capital projects - Buying power of reserve funding may in the latter half of the program lifespan diminish due to the impact of inflation

Policy Change Area ITB-E: Revising the 2-year obligation and 5-year expenditure deadlines

Existing Condition	The MOA details that Commuter Choice funding must be obligated within two years of award and be fully expended within 5 years of award. This structure is generally well-suited for operating assistance and smaller capital projects. However, larger capital projects often have longer delivery timelines and may face challenges fully expending funds within the 5-year window.	
Consideration	Extend the 2-year obligation and 5-year expenditure deadline.	
Relevant Data and Analysis	The I-66 Needs Assessment project list includes nearly 33 projects that are likely to have longer delivery timelines including, 18 mega capital projects 15 major capital projects	
Tradeoffs	Potential Benefits	Potential Risks
	- Provides greater schedule flexibility for grantees - Enables more flexibility around funding larger capital projects	- May take a longer period to realize the toll payer benefits of the awarded funding - Perception that funds are "sitting" and not being expended in a timely manner - Projects may be less 'ready' for construction or implementation and risk delay or cancellation

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Policy Change Area ITB-F: Removing the 50% cap on transit operating funding

Existing Condition	Per the MOA, no more than 50% of funding (across the previous nine years) can be spent on transit operations. This funding limit on transit operations impacts the amount of transit operations projects that can be awarded.	
Consideration	Modify or eliminate the 50% cap on transit operating projects.	
Relevant Data and Analysis	There continues to be demand for new, enhanced, and/or renewed transit operations funding. The I-66 Needs Assessment project list includes: • 36 transit operating projects • ~\$1 billion demand for bus transit operating projects in the corridor (that likely only could be eligible for the <i>Inside the Beltway</i> program) • ~\$1B demand for bus transit operating projects in the corridor (that likely only could be eligible for the <i>Outside the Beltway</i> program) • Another ~\$1.2 billion of bus transit operating demand could be eligible for <i>Inside the Beltway</i> as well as <i>Outside the Beltway</i>	
Tradeoffs	Potential Benefits	Potential Risks
	• Provides greater flexibility in awarding eligible applications regardless of their project type • Transit operating awards would be more based on travel demand than policy limitations • Costlier transit operations projects that provide significant person throughput increase benefits wouldn't be constrained for funding	• Reduces available funding for capital projects and investments if transit operating projects demand continues to grow

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Policy Change Area ITB-G: Exploring parameters around project types that have historically had lower throughput increases

Existing Condition	The MOA and Commuter Choice Handbook outline a variety of eligible project types, including access to transit improvements, roadway operations or intersection safety improvements, and transportation demand management. These project types, while eligible for Commuter Choice funding, have historically resulted in lower person throughput than other project types.	
Consideration	Establishing additional parameters around these project types to ensure sufficient person throughput increase targets are met and/or modifying the eligibility of one or more of these project types.	
Relevant Data and Analysis	Across six I-66 Commuter Choice funding cycles, seven access to transit projects and thirteen travel demand management projects have been funded. In post-implementation reporting these project types generally saw lower person throughput increases than other project types.	
Tradeoffs	Potential Benefits	Potential Risks
	Funds projects that have the greatest impact on persons moved through the corridor	Reduces program flexibility for applicants to seek funding for a variety of project types

Policy Change Area ITB-H: Examining match requirements

Existing Condition	Currently, the Commuter Choice program does not require applicants to provide a funding match.	
Consideration	A funding match requirement could be implemented based on a variety of factors including project type, whether the application is a continuation of a previously funded transit service enhancement, or amount of funding requested.	
Relevant Data and Analysis	Over the previous six I-66 Commuter Choice rounds, the average funding request is approximately \$900,000 (in YOE dollars) and approximately 10-12 projects awarded each round. As an illustrative example, if a 15% match were to be required for all projects it could reallocate \$1.3 million–\$1.6 million to additional projects.	
Tradeoffs	Potential Benefits	Potential Risks
	- Encourages applicants to apply for projects they are fully committed to - Creates slightly more funding to spread across projects	Create a barrier for applicants that may not have available local funds

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I-66 Outside the Beltway (Administered by DRPT)

The I-66 *Outside the Beltway* program, policy, and administration is governed by the MOA approved in May 2021. The MOA establishes the framework for the schedule of transit payments. The program has less definition around program administration, eligibility, and scoring.

Through the stakeholder engagement, many potential applicants were (re)introduced to the I-66 *Outside the Beltway* program and the types of projects that could be eligible for funding in the future. Many of the policy changes that DRPT is considering relate to better advertising and promoting the program as well as incentivizing larger projects that have the greatest impact on travel through the corridor.

OTB-A. Utilizing debt financing to help fund large capital projects

OTB-B. Incentivize large regional collaboration through scoring or match percentage

OTB-C. Improve clarity and promotion of the Outside the Beltway program's availability and administration

Policy Change Area OTB-A: Utilizing debt financing to help fund large capital projects

Existing Condition	To date, debt-financing has not been utilized to fund larger capital projects. DRPT would need to further explore the feasibility and administration of debt-financing.	
Consideration	Develop a policy on when and how to leverage debt-financing to be able to more meaningfully fund larger capital projects.	
Relevant Data and Analysis	- Assuming 25% of future program funding is financed, it provides ~\$98 million in purchasing capital power by 2035 (Scenario 3) in comparison to ~\$50 million in Scenario 1 (status quo) scenario - Assuming 25% of future program funding is financed, it provides ~\$90 million in purchasing power by 2030 (Scenario 3a) in comparison to ~\$20 million in Scenario 1 (status quo) scenario	
Tradeoffs	Potential Benefits	Potential Risks
	- Provides clarity for DRPT staff as well as applicants of larger capital projects about the logistics of using debt financing - Provide near-term access to a larger pool of funding that would not be available otherwise	- Debt-financing requires interest payment that decreases the overall funding availability - Less funding would be available for transit operations and smaller capital projects - Limits funding availability in the latter half of the program lifespan

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Policy Change Area OTB-B: Incentivize large regional collaboration through scoring or match percentage

Existing Condition	Currently, all projects do not require a match and are funded at 100%. Many of the projects on the (I-66 Needs Assessment Project List) are multijurisdictional but applications to date have been submitted by only one applicant	
Consideration	Consider a match requirement (10–50%) for other single-jurisdictional projects and no match requirement for multijurisdictional projects.	
Relevant Data and Analysis	Approximately 33 of the projects requiring significant collaboration between more than one entity with many other projects requiring collaboration between more than one entity	
Tradeoffs	Potential Benefits	Potential Risks
	- Encourages multijurisdictional projects, which may also help smaller towns/cities advance their projects in partnership with larger projects - Creates slightly more funding to spread across projects	Create a barrier for applicants that may not have available local funds

Policy Change Area OTB-C: Improve clarity and promotion of the Outside the Beltway program's availability and administration for potential applicants

Existing Condition	Documented information that is accessible to potential applicants regarding the program is limited. Eligible applicants may be unaware of the process to apply for funding, eligibility and reporting elements, and other considerations that are available for other DRPT grants.	
Consideration	Include the Outside the Beltway program in DRPT's Transit and Commuter Assistance Grant Application Manual (Blue Book) and Grant Administration Procedures (Purple Book). Add program information on the publicly accessible DRPT website and provide links to the Commuter Choice Program	
Relevant Data and Analysis	- There are 66 projects in the I-66 Needs Assessment project list that could be eligible for Outside the Beltway funding. - Applicants to date have been limited to OmniRide and Fairfax Connector	
Tradeoffs	Potential Benefits	Potential Risks
	- Better utilization of available funding - Clearer understanding for applicants of expectations	Requires upfront staff time to incorporate changes

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Conclusions

The I-66 corridor in Northern Virginia is an important link for residents and visitors to access destinations throughout the region. Travel demand along the corridor is expected to continue growing in response to ongoing residential development and major employment centers. In anticipation of this growth, jurisdictions and transit providers have identified a wide range of projects designed to offer more convenient, reliable, and flexible transportation options. These projects, captured in the **I-66 Needs Assessment Project List Chapter**, represent approximately \$16.8 billion in funding demand in the corridor, far exceeding the funding availability of the program (~\$1 billion). Many of these projects are larger and more complex than either program has funded to date and highlight the need for strategic and long-range planning to best support projects in the corridor.

The financial scenario analysis and policy change considerations provide frameworks for advancing program goals and examining tradeoffs to funding allocation and policy decisions for both programs. While one specific scenario does not address the total project demand, the scenarios illustrate different approaches to optimizing available funding, such as focusing on transit operations (Scenario 2) or advancing larger capital projects (Scenario 3 and 4). In some cases, implementing one of these scenarios would also require policy changes to enable the programs to award funding. The **Investment Pipeline Chapter** presents the trade-offs and opportunities to support decision making that will shape the investment of the *Inside the Beltway* and *Outside the Beltway* programs and fund projects that provide the most benefits throughout the I-66 corridor.

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Appendix A: Annual Transit Payment Schedule

Inside the Beltway (Commuter Choice) Annual Transit Payment Schedule

Fiscal Year	VDOT Toll Revenue Payment (\$ Nominal)	I-66 OTB Concession Payment (\$ Nominal)	One-Time I-66 OTB Transfer (\$ Nominal)	Total (\$ Nominal)
2017	\$9,800,675			\$9,800,675
2018	\$5,743,393			\$5,743,393
2019	\$15,367,040			\$15,367,040
2020	\$10,642,199			\$10,642,199
2021				\$0
2022	\$2,803,000	\$5,000,000		\$7,803,000
2023	\$10,014,340	\$5,125,000		\$15,139,340
2024	\$10,768,906	\$5,253,125	*\$16,598,252	\$32,620,283
2025	\$11,038,129	\$5,384,453		\$16,422,582
2026	\$11,314,082	\$5,519,064		\$16,833,146
2027	\$11,596,934	\$5,657,041		\$17,253,975
2028	\$11,886,858	\$5,798,467		\$17,685,325
2029	\$12,184,029	\$5,943,429		\$18,127,458
2030	\$12,488,630	\$6,092,014		\$18,580,644
2031	\$12,800,845	\$6,244,315		\$19,045,160
2032	\$13,120,867	\$6,400,423		\$19,521,290
2033	\$13,448,888	\$6,560,433		\$20,009,321
2034	\$13,785,110	\$6,724,444		\$20,509,554
2035	\$14,129,738	\$6,892,555		\$21,022,293
2036	\$14,482,982	\$7,064,869		\$21,547,851
2037	\$14,845,056	\$7,241,491		\$22,086,547
2038	\$15,216,183	\$7,422,528		\$22,638,711
2039	\$15,596,587	\$7,608,091		\$23,204,678
2040	\$15,986,502	\$7,798,294		\$23,784,796
2041	\$16,386,164	\$7,993,251		\$24,379,415
2042	\$16,795,819	\$8,193,082		\$24,988,901
2043	\$17,215,714	\$8,397,909		\$25,613,623
2044	\$17,646,107	\$8,607,857		\$26,253,964
2045	\$18,087,259	\$8,823,053		\$26,910,312
2046	\$18,539,441	\$9,043,630		\$27,583,071
2047	\$19,002,927	\$9,269,720		\$28,272,647
2048	\$19,478,000	\$9,501,464		\$28,979,464
2049	\$19,964,950	\$9,739,000		\$29,703,950
2050	\$20,464,074	\$9,982,475		\$30,446,549
2051	\$20,975,676	\$10,232,037		\$31,207,713

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Fiscal Year	VDOT Toll Revenue Payment (\$ Nominal)	I-66 OTB Concession Payment (\$ Nominal)	One-Time I-66 OTB Transfer (\$ Nominal)	Total (\$ Nominal)
2052	\$21,500,068	\$10,487,838		\$31,987,906
2053	\$22,037,569	\$10,750,034		\$32,787,603
2054	\$22,588,509	\$11,018,785		\$33,607,294
2055	\$23,153,221	\$11,294,254		\$34,447,475
2056	\$23,732,052	\$11,576,611		\$35,308,663
2057	\$24,325,353	\$11,866,026		\$36,191,379
Totals	\$620,953,876	\$286,597,062	\$16,598,252	\$924,149,190

*Make up payment for a missed payment and a lower-than-scheduled payment in 2020 and 2021 as a result of decreased tolling revenues brought on by the COVID-19 pandemic.

Outside the Beltway Annual Transit Payment Schedule

Fiscal Year	Construction Period Transit Funding Payments (\$ Nominal)	Operating Period Transit Funding Payments (\$ Nominal)	Annual Funding Transfers to NVTC For Commuter Choice (\$ Nominal)	One-Time Transfer to NVTC (\$ Nominal)	Total Funding by Fiscal Year (\$ Nominal)
2021	\$21,500,000.00	\$ -			\$21,500,000.00
2022	\$21,500,000.00	\$ -	(\$5,000,000.00)		\$16,500,000.00
2023		\$42,000,000.00	(\$5,125,000.00)		\$36,875,000.00
2024		\$11,000,000.00	(\$5,253,125.00)	(\$16,598,252.00)	(\$10,851,377.00)
2025		\$11,000,000.00	(\$5,384,453.13)		\$5,615,546.88
2026		\$11,500,000.00	(\$5,519,064.45)		\$5,980,935.55
2027		\$13,500,000.00	(\$5,657,041.06)		\$7,842,958.94
2028		\$16,500,000.00	(\$5,798,467.09)		\$10,701,532.91
2029		\$19,000,000.00	(\$5,943,428.77)		\$13,056,571.23
2030		\$22,500,000.00	(\$6,092,014.49)		\$16,407,985.51
2031		\$24,000,000.00	(\$6,244,314.85)		\$17,755,685.15
2032		\$23,000,000.00	(\$6,400,422.72)		\$16,599,577.28
2033		\$24,000,000.00	(\$6,560,433.29)		\$17,439,566.71
2034		\$25,000,000.00	(\$6,724,444.12)		\$18,275,555.88
2035		\$25,000,000.00	(\$6,892,555.22)		\$18,107,444.78
2036		\$25,000,000.00	(\$7,064,869.10)		\$17,935,130.90
2037		\$25,000,000.00	(\$7,241,490.83)		\$17,758,509.17
2038		\$25,000,000.00	(\$7,422,528.10)		\$17,577,471.90
2039		\$26,000,000.00	(\$7,608,091.31)		\$18,391,908.69

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Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

Fiscal Year	Construction Period Transit Funding Payments (\$ Nominal)	Operating Period Transit Funding Payments (\$ Nominal)	Annual Funding Transfers to NVTC For Commuter Choice (\$ Nominal)	One-Time Transfer to NVTC (\$ Nominal)	Total Funding by Fiscal Year (\$ Nominal)
2040		\$28,500,000.00	(\$7,798,293.59)		\$20,701,706.41
2041		\$30,000,000.00	(\$7,993,250.93)		\$22,006,749.07
2042		\$30,000,000.00	(\$8,193,082.20)		\$21,806,917.80
2043		\$30,000,000.00	(\$8,397,909.26)		\$21,602,090.74
2044		\$30,000,000.00	(\$8,607,856.99)		\$21,392,143.01
2045		\$32,500,000.00	(\$8,823,053.41)		\$23,676,946.59
2046		\$35,000,000.00	(\$9,043,629.75)		\$25,956,370.25
2047		\$35,000,000.00	(\$9,269,720.49)		\$25,730,279.51
2048		\$37,500,000.00	(\$9,501,463.50)		\$27,998,536.50
2049		\$40,000,000.00	(\$9,739,000.09)		\$30,260,999.91
2050		\$40,000,000.00	(\$9,982,475.09)		\$30,017,524.91
2051		\$40,000,000.00	(\$10,232,036.97)		\$29,767,963.03
2052		\$41,500,000.00	(\$10,487,837.90)		\$31,012,162.10
2053		\$45,000,000.00	(\$10,750,033.84)		\$34,249,966.16
2054		\$47,000,000.00	(\$11,018,784.69)		\$35,981,215.31
2055		\$47,500,000.00	(\$11,294,254.31)		\$36,205,745.69
2056		\$49,000,000.00	(\$11,576,610.66)		\$37,423,389.34
2057		\$53,500,000.00	(\$11,866,026.00)		\$41,633,974.00
2058		\$57,500,000.00			\$57,500,000.00
2059		\$58,000,000.00			\$58,000,000.00
2060		\$58,000,000.00			\$58,000,000.00
2061		\$58,000,000.00			\$58,000,000.00
2062		\$59,000,000.00			\$59,000,000.00
2063		\$61,500,000.00			\$61,500,000.00
2064		\$65,000,000.00			\$65,000,000.00
2065		\$33,500,000.00			\$33,500,000.00
Total	\$43,000,000.00	\$1,511,500,000.00	(286,507,063.21)	(\$16,598,252.00)	\$1,251,394,684.79

Appendix B: Previous I-66 Corridor Multimodal Studies (Details)

2012 Inside the Beltway Study⁶

Program(s): Inside the Beltway only

Goal(s): The goal of the study was to identify the range of current and visionary multimodal and corridor management solutions (operational, transit, bike and pedestrian, in addition to highway improvements) that could be implemented to reduce highway and transit congestion and improve overall mobility within the corridor, major arterial roadways, and bus routes within the study area.

Findings: Through an analysis of existing and new planning ideas, influencing factors, and modal indicators, the study identified the following set of transportation issues:

- Westbound roadway congestion
- Eastbound roadway congestion (including interchange capacity constraints at the Dulles Connector Road)
- Capacity issues at I-66/arterial interchanges
- Non-HOV users during HOV operation hours
- Orange line Metro Rail congestion
- Adverse impact of roadway congestion on bus service
- Challenges to intermodal transfers (rail, bus, bicycle, etc.)
- Bottlenecks on the Washington & Old Dominion (W&OD) and Custis Trails
- Limitations/gaps in bicycle and pedestrian accessibility and connectivity

Recommendations:

Core recommendations echoed the improvements included in the 2011 constrained long range plan (CLRP) for 2040 developed by the Metropolitan Washington Council of Governments (MWCOC). These improvements included shifting from HOV 2+ to 3+, Silver line Metro Rail extension to Loudoun County, spot improvements along I-66 (westbound), and implementing the Active Traffic Management element of an integrated corridor management (ICM) system.

In addition to the core recommendations, the plan proposed a package of recommendations to be considered following the core recommendations. The package included recommendations such as completion of bicycle and pedestrian network, full operability of an ICM system, enhancements to TDM programs, implementation of high-occupancy toll (HOT) lanes, implementation of the best performing transit recommendations, addition of a third lane in specific locations, and exploring use of commonly used design waivers/exceptions to remain within the existing right-of-way for I-66. The bus

⁶ [I-66 Multimodal Study Inside the Beltway Final Report \(June 8, 2012\) - DocsLib](#)

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level of service and capacity mobility option, detailed in the report, discusses improvements to bus service between the following origins and destinations:

- Haymarket - Washington, DC (peak and off-peak, bidirectional)
- Centreville - Washington, DC (peak and off-peak, bidirectional)
- Fair Lakes - Washington, DC (peak and off-peak, bidirectional)
- Ballston - Vienna (along Wilson Blvd and Route 50) (peak and off-peak)
- Skyline Plaza - East Falls Church (peak and off-peak, weekday only)
- Route reconstruction, splits, or frequency increases on existing routes servicing East Falls Church and destinations outside the beltway

Relation to future studies:

Many of the recommendations suggested in this plan have been implemented and/or advanced. For example, the shift from HOV 2+ to HOV 3+ occurred in 2022. The Silver line extension to Ashburn also opened in 2022. Additionally, regional and local investment in multimodal infrastructure, transit, and TDM throughout the region has benefited the corridor. While some of the following I-66 corridor reports expanded upon the findings in this study, none were specific to I-66 *Inside the Beltway*.

2016 Transform 66 Transit and TDM Technical Report

Program(s): *Outside the Beltway* only

Goals: This Transit and Technical Report was a supporting technical document for the Environmental Assessment (EA) for the implementation of the Express Lanes and associated improvements. The purpose of this report is to provide information on transit service, Park and Ride facilities, and TDM elements of the I-66 Corridor Improvements Project or Transform 66 Outside the Beltway.

Findings:

- Commute mode share varies along the corridor with commuters closer to Washington, DC more heavily using transit and further west more heavily traveling by single-occupancy vehicle (SOV)
- Limitations for non-SOV modal options along the I-66 corridor include the need for expanded all-day and weekend transit service, broader origins and destination coverage, and expanded bicycle and pedestrian infrastructure
- Traffic congestion contributes to unreliable travel times, which are a key consideration for travelers
- Metro Rail is crowded and expected to continue to be crowded with the planned near-term implementation of all eight-car trains on the Orange line
- Growth with density sufficient to be served by transit is expected along Route 28, Dulles, and Tysons areas

Recommendations:

- Transit and TDM will help to move more people and increase transportation options:
 - 20 new and enhanced bus routes
 - Construction of three new park-and-rides
 - Expansion of one park-and-ride
 - TDM strategies to incentivize non-SOV travel
- Nimble and phased implementation of recommendations will be critical

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Relation to future studies:

This study, informed by previous *Outside the Beltway* studies, focused on the *Outside the Beltway* portion of I-66. This study was the basis for the 2020 refresh (discussed later in this section). Of the 20 proposed bus routes, four origin-destination (OD) pairs were served by direct transit at the time of the analysis (2016). Three of these four pairs continue to be in service, though have evolved with frequency or route modifications. An additional nine OD pairs are projected to be in service before or by 2025.

The following overview describes the transit recommended to be in service by 2025:

- Generally, the origins of routes to be in service by 2025 include Haymarket, Gainesville (x6), Manassas (x3), Centreville, Fairfax Center, Westfields, and Stringfellow.
- Generally, the destinations of routes to be in service by 2025 are much more geographically dispersed and include Washington, DC (x5), Westfields, Reston, Herndon, Tysons (x2), Merrifield (x2), and Vienna.
- Three of the OD pairs set to be in service (Gainesville to Tysons, Gainesville to Herndon, and Gainesville to Reston) in 2025 have been discontinued due to low ridership.

The following origins and destinations are for the OD pairs with transit recommended after 2025:

- The origins are Gainesville (x2), Manassas, Centreville, and Stringfellow (x2).
- The destinations are Chantilly, Merrifield, Reston, Tysons, Vienna, and Mark Center.

All three of the new park-and-ride lots have been opened/expanded since the study was completed, including the University Boulevard, Balls Ford Road, and Monument Drive Park-and-Ride locations. Additionally, numerous TDM strategies have been advanced in the corridor.

2020 I-66 Corridor (Outside the Beltway) Transit & TDM Plan Update

Program(s): *Outside the Beltway* only

Goals: The study revisited the improvements from the 2016 report (previously discussed in this section) and updated them using the most current data and future projections. The goals of the study were to:

- Increase mobility and maximize person throughput in the corridor through the identification of new transportation alternatives, including transit and TDM service improvements
- Coordinate projects that are currently funded by two funding mechanisms, I-66 Commuter Choice: *Inside the Beltway* program and Transform 66 *Outside the Beltway*, to achieve efficiency and reliability of travel along the corridor
- Evaluate the future mix of transit strategies to increase travel options and intermodal connectivity, as well as reduce congestion in the corridor

Note - This study was released shortly before the COVID-19 pandemic, which significantly affected travel behavior and projections. As a result, some of the assumptions and recommended commuter routes may not reflect post-pandemic and/or current conditions.

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Findings:

The modeling effort conducted as a part of this study identified the following key findings:

- Greater travel demand between Fairfax County and Arlington and Washington, DC
- Routes from Gainesville and Manassas to Reston were projected to have lower demand and lower benefits to I-66 toll payers
- Commuter bus and VRE commuter rail markets were independent, and service enhancements for one mode had a negligible impact on the performance of the other mode

Recommendations:

The study developed 13 proposed commuter bus routes to serve projected demand along I-66. Five of these routes were carried forward (with modifications) from the 2016 study. The origins in the list include Gainesville, Haymarket, Manassas, Stringfellow, and Fairfax Center. The destinations in the list include Ballston/Rosslyn, Pentagon, Tysons, Reston, East Falls Church, and destinations in Washington, DC. The study anticipated that the implementation of the 13 proposed commuter bus routes would lead to an estimated 4.2 million riders annually by 2045. The top routes in 2030, by priority rank, included Stringfellow to Pentagon, Gainesville to Pentagon, Haymarket to Washington, DC, Stringfellow to L'Enfant Plaza, and Manassas to Washington, DC, all with headways of 15 minutes or less.

The Commuter Rail recommendations built on the Broad Run Maintenance and Storage Facility expansion project and Long Bridge project, proposing 15-minute headways during the peak period and peak direction for 2030 and 2045. The implementation of the recommended service enhancements showed an estimated increase of annual ridership on the VRE Manassas Line by approximately 2.3 million riders by 2045. The plan also developed a breadth of TDM strategies to incentivize non-SOV travel in the corridor.

Relation to future studies:

The 2020 study is the most recent effort in the corridor and serves as a key foundation for this study. Though travel conditions have changed since its publication prior to the COVID-19 pandemic, many of the commuter routes recommended have been implemented. Additionally, planning for capital and operational enhancements of VRE service on the Manassas Line has continued. Eight of the 13 bus routes were existing, six are still active in 2026. One was discontinued and one was integrated into a different route. Of the five new routes, one has been placed into service. The current (spring 2026) frequencies are better or closer (within 10 minutes) to the recommended 2022 frequencies and most are within 15 minutes of the recommended 2030 recommendations. **Table 14** provides an overview of the routes proposed and whether they were funded in subsequent years of either grant funding program.

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Table 14: 2020 I-66 Corridor Transit & TDM Plan Update (OTB) Proposed Routes and Subsequent Funding Requests

Proposed Commuter Bus Routes	13	New Routes	5	Requested Grant Funding	1
		Existing Routes	8	Requested Grant Funding	2
				Continued Grant Funding	5

Source: 2020 I-66 Corridor Transit & TDM Plan Update, Commuter Choice funded projects since FY 2020, and I-66 OTB funded projects from FY 2022

Both the Broad Run Station expansion project and Long Bridge project are advancing through the project development and delivery processes. Additionally, VRE's System Plan 2050 further refines and refreshes service levels along the Manassas Line.

Appendix C: Jurisdiction by Jurisdiction Top Origins and Destination Pairs and Propensity

Table 15: Arlington County Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift (veh → transit trips)
Langston Blvd	Rosslyn	90 / 80	High	15 - 20
	Crystal City	70 / 60	High	15 - 20
	Farragut Square	50 / 40	High	5 - 10
North Arlington	Rosslyn	60 / 50	High	~10
	Crystal City	60 / 50	High	~10

Table 16: City of Fairfax Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Potential Mode Shift (veh → transit trips)
City of Fairfax	Tysons	1100/1500	Medium	80-150
	Mclean	900/735	Medium	50-120
	Fort Meyer	300/300	High	20-40
	Langston Blvd	400/300	High	20-50
	City of Falls Church	300/100	Medium	10-45

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Table 17: City of Falls Church Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Potential Mode Shift (veh → transit trips)
City of Falls Church	Rosslyn	70/70	High	5 – 15
	Farragut Square/ Downtown DC	90/70	High	15 – 20
	Crystal City/ Pentagon	60/60	High	10 – 20

Table 18: City of Manassas Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Potential Mode Shift (veh → transit trips)
City of Manassas	Tysons	1600 / 1900	Low	50-100
	McLean	500 / 400	Low	10 - 30
	Dunn Loring-Merrifield	400 / 300	Low	10 - 30

Table 19: City of Manassas Park Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Potential Mode Shift (veh → transit trips)
City of Manassas Park	Tysons	500 / 900	Low	10 – 50
	McLean	100 / 200	Low	~10

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Table 20: Fairfax County Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift (veh → transit trips)
Centreville	Tysons	3000 / 4000	Low	200 - 400
	Dunn Loring-Merrifield	1500 / 1500	Low	45 - 90
	Farragut Square	900 / 900	Low	60 - 110
Fairfax Center	Tysons	2000 / 2500	Low	60 - 120
Dulles South	Tysons	1600 / 1600	Low	115 - 200

Table 21: Loudoun County Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift (veh → transit trips)
Stone Ridge / South Riding	Farragut Square and Downtown DC	1300 / 1000	Low – Medium	50 - 100
	Dunn Loring-Merrifield	900 / 700	Low	20 - 50
	Ballston and Rosslyn	900 / 600	Low - Medium	30 - 60
Dulles / Dulles Town Center	Farragut Square and Downtown DC	1000 / 1400	Medium	80 - 150
	Dupont and West End	500 / 500	Medium	30 – 60
	NoMa	200 / 200	Medium	10 -20

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Table 22: Prince William County Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift (veh → transit trips)
Gainesville	Fairfax Center and City of Fairfax	2000/1800	Low	50 – 100
	Tysons	1600/1500	Low	30 – 60
	Dunn Loring-Merrifield	1000/700	Low	20 – 50
Bull Run	Fairfax Center and City of Fairfax	1800/2100	Low	50 – 110
	Tysons	1500/2000	Low	40 – 100
	Dunn Loring-Merrifield	1000/1000	Low	20 – 50
	Dulles South	600/600	Low	10 – 30
Linton Hall	Tysons	1700/1800	Medium	110 – 200
	Dunn Loring-Merrifield	1100/900	Medium	20 – 60
	Fairfax Center and City of Fairfax	1600/1500	Medium	100 – 200
	Dulles South	600/200	Medium	8 – 32

Table 23: Town of Vienna Top Origin and Destination Pairs

Origin	Destination markets include,	Vehicular Travel Flow on I-66 2030/2045	Mode Shift Propensity	Potential Mode Shift (veh → transit trips)
Town of Vienna	Rosslyn	100/75	High	10-20
	Ballston	100/45	High	5-20
	Farragut Square	100/80	High	10-20
	Annandale	75/110	Medium	10-20

Appendix D: Travel Demand and Project Need Summary

The purpose of **Table 24** is to understand how the top ODs identified in the **Existing and Future Conditions Chapter** align with existing transit and proposed transit services. The comparison will also highlight gaps in planned projects, so that the study team can identify placeholder projects to include in the overall I-66 Needs Assessment project list. The methodology to develop the information provided in the origin, destination, vehicle travel flow on I-66 in 2030/2045, mode shift propensity, and daily potential mode shift is available in the **Future Corridor Trends** section of the **Existing and Future Conditions Chapter**, and consistent with the tables included in **Appendix C: Jurisdiction by Jurisdiction Top Origins and Destination Pairs and Propensity**.

The “Linked Existing/Future Project” column summarizes the study team’s analysis of each of the OD pairs, existing transit services and transportation options offered (as of summer 2025), and proposed projects planned by jurisdictions. The following symbology is used to categorize each of the OD pairs,

✓ - the origin and destination pair is served by existing or proposed project(s). The existing transit is a realistic option for commuters. Realistic is often nuanced and in this case quantified by being less than a two-seat ride, not requiring someone to geographically travel in the opposite direction as their destination, and relatively comparable to driving (transit travel time is less than 2 hours). It is assumed that proposed project(s) will be scaled and/or tailored to meet the demand at the time of the implementation of the service/project.

□ - the origin and destination pair is not served by existing or proposed project(s). In this case, the study team, in collaboration with stakeholders, developed a placeholder project to include in the I-66 Needs Assessment project list that aligns with the demand.

NA – the daily potential mode shift, or person throughput, is low and would not likely be competitive for either grant program.

Table 24: OD Pairs by Jurisdiction Project Alignment

	Origin	Destination	Veh. Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift	Linked Existing/Future Project?
Arlington County	Langston Blvd	Rosslyn	90 / 80	High	15 - 20	✓
	Langston Blvd	Crystal City	70 / 60	High	15 - 20	✓
	Langston Blvd	Farragut Square	50 / 40	High	5 - 10	✓
	North Arlington	Rosslyn	60 / 50	High	~10	NA
	North Arlington	Crystal City	60 / 50	High	~10	NA
City of Fairfax	City of Fairfax	Tysons	1100/1500	Medium	80-150	✓
	City of Fairfax	Mclean	900/735	Medium	50-120	□
	City of Fairfax	Fort Meyer	300/300	High	20-40	□
	City of Fairfax	Langston Blvd	400/300	High	20-50	✓
	City of Fairfax	City of Falls Church	300/100	Medium	10 - 45	✓

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	Origin	Destination	Veh. Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift	Linked Existing/Future Project?
City of Falls Church	City of Falls Church	Rosslyn	70/70	High	5 – 15	✓
	City of Falls Church	Farragut Square/ Downtown DC	90/70	High	15 – 20	✓
	City of Falls Church	Crystal City/ Pentagon	60/60	High	10 – 20	✓
City of Manassas	City of Manassas	Tysons	1600 / 1900	Low	50-100	✓
	City of Manassas	McLean	500 / 400	Low	10 - 30	NA
	City of Manassas	Dunn Loring-Merrifield	400 / 300	Low	10 - 30	NA
City of Manassas Park	City of Manassas Park	Tysons	500 / 900	Low	10 – 50	✓
	City of Manassas Park	McLean	100 / 200	Low	~10	NA
Fairfax County	Centreville	Tysons	3000 / 4000	Low	200 - 400	✓
	Centreville	Dunn Loring-Merrifield	1500 / 1500	Low	45 - 90	✓
	Centreville	Farragut Square	900 / 900	Low	60 - 110	✓
	Fairfax Center	Tysons	2000 / 2500	Low	60 - 120	✓
	Dulles South	Tysons	1600 / 1600	Low	115 - 200	✓
Loudoun County	Stone Ridge / South Riding	Farragut Square and Downtown DC	1300 / 1000	Low – Medium	50 - 100	✓
	Stone Ridge / South Riding	Dunn Loring-Merrifield	900 / 700	Low	20 - 50	□
	Stone Ridge / South Riding	Ballston and Rosslyn	900 / 600	Low - Medium	30 - 60	✓
	Dulles / Dulles Town Center	Farragut Square and Downtown DC	1000 / 1400	Medium	80 - 150	✓
	Dulles / Dulles Town Center	Dupont and West End	500 / 500	Medium	30 – 60	✓
	Dulles / Dulles Town Center	NoMa	200 / 200	Medium	10 - 20	✓

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	Origin	Destination	Veh. Travel Flow on I-66 2030/2045	Mode Shift Propensity	Daily Potential Mode Shift	Linked Existing/Future Project?
Prince William County	Gainesville	Fairfax Center and City of Fairfax	2000/1800	Low	50 – 100	✓
	Gainesville	Tysons	1600/1500	Low	30 – 60	✓
	Gainesville	Dunn Loring-Merrifield	1000/700	Low	20 – 50	✓
	Bull Run	Fairfax Center and City of Fairfax	1800/2100	Low	50 – 110	✓
	Bull Run	Tysons	1500/2000	Low	40 – 100	✓
	Bull Run	Dunn Loring-Merrifield	1000/1000	Low	20 – 50	✓
	Bull Run	Dulles South	600/600	Low	10 – 30	✓
	Linton Hall	Tysons	1700/1800	Medium	110 – 200	✓
	Linton Hall	Dunn Loring-Merrifield	1100/900	Medium	20 – 60	✓
	Linton Hall	Fairfax Center and City of Fairfax	1600/1500	Medium	100 – 200	□
	Linton Hall	Dulles South	600/200	Medium	8 – 32	✓
Town of Vienna	Town of Vienna	Rosslyn	100/75	High	10 - 20	✓
	Town of Vienna	Ballston	100/45	High	5 - 20	✓
	Town of Vienna	Farragut Square	100/80	High	10 - 20	✓
	Town of Vienna	Annandale	75/110	Medium	10 - 20	NA

Appendix E: Assumptions for Study Team Created Projects

For operating projects in which demand was not provided, the study team estimated demand using the following assumptions:

- Operating demand is estimated based on the approximate tolled travel time and distance for a Wednesday morning trip between the provided origin and destination.
- Service is provided throughout the AM (5:30–9:30AM) and PM (3:00–7:00PM) tolling periods in the peak-direction.
- Commuter bus headways reflect headways provided (rounded to the nearest 5 minutes), if applicable. For projects without frequencies provided, the headways range depending on the mode shift from I-66 trips.
- Operating costs incorporate dead head trips.
- For projects in which operating demand was estimated by the study team, an additional project was added for the purchase of additional vehicles. This assumes \$1 million per bus purchase.

Appendix F: I-66 Needs Assessment Project List

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◊ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
ARLINGTON COUNTY																
1	Columbia Pike to Courthouse (ART Route 41) Bus Service	This enhanced bus service is located between Columbia Pike and Court House via Columbia Pike, Glebe Road, and the Rosslyn-Ballston corridor. This operations project provides improved frequency and adjusted service levels.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		1.0 M	31.1 M	✓		Arlington County
2	Bailey's Crossroads to Rosslyn (ART Route 45) Bus Service	This enhanced bus service is located between Rosslyn and Columbia Pike via Columbia Pike, Washington Boulevard, and the Rosslyn-Ballston corridor. This operations project provides improved frequency, shifts in service, and may include extending the western terminus of the route towards Bailey’s Crossroads.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		2.4 M	73.4 M	✓		Arlington County
3	East Falls Church to Rosslyn (ART Route 51) Bus Service	This enhanced bus service is located between Ballston Metro Rail Station and Virginia Hospital Center via Langston Boulevard (US Route 29). This operations project provides increased bus service frequency. Additionally, this project extends the western terminus to East Falls Church Metro Rail Station and eastern terminus to Rosslyn.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		1.5 M	43.7 M	✓		Arlington County
4	Virginia Hospital Center to Madison Community Center (ART Route 54) Bus Service	This new bus service is located between Virginia Hospital Center and Madison Community Center. This operations project would provide higher-frequency service to the hospital and expand connections to transit centers.	New Bus	Transit Service	◊	○	○	○	○	○		1.1 M	31.7 M	✓		Arlington County
5	East Falls Church to Rosslyn (ART Route 55) Bus Service	This enhanced bus service is located between East Falls Church and Rosslyn Metro Rail Stations via Langston Boulevard (US Route 29). This operations project provides increased bus service frequency.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		0.3M	8.5 M	✓		Arlington County
6	North Arlington to Shirlington (ART Route 72) Bus Service	This enhanced bus service is located between North Arlington, Ballston, and Shirlington via George Mason Drive and Glebe Road. This operations project provides route changes to shift the northern terminus to Virginia Hospital Center (VHC) Transit Hub.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		0.8M	21.9 M	✓		Arlington County
7	Shirlington to Ballston (ART Route 75) Bus Service	This enhanced bus service is located between Ballston and Shirlington serving multiple neighborhoods. This operations project provides improved bus service frequency and span of service.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		0.9M	29.3 M	✓		Arlington County
8	East Falls Church and Virginia-Square (ART Route 52) Bus Service	This enhanced bus service is located between East Falls Church and Virginia Square—GMU Metro Rail Stations, serving multiple neighborhoods and destinations north of I-66. This operations project provides a reconfigured route providing service east of Virginia Hospital Center and increased bus service frequency.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		0.4M	11.7 M	✓		Arlington County
9	North Arlington Microtransit Zone	This enhanced bus project is located in the northern part of Arlington County. This operations project would build on a Spring 2026 County-led microtransit pilot serving the northern part of the County, with the intent to transition to a permanent service if the pilot proves successful.	Enhanced Bus	Transit Service	◊	○	○	○	○	○		0.8M	26.1 M	✓		Arlington County

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ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
10	Court House Metro Rail Station Access Enhancements	This Metro Rail station project is located at Court House Metro Rail Station. This capital project provides increased access to the station through facility upgrades.	Metro Rail	Major Capital		◇					57.2 M		57.2 M	✓		Metro, Arlington County
11	East Falls Church Metro Rail Station Second Entrance	This Metro Rail station project is located at the East Falls Church Metro Rail Station. This capital project advances the planning, design, and construction of a full second entrance to the station.	Metro Rail	Mega Capital		◇					205.0 M		205.0 M	✓		Metro, City of Falls Church, Arlington County
12	Arlington Boulevard BRT – Capital	This high-capacity transit project is located between Dunn Loring-Merrifield Metro Rail Station, the Pentagon, and Crystal City via Arlington Boulevard (US Route 50). This capital project provides BRT infrastructure for the route. This project is connected to Project ID 13.	High-Capacity Transit	Mega Capital				◇			201.6 M		201.6 M	✓		Fairfax County, Arlington County
13	Arlington Boulevard BRT – Operations	This high-capacity transit project is located between Dunn Loring-Merrifield Metro Rail Station, the Pentagon, and Crystal City via Arlington Boulevard (US Route 50). This operations project provides BRT service along the route. This project is connected to Project ID 12.	High-Capacity Transit	Transit Service				○	○	○		6.3 M	107.2 M	✓		Fairfax County, Arlington County
14	Langston Boulevard BRT – Capital	This high-capacity transit project is located between Dunn-Loring Merrifield Metro Rail Station, East Falls Church Metro Rail Station Rosslyn, Georgetown, and Farragut North via US Route 29. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 15.	High-Capacity Transit	Mega Capital			◇				227.4 M		227.4 M	✓		Fairfax County, Arlington County
15	Langston Boulevard BRT – Operations	This high-capacity transit project is located between Dunn-Loring Merrifield Metro Rail Station, East Falls Church Metro Rail Station, Rosslyn, Georgetown, and Farragut North via US Route 29. This operations project provides BRT infrastructure for the route. This project is connected to Project ID 14.	High-Capacity Transit	Transit Service			○	○	○	○		9.5 M	208.0 M	✓		Fairfax County, Arlington County
FAIRFAX COUNTY, FALLS CHURCH, CITY OF FAIRFAX, TOWN OF VIENNA																
16	Stringfellow to Vienna Bus Service	This enhanced bus service is located between Stringfellow Road Park and Ride and the Vienna Metro Rail Station via I-66. This operations project provides enhanced bus service for the Fairfax 600 series routes that serve this corridor. This project is connected to Project ID 17.	Enhanced Bus	Transit Service			○	○	○	○		2.3 M	51.1 M	✓	✓	Fairfax County
17	Stringfellow to Vienna Bus Service – Vehicle Purchase	This enhanced bus project is located between Stringfellow Road Park and Ride and the Vienna Metro Rail Station via I-66. This capital project supports the procurement of two commuter buses. This project is connected to Project ID 16.	Enhanced Bus	Minor Capital			◇				2.0 M		2.0 M	✓	✓	Fairfax County
18	Braddock Road BRT/Express Bus Service	This high-capacity transit project is located between Union Mill Road and Lincolnia Road via Braddock Road. This project provides new BRT or express bus service and may include improvements, such as vehicles, exclusive bus lanes, park and rides, large bus stations/facilities, etc.	High-Capacity Transit	Mega Capital					◇		827.9 M		827.9 M	✓	✓	Fairfax County
19	Tysons Area Bus Transfer and Layover Station	This high-capacity transit project is located in the Tysons area. This capital project provides a bus transfer and layover station for buses serving the area as well as multi-modal infrastructure such as a bike share station, taxi stand, and a kiss and ride.	High-Capacity Transit	Major Capital			◇				44.2 M		44.2 M	✓		Fairfax County

I-66 NEEDS ASSESSMENT

Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
20	Vienna to Rosslyn Express Bus Service	This high-capacity transit project is located between the Vienna Metro Rail Station to the Rosslyn Metro Rail Station via I-66. This capital project provides enhanced passenger facilities, vehicles, stops/stations, transit signal priority, or priority treatments.	High-Capacity Transit	Mega Capital				◇			131.2 M		131.2 M	✓	✓	Fairfax County, Town of Vienna, Arlington County
21	Fairfax Towne Center/Fair Oaks Mall to Washington, DC BRT	This high-capacity transit project is located between Fairfax Towne Center, Fair Oaks Mall, Rosslyn, and Washington, DC via US Route 29. This project provides transit priority treatments, additional vehicles, maintenance/storage facilities, improved bus service along the corridor and may include additional vehicles, maintenance/storage facilities, customer information, mobility hubs, expanded service, bus stops, and access facilities.	High-Capacity Transit	Mega Capital				◇			161.2 M		161.2 M	✓	✓	Fairfax County, City of Fairfax, Arlington County
22	Stringfellow to Tysons Express and Commuter Bus Service	This new bus service is located between the Stringfellow Road Park and Ride and the Tysons area, potentially via I-66. This project is connected to Project ID 23.	New Bus	Transit Service		○	○	○	○	○		9.5 M	255.4 M		✓	Fairfax County
23	Stringfellow to Tysons Express and Commuter Bus Service – Vehicle Purchase	This new bus project is located between the Stringfellow Road Park and Ride and the Tysons area, potentially via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 22.	New Bus	Minor Capital		◇					3.0 M		3.0 M		✓	Fairfax County
24	Stringfellow to Pentagon Bus Service	This enhanced bus service is located between the Stringfellow Road Park and Ride and the Pentagon via I-66. This project is connected to Project ID 25.	Enhanced Bus	Transit Service		○	○	○	○	○		9.5 M	255.4 M	✓	✓	Fairfax County
25	Stringfellow to Pentagon Bus Service – Vehicle Purchase	This enhanced bus project is located between the Stringfellow Road Park and Ride and the Pentagon via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 24.	Enhanced Bus	Minor Capital		◇					3.0 M		3.0 M	✓	✓	Fairfax County
26	Stringfellow to L’Enfant Plaza Express and Commuter Bus Service	This enhanced bus service is located between the Stringfellow Road Park and Ride and L’Enfant Plaza, via I-66 and Constitution Avenue. This project is connected to Project ID 27.	Enhanced Bus	Transit Service		○	○	○	○	○		4.6 M	125.4 M	✓	✓	Fairfax County
27	Stringfellow to L’Enfant Plaza Express and Commuter Bus Service – Vehicle Purchase	This enhanced bus project is located between the Stringfellow Road Park and Ride and L’Enfant Plaza, via I-66 and Constitution Avenue. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 26.	Enhanced Bus	Minor Capital		◇					3.0 M		3.0 M	✓	✓	Fairfax County

I-66 NEEDS ASSESSMENT

Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
28	Stringfellow to Navy Yard Express and Commuter Bus Service	This new bus service is located between the Stringfellow Road Park and Ride and Navy Yard, potentially via I-66. This project is connected to Project ID 29.	New Bus	Transit Service				○	○	○		2.2 M	38.0 M	✓	✓	Fairfax County
29	Stringfellow to Navy Yard Express and Commuter Bus Service – Vehicle Purchase	This new bus project is located between the Stringfellow Road Park and Ride and Navy Yard, potentially via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 28.	New Bus	Minor Capital				◇			3.0 M		3.0 M	✓	✓	Fairfax County
30	Fair Oaks to East Falls Church Bus Service	This new bus service is located between Fair Oaks and East Falls Church, potentially via I-66. This operations project provides a new bus route. This project is connected to Project ID 31.	New Bus	Transit Service		○	○	○	○	○		1.5 M	41.0 M	✓	✓	Fairfax County
31	Fair Oaks to East Falls Church Bus Service – Vehicle Purchase	This new bus project is located between Fair Oaks and East Falls Church, potentially via I-66. This capital project supports the procurement of two commuter buses. This project is connected to Project ID 30.	New Bus	Minor Capital		◇					2.0 M		2.0 M	✓	✓	Fairfax County
32	Fair Oaks to Downtown Washington, DC Express and Commuter Bus Service	This enhanced bus service is located between Fair Oaks and Downtown Washington, DC via I-66. This operations project provides enhancements to the existing bus service. This project is connected to Project ID 33.	Enhanced Bus	Transit Service		○	○	○	○	○		4.6 M	125.4 M	✓	✓	Fairfax County
33	Fair Oaks to Downtown Washington, DC Express and Commuter Bus Service – Vehicle Purchase	This enhanced bus project is located between Fair Oaks and Downtown Washington, DC via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 32.	Enhanced Bus	Minor Capital		◇					3.0 M		3.0 M	✓	✓	Fairfax County
34	Stringfellow to Mark Center Express and Commuter Bus Service	This new bus service is located between the Stringfellow Road Park and Ride and Mark Center, potentially via I-66 and I-395/495. This operations project provides new transit service. This project is connected to Project ID 35.	New Bus	Transit Service			○	○	○	○		0.6M	13.9 M		✓	Fairfax County
35	Stringfellow to Mark Center Express and Commuter Bus Service – Vehicle Purchase	This new bus project is located between the Stringfellow Road Park and Ride and Mark Center, potentially via I-66 and I-395/495. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 34.	New Bus	Minor Capital			◇				3.0 M		3.0 M		✓	Fairfax County

I-66 NEEDS ASSESSMENT

Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
36	Centreville to Tysons Express and Commuter Bus Service	This new bus service is located between Centreville and Tysons, potentially via I-66. This project is connected to Project ID 37.	New Bus	Transit Service				○	○	○		0.6M	10.7 M	✓	✓	Fairfax County
37	Centreville to Tysons Express and Commuter Bus Service – Vehicle Purchase	This new bus project is located between Centreville and Tysons, potentially via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 36.	New Bus	Minor Capital				◇			3.0 M		3.0 M	✓	✓	Fairfax County
38	West Ox Road to Centreville (US Route 29) High-Capacity Transit	This high-capacity transit project is located between West Ox Road and Centreville via Lee Hwy (US Route 29). This capital project provides improvements that would extend high-capacity transit in the corridor which may include transit priority treatments, increased frequency and span of service, additional vehicles, maintenance/storage facilities, improved customer information and experience, and mobility hubs.	High-capacity transit	Minor Capital	◇						2.5 M		2.5 M		✓	Fairfax County
39	Tysons West Park Transit Center Renovation	This high-capacity transit project is located at the Tysons West Park Transit Center. The capital provides a new one-story, five-bus bay transit facility in the same location as the existing transit center.	High-capacity transit	Minor Capital	◇						3.7 M		3.7 M	✓		Fairfax County
40	City of Fairfax to McLean Bus Service	This new bus service is located between the City of Fairfax and McLean, potentially via I-66 and Dolley Madison Boulevard (Route 123). This operations project provides increased bus service. Note: This service was developed by the study team to serve future demand. This project is connected to Project ID 41.	New Bus	Transit Service			○	○	○	○		0.3M	6.9 M	✓	✓	Fairfax County, City of Fairfax
41	City of Fairfax to McLean Bus Service – Vehicle Purchase	This new bus project is located between the City of Fairfax and McLean, potentially via I-66 and Dolley Madison Boulevard (Route 123). This capital project supports the procurement of two commuter buses. This project is connected to Project ID 40.	New Bus	Minor Capital			◇				2.0 M		2.0 M	✓	✓	Fairfax County
42	City of Fairfax to Joint Base Myer-Henderson Hall Bus Service	This new bus service is located between the City of Fairfax and Joint Base Myer-Henderson Hall, potentially via I-66. This operations project provides increased bus service. Note: This service was developed by the study team to serve future demand. This project is connected to Project ID 43.	New Bus	Transit Service		○	○	○	○	○		0.3M	8.5 M	✓	✓	Fairfax County, City of Fairfax
43	City of Fairfax to Joint Base Myer-Henderson Hall – Vehicle Purchase	This new bus project is located between the City of Fairfax and Joint Base Myer-Henderson Hall, potentially via I-66. This capital project supports the procurement of two commuter buses. This project is connected to Project ID 42.	New Bus	Minor Capital		◇					2.0 M		2.0 M	✓	✓	Fairfax County

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					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
44	Chain Bridge Road BRT – Capital	This high-capacity transit project is located between George Mason University, Oakton, Vienna, Tysons, and McLean via Chainbridge Road and Dolley Madison Boulevard. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 45.	High-Capacity Transit	Mega Capital			◇				240.6 M		240.6 M		✓	City of Fairfax, Fairfax County
45	Chain Bridge Road BRT – Operations	This high-capacity transit project is located between George Mason University, Oakton, Vienna, Tysons, and McLean via Chainbridge Road and Dolley Madison Boulevard. This operations project provides BRT service along the route. This project is connected to Project ID 44.	High-Capacity Transit	Transit Service			○	○	○	○		7.6 M	166.4 M		✓	City of Fairfax, Fairfax County
46	Route 7 BRT – Capital	This high-capacity transit project is located between Spring Hill and Mark Center Transit Station serving many intermediate destinations including Tysons, City of Falls Church, and Bailey’s Crossroads via Route 7. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 47.	High-Capacity Transit	Mega Capital		◇					472.8 M		472.8 M	✓		Fairfax County, Arlington County, Metro, City of Falls Church
47	Route 7 BRT – Operations	This high-capacity transit project is located between Spring Hill and Mark Center Transit Station serving many intermediate destinations including Tysons, City of Falls Church, and Bailey’s Crossroads via Route 7. This operations project provides enhanced bus service. This project is connected to Project ID 46.	High-Capacity Transit	Transit Service		○	○	○	○	○		12.2 M	329.1 M	✓		Fairfax County, Arlington County, Metro
48	High-Capacity Transit Extension from Vienna Metro Rail Station to Centreville	This high-capacity transit project is located between the Vienna Metro Rail Station and Centreville in the I-66 corridor. This capital project provides improvements that would extend high-capacity transit in the corridor including transit priority treatments, increased frequency and span of service, expanded supporting infrastructure, improved customer information and experience, and enforcement of bus lanes.	High-Capacity Transit	Mega Capital					◇		2956.6 M		2956.6 M		✓	Metro, Fairfax County, City of Fairfax, Town of Vienna
49	Dunn Loring to Ballston Enhanced Bus Service	This enhanced bus service is located between the Dunn Loring Metro Rail Station, the East Falls Church Metro Rail Station, and the Ballston Metro Rail Station via Lee Highway and Washington Boulevard. Project improvements may include additional vehicles, maintenance/storage facilities, customer information, mobility hubs, enhanced stops/stations and access facilities, and enforcement of bus lanes.	Enhanced Bus	Transit Service	○	○	○	○	○	○		2.6 M	77.5 M	✓		Fairfax County, Arlington County

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
50	Vienna Metro Rail Station Feeder Bus Service Expansion	This new bus project is located at the Vienna Metro Rail Station and regional commuter lots. This project provides improved service levels and new routes, potentially using the I-66 Express Lanes. Project improvements may include additional vehicles, maintenance/storage facilities, customer information, mobility hubs, bus stops, and access facilities.	New Bus	Minor Capital				◇			5.0 M		5.0 M	✓	✓	Fairfax County, Prince William, Town of Vienna
51	East and West Falls Church Metro Rail Station Access Improvements	This Metro Rail station project is located at the East Falls Church and West Falls Church Metro Rail Stations. This capital project provides multimodal access improvements, including pedestrian access, bicycle access and Bikesharing stations, and bus access.	Metro Rail	Major Capital					◇		88.3 M		88.3 M	✓		Arlington County, Metro, City of Falls Church
52	Vienna and Tysons Metro Rail Access Improvements	This Metro Rail station project is located near Vienna and Tysons Metro Rail Stations. This capital project provides access improvements by completing all sidewalks within a half mile of the stations. Additionally, the project will provide a trolley or circulator bus along Maple Avenue to connect with the stations as well as a parking garage along the route.	Metro Rail	Mega Capital		◇					112.4 M		112.4 M	✓	✓	Fairfax County, Metro, Town of Vienna
53	Fairfax Boulevard BRT – Capital	This high-capacity transit project is located between Centreville, Fair Oaks, and Dunn Loring via US Route 29. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 54.	High-Capacity Transit	Mega Capital			◇				273.2 M		273.2 M		✓	Fairfax County, Prince William, OmniRide, Town of Vienna
54	Fairfax Boulevard BRT – Operations	This high-capacity transit project is located between Centreville, Fair Oaks, and Dunn Loring via US Route 29. This operations project provides BRT service along the route. This project is connected to Project ID 53.	High-Capacity Transit	Transit Service			○	○	○	○		10.5 M	231.1 M		✓	Fairfax County, Prince William, OmniRide, Town of Vienna
LOUDOUN COUNTY																
55	Dulles to Downtown Washington, DC Bus Service	This enhanced bus service is located between Dulles / Dulles Town Center and multiple destinations in Washington, DC, including Farragut Square, Dupont, and West End, potentially via I-66. Note: This service was developed by the study team to serve future demand. This project is connected to Project ID 56.	Enhanced Bus	Transit Service			○	○	○	○		3.1 M	68.1 M	✓	✓	Loudoun County

I-66 NEEDS ASSESSMENT

Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

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					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
56	Dulles to Downtown Washington, DC Bus Service – Vehicle Purchase	This enhanced bus project is located between Dulles/Dulles Town Center and multiple destinations in Washington, DC, including Farragut Square, Dupont, and West End, potentially via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 55.	Enhanced Bus	Minor Capital			◇				3.0 M		3.0 M	✓	✓	Loudoun County
57	Enhanced Commuter Bus Service from Loudoun County to Regional Activity Centers	These enhanced bus services are located between Stone Ridge and Downtown DC, Stone Ridge and Ballston-Rosslyn, Dulles and Downtown DC, and Dulles and Dupont/West End. This operations project provides new or enhanced bus service(s) for up to four routes. Note: This service was developed by the study team to serve future demand.	New Bus	Transit Service		○	○	○	○	○		12.4 M	334.2 M	✓	✓	Loudoun County
METRO/WMATA																
58	Blue, Orange, and Silver Line Capacity and Reliability Project – Capital	This Metro Rail project is located at the Rosslyn Metro Rail Station serving the Blue, Orange, and Silver Metro Rail lines. This capital project improvements include expanded capacity and access improvements at the Rosslyn Station, rail modernization, and other capital improvements.	Metro Rail	Mega Capital		◇					3075.0 M		3075.0 M	✓		Metro, Arlington County
59	Blue, Orange, and Silver Line Capacity and Reliability Project Alternative 2 BRT Recommendation – Ballston to Rosslyn	This enhanced bus project is located between Ballston Metro Rail Station to Rosslyn Metro Rail Station via Clarendon and Wilson Boulevard. This capital project provides for future BRT service along the route, facilitating passenger movement into Rosslyn and connecting customers to other BRT services into Georgetown and Downtown DC.	High-Capacity Transit	Mega Capital		◇					117.9 M		117.9 M	✓		Metro, Arlington County
OMNIRIDE/PRINCE WILLIAM COUNTY																
60	Balls Ford Road/Portsmouth Commuter Service Enhancements	This new bus service is located between Balls Ford Road commuter lot, Washington, DC, and the Pentagon, potentially via I-66. This operations project provides new service along the corridor and eliminates service from the Portsmouth commuter lot.	New Bus	Transit Service				○	○	○		4.5 M	77.0 M	✓	✓	OmniRide
61	Gainesville to Tysons (Haymarket 2045) Express and Commuter Bus Service	This new bus service is located between Gainesville and Tysons, potentially via I-66. This operations project will provide connections between Haymarket and Tysons in 2045. The project is connected to Project ID 62.	New Bus	Transit Service				○	○	○		2.4 M	41.4 M		✓	OmniRide
62	Gainesville to Tysons (Haymarket 2045) Express and Commuter Bus Service – Vehicle Purchase	This new bus project is located between Gainesville and the Tysons, potentially via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 61.	New Bus	Minor Capital				◇			3.0 M		3.0 M		✓	OmniRide

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					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
63	Haymarket to Ballston–Rosslyn Express and Commuter Bus Service	This enhanced bus service is located between Haymarket, Ballston, and Rosslyn via I-66. This project is connected to Project ID 64.	Enhanced Bus	Transit Service				○	○	○		1.3 M	22.3 M	✓	✓	OmniRide
64	Haymarket to Ballston–Rosslyn Express and Commuter Bus Service – Vehicle Purchase	This enhanced bus project is located between Haymarket, Ballston, and Rosslyn via I-66. This capital project supports the procurement of four commuter buses. This project is connected to Project ID 63.	Enhanced Bus	Major Capital				◇			5.1 M		5.1 M	✓	✓	OmniRide
65	Manassas to Tysons Express and Commuter Bus Service	This enhanced bus service is located between Manassas and the Tysons via I-66. This project is connected to Project ID 66.	Enhanced Bus	Transit Service				○	○	○		3.3 M	56.3 M		✓	OmniRide
66	Manassas to Tysons Express and Commuter Bus Service – Vehicle Purchase	This enhanced bus project is located between Manassas and the Tysons via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 65.	Enhanced Bus	Minor Capital				◇			3.0 M		3.0 M		✓	OmniRide
67	Manassas to Washington, DC Express and Commuter Bus Service	This enhanced bus service is located between Manassas and Washington, DC via I-66. This operations project provides enhancements to the existing bus service. This project is connected to Project ID 68.	Enhanced Bus	Transit Service				○	○	○		1.2 M	20.7 M	✓	✓	OmniRide
68	Manassas to Washington, DC Express and Commuter Bus Service – Vehicle Purchase	This enhanced bus project is located between Manassas and Washington, DC via I-66. This capital project supports the procurement of two commuter buses. This project is connected to Project ID 67.	Enhanced Bus	Minor Capital				◇			2.0 M		2.0 M	✓	✓	OmniRide
69	Gainesville and Haymarket to Dulles Express and Commuter Bus Service	This new bus service is located between Gainesville, Haymarket, and the Washington Dulles International Airport via I-66 and Sully Rd (US Route 28). Project improvements may include maintenance/storage facilities, customer information, mobility hubs, bus stops, and access facilities.	New Bus	Major Capital		◇					14.0 M		14.0 M		✓	OmniRide
70	Linton Hall to the City of Fairfax Bus Service	This new bus service is located between Linton Hall, Fair Oaks, and City of Fairfax, potentially via I-66. This operations project provides increased bus service, including an intermediate stop to provide service between Bull Run and Fairfax Center/City of Fairfax. Note: This service was developed by the study team to serve future demand. This project is connected to Project ID 71.	New Bus	Transit Service				○	○	○		1.6 M	26.6 M		✓	OmniRide

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					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
71	Linton Hall to the City of Fairfax Bus Service – Vehicle Purchase	This new bus project is located between Linton Hall, Fair Oaks, and City of Fairfax, potentially via I-66. This capital project supports the procurement of three commuter buses. This project is connected to Project ID 70.	New Bus	Minor Capital				◇			3.0 M		3.0 M		✓	OmniRide
72	I-66 Express BRT – Capital	This high-capacity transit project is located between Haymarket, Centreville, and Vienna via Lee Highway (US Route 29) and I-66. This capital project provides BRT infrastructure for the route. This project is connected to Project ID 73.	High-Capacity Transit	Mega Capital			◇				127.9 M		127.9 M		✓	Prince William County, OmniRide, Fairfax County
73	I-66 Express BRT – Operations	This high-capacity transit project is located between Haymarket, Centreville, and Vienna via Lee Highway (US Route 29) and I-66. This operations project provides BRT service along the route. This project is connected to Project ID 72.	High-Capacity Transit	Transit Service			○	○	○	○		7.6 M	166.4 M		✓	Prince William County, OmniRide, Fairfax County
VIRGINIA RAILWAY EXPRESS (VRE)																
74	Manassas Parking Expansion – Interim	This park-and-ride project is located at the Manassas VRE Station. This capital project provides the interim parking expansion to meet ridership demand.	Park-and-Ride/ Access	Major Capital		◇					11.7 M		11.7 M	✓	✓	VRE, City of Manassas
75	Manassas Parking Expansion – Ultimate	This park-and-ride project is located in Manassas VRE Station. This capital project provides the ultimate parking expansion to meet ridership demand.	Park-and-Ride/ Access	Major Capital			◇				7.6 M		7.6 M	✓	✓	VRE, City of Manassas
76	Manassas Track 2 Platform Extension	This commuter rail project is located at the Manassas Station. This capital project provides construction of a new side platform on Track 2 to accommodate bi-directional service.	Commuter Rail/ Passenger Rail	Major Capital	◇						9.9 M		9.9 M	✓	✓	VRE, City of Manassas
77	Broad Run Lead Track	This commuter rail project is located in the City of Manassas. This capital project provides roughly three miles of lead track between the Broad Run Station/Maintenance Storage Facility and a point west of Grant Avenue for the VRE service on the Manassas Line.	Commuter Rail/ Passenger Rail	Major Capital	◇						93.4 M		93.4 M	✓	✓	VRE, City of Manassas

I-66 NEEDS ASSESSMENT

Optimizing the Use of Toll Revenues for Transit and Rail Projects in the I-66 Corridor

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
78	Broad Run Station and MSF Expansion	This commuter rail project is located at the Broad Run Station and Maintenance Storage Facility. This capital project provides the expansion of the facility and station to support expanded VRE Manassas Line service.	Commuter Rail/ Passenger Rail	Major Capital	◇						95.4 M		95.4 M	✓	✓	VRE, City of Manassas
79	Broad Run Additional Parking Expansion	This park-and-ride project is located at the Broad Run VRE Station. This capital project provides parking expansion to meet forecasted ridership demand.	Park-and-Ride/ Access	Minor Capital			◇				2.7 M		2.7 M	✓	✓	VRE, City of Manassas
80	Manassas Line Crossovers	This commuter rail project is located along the VRE Manassas Line. This capital project provides the construction of eight rail crossovers to support expanded service.	Commuter Rail/ Passenger Rail	Major Capital	◇						33.1 M		33.1 M	✓	✓	VRE
81	Manassas Line Operations – 2030	This commuter rail project is located along the VRE Manassas Line. This operations project provides annual operating cost for the 2030 level of service. The enhanced service levels will increase the total number of daily trains on the VRE Manassas Line from 32 to 52.	Commuter Rail/ Passenger Rail	Large Transit Service	○	○	○	○	○			91.4 M	1735.9 M	✓	✓	VRE
82	Manassas Line Operations – 2050	This commuter rail project is located along the VRE Manassas Line. This operations project provides annual operating costs for the 2050 level of service.	Commuter Rail/ Passenger Rail	Large Transit Service					○	○		206.9 M	1861.7 M	✓	✓	VRE
83	Manassas Line Connecting Bus Service – Capital	This new bus project is located along the VRE Manassas Line. This capital project supports the procurement of vehicles to run the proposed connecting bus service to destinations such as Fauquier County, Culpeper County, and Town of Culpeper as envisioned in the 2050 Service Vision.	New Bus	Major Capital	◇						19.4 M		19.4 M	✓	✓	VRE, City of Manassas, City of Manassas Park
84	Manassas Line Connecting Bus Service – Operations	This new bus service is located along the VRE Manassas Line. This operations project provides annual operating costs to procure rolling stock to run the proposed connecting bus service to destinations such as Fauquier County, Culpeper County, and Town of Culpeper as envisioned in the 2050 Service Vision.	New Bus	Transit Service	○	○	○	○	○	○		1.1 M	29.4 M	✓	✓	VRE
85	Locomotive Expansion – Phase 1	This commuter rail project supports the procurement of four locomotives for expanded service on the VRE Manassas Line after 2030 (Phase 1 of 2).	Commuter Rail/ Passenger Rail	Major Capital	◇						22.5 M		22.5 M	✓	✓	VRE

ID #	Project Name	Study Team Understanding of Scope	Project Type	Project Category	Proposed Time Horizon ○ = Service is Active ◇ = Expenditure Expected						Estimated Cost (2026 Dollars)			Program Eligibility		Jurisdictions
					2025-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2057	Capital Cost	Annual Operating Cost	Total Cost	NVTC Commuter Choice	DRPT Outside the Beltway	
86	Locomotive Expansion – Phase 2	This commuter rail project supports the procurement of seven locomotives for expanded service on the VRE Manassas Line after 2040 (Phase 2 of 2).	Commuter Rail/ Passenger Rail	Major Capital					◇		43.6 M		43.6 M	✓	✓	VRE
87	Rolling Stock (Railcar) Expansion – Phase 1	This commuter rail project supports the procurement of a portion of the 78 trailer cars and seven cab cars for expanded service on the VRE Manassas Line after 2040 (Phase 1 of 2).	Commuter Rail/ Passenger Rail	Major Capital				◇			83.9 M		83.9 M	✓	✓	VRE
88	Rolling Stock (Railcar) Expansion – Phase 2	This commuter rail project supports the procurement of a portion of the 78 trailer cars and seven cab cars for expanded service on the VRE Manassas Line after 2050 (Phase 2 of 2).	Commuter Rail / Passenger Rail	Mega Capital					◇		100.0 M		100.0 M	✓	✓	VRE
89	L'Enfant Station Improvements	This commuter rail project is located at the L’Enfant VRE Station. This capital project adds a fourth track through the station, improves both entrances, and constructs two new bridges across 7th Street SW and 6th Street SW.	Commuter Rail / Passenger Rail	Mega Capital	◇						119.4 M		119.4 M	✓	✓	VRE, Washington, DC