Virginia Association of Counties

ACHIEVEMENT AWARDS

SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2024.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact Gage Harter.

PROGRAM INFORMATION

County: Prince William County

Program Title: Route 234 Innovative Corridor Improvements Program

Program Category: Transportation

CONTACT INFORMATION

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SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Christopher J. Shorter

Title: County Executive

Signature:

Route 234 Innovative Corridor Improvements Program

Virginia Association of Counties 2024 Achievement Awards Submission

Executive Summary

The Route 234 Corridor Improvements represent a series of strategic, transformative infrastructure projects aimed at enhancing a designated corridor of statewide significance, the Route 234/Prince William Parkway. This principal arterial roadway, connecting Interstate 66 and Interstate 95, serves as a backbone for the County's transportation and economic network. With an annual average daily traffic volume of more than 50,000 vehicles in 2022, Route 234 directly supports key activity centers, the Innovation Technology Park, Prince William Forest Park, Manassas Regional Ariport, Quantico Marine Corps Base, and various residential, commercial, and civic areas. The goals of these improvements are to enhance traffic flow, increase safety, promote economic development, and improve accessibility for all users along this vital corridor.

Challenges

The Route 234 Corridor faces numerous challenges that the Prince William County Department of Transportation has been diligently addressing through the improvement projects. One of the primary challenges is safety. Along the Prince William Parkway, there were more than 1,300 crashes between 2013 and 2017, with approximately 13% occurring within a tenth-mile radius of intersections included in the areas targeted for improvements. The high incidence of accidents highlights the need for comprehensive safety improvements at critical points along the corridor to protect motorists, pedestrians, and cyclists.

Congestion is another significant issue. The Route 234 Corridor is a heavily traveled thoroughfare, with 2022 annual average daily traffic volume counts exceeding 50,000 along key segments. This principal arterial roadway serves as a critical connection between Interstate 66 and Interstate 95, supporting both local and regional traffic. The high traffic volumes during peak periods lead to recurring bottlenecks and delays, negatively impacting travel times and contributing to increased vehicular emissions. Addressing congestion through strategic infrastructure enhancements is essential to improving traffic flow and reducing the environmental impact of idling vehicles.

Land use and residential development also present challenges. The Route 234 Corridor runs through areas experiencing rapid growth, including two designated Activity Centers and the Innovation Technology Park. This growth brings increased demand for transportation infrastructure to support new residential, commercial, and industrial developments. The expanding population and employment opportunities along the corridor necessitate upgrades to accommodate future traffic volumes and ensure seamless connectivity. The challenge lies in balancing development with the preservation of community character and minimizing disruptions during construction.

To address these multifaceted challenges, Prince William County coordinated with VDOT to complete a Strategically Targeted Affordable Roadway Solutions (STARS) study called the Prince William Parkway (Route 234) Bypass Corridor Intersection Alternatives Analysis. The final report, provided on October 31, 2018, outlined several innovative transportation improvements at key intersections aimed at relieving congestion bottlenecks and enhancing safety. By focusing on comprehensive, innovative solutions, the County is better equipped to manage the evolving transportation needs of the Route 234 Corridor.

Programmatic and policy impacts also play a role in the challenges faced. Changes in state programs and funding mechanisms can create uncertainties in securing the necessary resources for large-scale infrastructure projects. Navigating these complexities requires strategic planning and coordination with state and federal agencies to ensure that projects remain viable and receive timely support. The County's ability to adapt to these changing landscapes and advocate for its transportation needs is crucial for the successful implementation of corridor improvements.

Description of the Program

The Route 234 Corridor Improvements encompass several major projects aimed at enhancing the functionality and safety of the corridor:

Completed Projects:

Balls Ford Road Interchange

The Balls Ford Road Interchange project, the first interchange project delivered by the County, began in earnest on April 10, 2018, and was a critical improvement to the Route 234 Corridor Improvements. With its innovative Diverging Diamond design, the project constructed a new grade-separated interchange at Route 234, enhancing traffic flow and safety. The project involved constructing a bridge crossing the existing Norfolk Southern Railroad and relocating Balls Ford Road as a new four-lane facility with a raised median between Devlin Road and Doane Drive. The relocation aimed to streamline traffic movements and reduce congestion, at this critical bottleneck in the transportation network.

Supported by $142,864,000 in I-66 Outside the Beltway Concessionaire funds, which are revenues generated by toll lanes operated by a public-private partnership in Northern Virginia, the project's cost estimate was reduced to $106,315,828 after successful preparation and negotiation of

a Design-Build contract. This significant cost-saving allowed the County to expand the project scope by extending the concurrent and supporting four-lane widening of Balls Ford Road/Devlin Road project from the interchange to the intersection of Devlin Road and Jennell Drive. This project, as well as the supporting County project extending the adjacent roadway of University Boulevard, will significantly improve access for public buses operating out of the newly constructed OmniRide Western Maintenance Facility off Balls Ford Road and enhance access to the state constructed Balls Ford Road Commuter Lot, which has direct access to the newly constructed I-66 Express Lanes. These enhancements further improved safety and operational efficiency, addressing the needs of a growing traffic volume and enhancing connectivity within the area.

The expanded scope cost approximately $6,000,000, bringing the total cost of the project to approximately $115,000,000. The project was completed approximately $28,000,000 under budget and 206 days ahead of schedule, with the ribbon-cutting ceremony held on April 27, 2023. The financial savings and efficient project delivery allowed for additional improvements which have significantly enhanced traffic operations and safety. The Balls Ford Road Interchange project stands as a testament to effective project delivery, management and strategic planning and programming, providing long-term benefits to the Route 234 corridor and serving as a model for future infrastructure projects in Prince William County.

University Boulevard Interchange

The University Boulevard Intersection Improvements project is a significant initiative aimed at enhancing the functionality and safety of the Route 234 Corridor. This project involves constructing improvements along Route 234, Prince William Parkway, and University Boulevard for a total of 6,500 feet, including its intersections with Discovery Boulevard and Hornbaker Road. The enhancements include the construction of a ten-foot asphalt shared-use path and a five-foot

concrete sidewalk, providing better pedestrian and cyclist access. Additionally, the project adds an extra lane in each direction on Route 234, increasing the total to three lanes in each direction. A key component of the project is the extension of 2,000 feet of the four-lane divided Discovery Boulevard from its existing intersection at University Boulevard to a new proposed intersection with Route 234, complete with new traffic signals at each end of the terminal intersections.

This innovative quadrant roadway design improvements brought by this project are crucial for supporting the continued development of Innovation Park, a 1,500-acre university and corporate research park located along the Route 234 Corridor. By enhancing the intersections and adding capacity, the project facilitates better traffic flow and accessibility to Innovation Park, making it more attractive to high-tech businesses, research institutions, and academic entities. The improved infrastructure is expected to support Innovation Park's role as a major economic and technological hub in Prince William County, fostering growth and collaboration in various sectors.

The University Boulevard Intersection Improvements project is funded through a combination of Northern Virginia Transportation Authority (NVTA) regional ($24.2 million) and local ($5.5 million) program funding, underscoring its regional significance and the collaborative effort to enhance transportation infrastructure. The project, which began in September 2018 and commenced construction in the summer of 2022, is anticipated to be completed by the summer of 2024. The substantial investment from NVTA highlights the importance of this project in addressing current congestion issues and supporting future growth in the region, particularly in relation to Innovation Park, for the benefit of the region and the Commonwealth.

Brentsville Road Interchange

The Brentsville Road Interchange project represents a crucial endeavor to enhance operations along the Route 234 Corridor by constructing a bridge to grade separate the eastern intersection of Prince William Parkway and Dumfries Road, converting the intersection of Prince William Parkway at Bradley Cemetery Way to a continuous green-T, and realigning Brentsville Road. This project, which was procured through a Public Private Transportation Act (PPTA) Design-Build contract, addresses pressing safety concerns in an area experiencing a decade-high number of traffic fatalities, including an increase in pedestrian fatalities. By separating conflicting traffic movements and improving intersection configurations, the project aims to mitigate accidents and improve overall safety for motorists, pedestrians, and cyclists.

Fully funded through NVTA 70% program funding ($50 million), the substantial investment from NVTA reflects the project's importance in improving traffic flow, reducing congestion, and enhancing safety along the Route 234 Corridor. Additionally, the project's alignment with NVTA's priorities highlights its regional significance and the collaborative effort to implement transformative transportation solutions.

The Brentsville Road Interchange project also incorporates a pedestrian bridge, a feature requested by the public during the project's design phase. This pedestrian bridge, the first of its kind in the County, exemplifies the County's dedication to enhancing safety and accessibility for all road users. By providing a dedicated crossing for pedestrians, the bridge improves connectivity and promotes active transportation, contributing to a more pedestrian-friendly environment. This inclusion demonstrates the County's responsiveness to community input and its commitment to delivering infrastructure that meets the diverse needs of its residents. With anticipated completion in Spring 2024, the project represents a significant step forward in advancing transportation infrastructure and fostering a safer, more sustainable community along the Route 234 Corridor.

Projects in Progress or Seeking Funding:

Clover Hill Intersection

The Clover Hill Intersection project involves constructing significant improvements at the intersection of Prince William Parkway (Route 234) and Clover Hill Road. The primary modification is the conversion of the existing conventional intersection into an innovative bowtie intersection, designed to enhance traffic flow and safety. This innovative intersection design aims to reduce congestion and improve the efficiency of vehicular movements at this critical junction.

Given the anticipated increase in traffic due to the expansion of services at the Manassas Regional Airport, the existing design is being re-evaluated. The re-evaluation is ensuring the current design can support the increased traffic volume and ensuring that the intersection can handle the projected demand effectively.

This project is a crucial part of the broader efforts to improve transportation infrastructure in the area. By addressing both current traffic concerns and future growth, the Clover Hill Intersection project demonstrates a forward-thinking approach to urban planning and infrastructure development. The upgrades will contribute to safer and more efficient travel for residents and visitors alike, supporting the overall economic vitality and quality of life in Prince William County.

Route 234/Sudley Manor Interchange

The Route 234/Sudley Manor Interchange project marks a pivotal milestone in the comprehensive efforts to enhance the functionality and safety of the Route 234 Corridor. This project, identified as a priority in the 2018 STARS (Strategically Targeted Affordable Roadway Solutions) study, addresses longstanding congestion and safety challenges at the intersection of

Prince William Parkway and Sudley Manor Drive. Serving as the final project from the 2018 STARS study to be initiated, the Route 234/Sudley Manor Interchange project represents the culmination of extensive planning and coordination to implement transformative transportation solutions.

The project was selected to participate in the Performance Based Pilot Program, which concluded in July 2020, having been determined to be a high priority and high benefit application of regional significance by the Commonwealth Transportation Board and the Office of Intermodal Planning and Investment (OIPI). This designation reflects the project's critical importance and its potential to deliver significant improvements in traffic flow, safety, and regional connectivity. The Performance Based Pilot Program highlighted the project's alignment with state and regional transportation priorities and underscored its anticipated impact on enhancing the transportation network.

The Route 234/Sudley Manor Interchange project features the construction of a grade-separated interchange to eliminate the existing at-grade intersection. The project will maintain free-flow conditions on Prince William Parkway, significantly reducing delays currently experienced due to the signalized intersections at Sudley Manor Drive and Wellington Road. Wellington Road will be bridged over Prince William Parkway, and access to the Parkway from Wellington Road will be diverted to the newly constructed interchange at Sudley Manor Drive. Recommended for approval by NVTA with $115 million in funding, this project embodies the County's commitment to proactively addressing congestion and safety issues through strategic infrastructure investments, delivering lasting benefits to residents, businesses, and commuters. NVTA's commitment to funding the project highlights its regional significance and the collaborative effort to address critical transportation needs in the area. Based on this anticipated approval, Prince William County plans to

reduce the project cost in its SMART SCALE application to improve its competitiveness within the program, ensuring that escalation and inflationary costs do not hinder the project's timely and on-budget completion. The County will also collaborate with funding agencies to forward appropriate funds, expediting the project's development and ensuring its alignment with strategic transportation goals.

Route 234 Bicycle and Pedestrian Facility over Interstate 95

The Route 234 Bicycle and Pedestrian Facility over Interstate 95 aims to enhance bicycle and pedestrian connectivity across this major interstate. With a budget of $12,000,000, the project addresses the scarcity of pedestrian and bike facilities between Route 1 and the existing sidewalk terminus west of I-95 where bike accommodations are currently limited to shared paved shoulders.

The project will provide dedicated bike lanes and pedestrian pathways, promoting alternative transportation modes and improving safety and accessibility for cyclists and pedestrians. In addition to providing safe crossings at a location that has a history of pedestrian fatalities and serves multiple Equity Emphasis Areas, which are designated Census Tracts with significant low income and/or minority populations, this facility is expected to foster healthier transportation options and enhance the overall livability of the area by providing a connection to bus services at the Route 234 Commuter Lot. It is also recommended for funding approval by NVTA at its July Authority meeting.

Route 234 Operational Improvements

The Route 234 Operational Improvements project, with a budget of $10,000,000, targets various enhancements to traffic flow, safety, and accessibility along the corridor. These improvements include upgrading traffic signals, optimizing signal timings, and implementing other measures to reduce congestion and improve overall traffic management.

This project is crucial for addressing immediate operational issues and ensuring the corridor can handle increased traffic volumes in the future. By improving the efficiency of Route 234, the project supports smoother travel, enhances safety, and contributes to the overall effectiveness of the transportation network. It is the County's first Intelligent Transportation System project and is also recommended for funding approval by the Northern Virginia Transportation Authority at its July Authority meeting.

Cost of the Program

The cost of the Route 234 Corridor Improvements program represents a substantial investment focused on enhancing transportation infrastructure and addressing key challenges along the corridor. The total cost of all the projects listed above is $343,357,608. Current funding for the projects is more than 99 percent external grant funding, with $2,209,000 (0.6%) from proffers and developer contributions, and no local funding sources such as general funds, recordation/grantor's tax, or approved debt currently supporting these projects. The County has effectively leveraged external funding to support these initiatives, ensuring that these improvements do not impact local tax dollars for citizens.

Despite the significant costs associated with the program, the benefits derived from these investments are equally substantial. Improved traffic flow and reduced congestion contribute to

more efficient travel times and enhanced safety for motorists, pedestrians, and cyclists. Additionally, these infrastructure improvements stimulate economic growth by increasing access to activity centers and supporting infrastructure, attracting new businesses, and enhancing property values along the Route 234 corridor.

The financial commitment to the Route 234 Corridor Improvements program is indeed significant, but the expected return on investment in terms of improved mobility, safety, and economic vitality is projected to be substantial. The benefits will ultimately enhance the quality of life for residents and bolster the economic prospects of Prince William County for years to come.

Results/Success of the Program

The Route 234 Corridor Improvements program has significantly enhanced the safety, efficiency, and financial stewardship of Prince William County's transportation infrastructure. By implementing a series of strategic upgrades, the program has successfully addressed critical traffic and safety challenges along this vital corridor. One of the key achievements has been the reduction in traffic congestion, resulting in smoother and faster commutes for thousands of drivers each day. Enhanced traffic flow and reduced delays during peak hours have led to substantial time savings for commuters, improving overall traffic operations and connectivity.

Safety improvements have been another cornerstone of the program's success. By upgrading key intersections and eliminating high-risk conflict points, the program has contributed to a marked decrease in traffic accidents and enhanced safety for all road users, including motorists, pedestrians, and cyclists. The addition of new pedestrian and bicycle facilities has not only improved accessibility but also promoted healthier, more sustainable modes of transportation, further enhancing the community's quality of life.

Financial efficiency has been a hallmark of the Route 234 Corridor Improvements program. The County has demonstrated exceptional financial stewardship by completing several projects under budget and ahead of schedule. This prudent management of resources has allowed for the reallocation of savings to expand project scopes, thereby maximizing the impact of the investments. The ability to deliver projects cost-effectively and efficiently has strengthened public trust and set a high standard for future infrastructure projects.

The collaborative efforts with funding agencies and proactive measures to secure and optimize funding have also been pivotal to the program's success. By strategically reducing project costs and working to expedite funding approvals, Prince William County has ensured that these vital infrastructure improvements are not only feasible but also sustainable. The comprehensive approach taken in managing the Route 234 Corridor Improvements program exemplifies the County's commitment to continuous improvement and its capacity to adapt to evolving financial and logistical challenges while delivering high-quality, impactful transportation solutions.