

## APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 3, 2019.** Please include this application form with electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

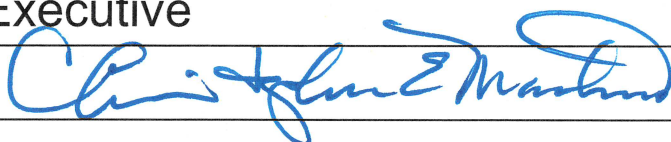
### PROGRAM INFORMATION

County: Prince William County  
Program Title: Prince William County Department of Transportation – Leaders in Innovation  
Program Category: Transportation

### CONTACT INFORMATION

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Department: Transportation  
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### SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Christopher E. Martino  
Title: County Executive  
Signature: 



**2019 VACo Achievement Award Entry**  
**Prince William County Department of Transportation – Leaders in Innovation**

Introduction

The Prince William County Department of Transportation (PWC DOT) was created to improve the county's transportation network and meet the needs of the growing community. Goals of the department include easing the flow of traffic, improving local and regional mobility, improving travel within the county, providing transportation options for residents and visitors, and creating and maintaining safe travel conditions. In order to meet these goals, the county had to take an innovative approach to completing projects from "Planning" to "Ribbon Cutting".

Executive Summary and Brief Overview

Prince William County, along with other jurisdictions in Northern Virginia, continues to face difficult challenges in dealing with traffic congestion and ensuring there is an adequate transportation network. Jurisdictions in the region are working hard to deliver transportation facilities that can keep up with the growing population. In addition, Prince William County is constrained with limited funds available to construct improvements. The county is also in the process of becoming a more suburban/urban jurisdiction. To counter these difficult challenges, the PWC DOT Program focuses on creative approaches through every core function of the department. The department has implemented innovative approaches to transportation planning, project financing, project design and procurement of construction projects. Through dedicated cooperation and collaboration with local, state, and federal entities and effectively communicating the mobility needs of Prince William County, PWC DOT staff has proudly produced a \$1 billion-dollar, 5-year capital improvement program (from \$300 million 24-months earlier) between Fiscal Years 2019 and 2024. This program is being accomplished by a department composed of less than 50 staff.

## Background

The PWC DOT staff is guided by the Board of County Supervisors (BOCS), Prince William County Comprehensive Plan and the Prince William County Strategic Plan (see Figure 1). To adhere to the transportation needs of Prince William County, the BOCS has adopted a Mobility Strategic Plan goal to have “an accessible, comprehensive, multimodal network of transportation infrastructure that supports local and regional mobility.” To guarantee the adherence to this goal, the department works closely with various mobility partners in the county and the region to encourage implementing multimodal projects with innovative means.

Because of the growing transportation needs of Prince William County, the Transportation Division, which was originally part of the Department of Public Works, became the Prince William County Department of Transportation (PWC DOT) in 2006. The department consists of two divisions: the Transportation Planning and Programming Division and the Capital Projects Division.

The Transportation Planning and Programming Division is responsible for a) serving on various transportation committees in the region, b) developing projects, c) obtaining funding for projects, d) reviewing entitlement cases and site plans, e) inspecting developer infrastructure projects, f) implementing residential traffic programs, streetlighting, and g) completing transportation safety analyses and studies.

The Capital Projects Division manages the design and construction administration of multimodal transportation projects as well as mega roadway projects (projects valued at more than \$50 million) in the county, funded through local, state and federal resources. The Capital Projects Division has the resources and staff to manage all aspects of the project from preliminary engineering, full design, right-of-way acquisition, and utility relocation to all construction elements of a transportation project.

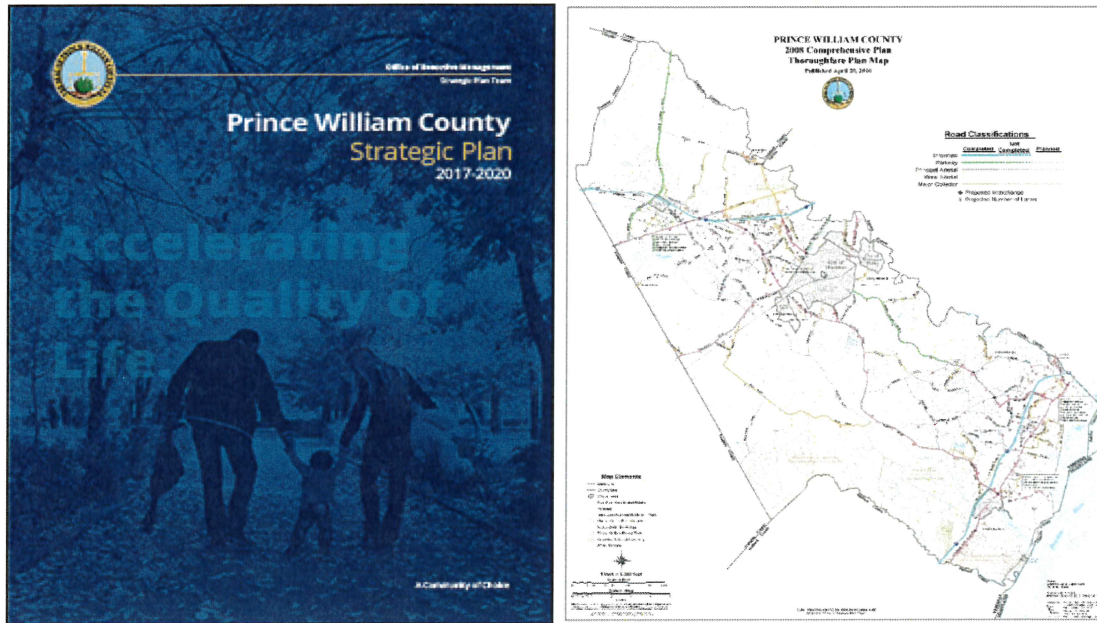


Figure 1: Guiding Documents: Prince William County Strategic Plan and Comprehensive Plan

The county's transportation program began with the 1988 Road Bond, which authorized debt issuance of up to \$66 million dollars with a 60% approval rate. The 1988 Road Bond was followed by the 1990 (\$43 million / 65% approval rate), 1994 (\$17.9 million / 61% approval rate), 1998 (\$42.7 million / 61% approval rate), 2002 (\$86.7 million / 68% approval rate) and 2006 (\$300 million / 82% approval rate) road bonds. With a growing population and no additional staffing, the department had to innovate in all aspects of its program from planning, financing, procurement, and designing of projects.

### Planning

Over the years, Prince William County has transitioned from being a primarily rural county to a more suburban/urban county with a population of nearly 500,000. While parts of the county remain rural in nature, portions of the county are increasing in density. As a result, the county is focusing on multimodal transportation with a greater emphasis on mobility rather than continuing to be road-centric. As part of the update to the Comprehensive Plan, the "Transportation Section" is becoming the "Mobility Section" to ensure all modes of transportation and innovative approaches to infrastructure are considered and



accounted for in the county. This will guarantee that county agencies and the Board of County Supervisors (BOCS) maintain competitive access to air, rail, non-motorized modes and highway options. This is a new approach to how transportation is viewed in the county.

In order to accomplish this multimodal approach, the county works with local mobility partners, such as the Virginia Railway Express, who provide commuter rail service in the county; the Potomac and Rappahannock Transportation Commission/OmniRide, who provides local and commuter bus service for county residents; the Virginia Department of Transportation (VDOT), who maintains most of the roadways in the county; the Trails and Blueways Council; the Parks and Recreation Department; and Transportation Planning Board. The department places a high value on implementing improvements that enhance access to transit and considers all modes of transportation when designing a transportation project.

#### Project Programming and Financing

Currently, PWC DOT has either completed or is in the process of constructing all projects in the 2006 Road Bond. The construction of the 12 projects in the 2006 Road Bond had a total value of \$400 million, instead of the original value of \$300 million. To augment completion of the foregoing projects, PWC DOT staff took an innovative funding approach by leveraging local, state, regional and federal transportation dollars. (See Figure 2 for an example of a funding cycle and Figure 3 to see how funding has been leveraged over the years). Prince William County only had to use \$150 million of bond proceeds with \$250 million of the remaining project costs coming from other non-county funding sources.

With a majority of the 2006 Road Bond Projects completed, the county continues to set additional secondary and primary road project priorities. In addition to designing and constructing secondary and primary road projects, the department's current capital improvement program consists of sidewalks, trails, parking facilities, roadway extensions, roadway widenings and interchanges, totaling more than \$1 billion dollars.

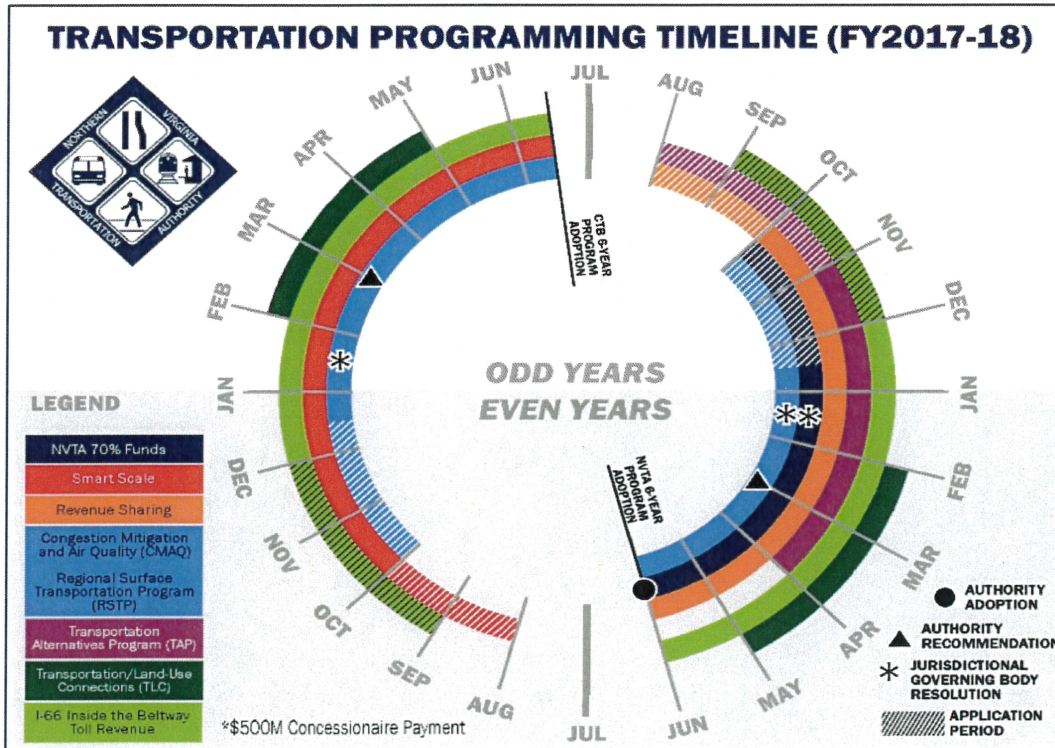


Figure 2: Project Funding Cycle

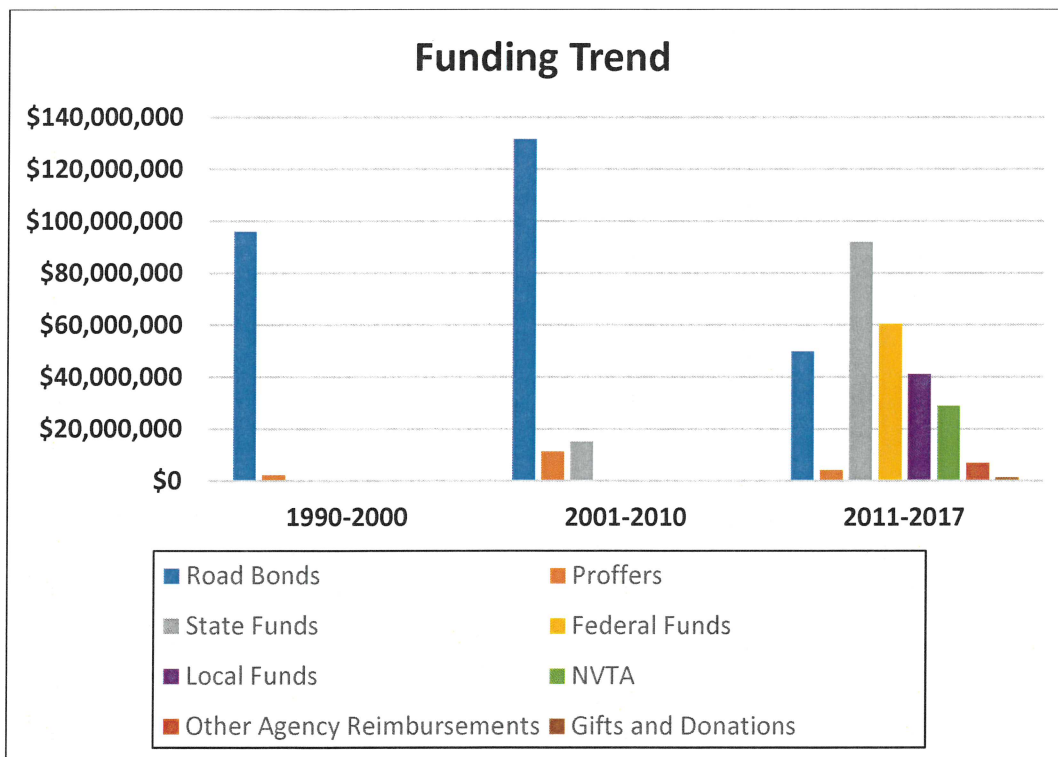


Figure 3: Funding Trend and Leveraging of Funds

To reach the department's current capital improvement program, which is larger than several of the VDOT Construction Districts, the Transportation Planning and Programming Division staff has prioritized the leverage of other funding. Over time, as funding mechanisms evolved and transitioned, the department remained innovative by combining various types of funding. With emphasis on regional planning and programming, the County coordinates with various transportation agencies in the region from the local to the federal levels. The department writes grants and submits funding requests from all available sources to ensure the county's own funds are limited, and alternative sources of project funding are obtained. By building solid relationships with other local, regional, state and funding partners, PWC DOT has the information and resources needed to obtain various forms of funding. In order to create innovative and new funding partnerships, department staff diligently meet and coordinate with other transportation agencies, serve on regional committees, and act as liaisons on behalf of the county.

#### Innovative Approaches to Project Delivery

PWC DOT follows innovative approaches to deliver projects and utilizes all available procurement methods, such as the traditional Design/Bid/Build Method, Design-Build Method and Unsolicited Design-Build Method, and the Public-Private Transportation Act (PPTA) process. The standard method to deliver a transportation project is through the Design/Bid/Build Method, in which transportation agencies design, acquire right-of-way, relocate utilities, and then construct a transportation project in a linear process. In addition to using the traditional Design/Bid/Build Method, PWC DOT promotes and uses various forms of the Design-Build Method as an alternative and innovative method. With this method, the design phase and the right of-way/utility phase occur concurrently with construction. This pioneering process provides significant public benefit and further accelerates project delivery. This method also reduces construction times, costs and impacts. Over the years, the department staff has become proficient in the delivery of projects through this and other highly-efficient methods, with various processes based on a funding source.

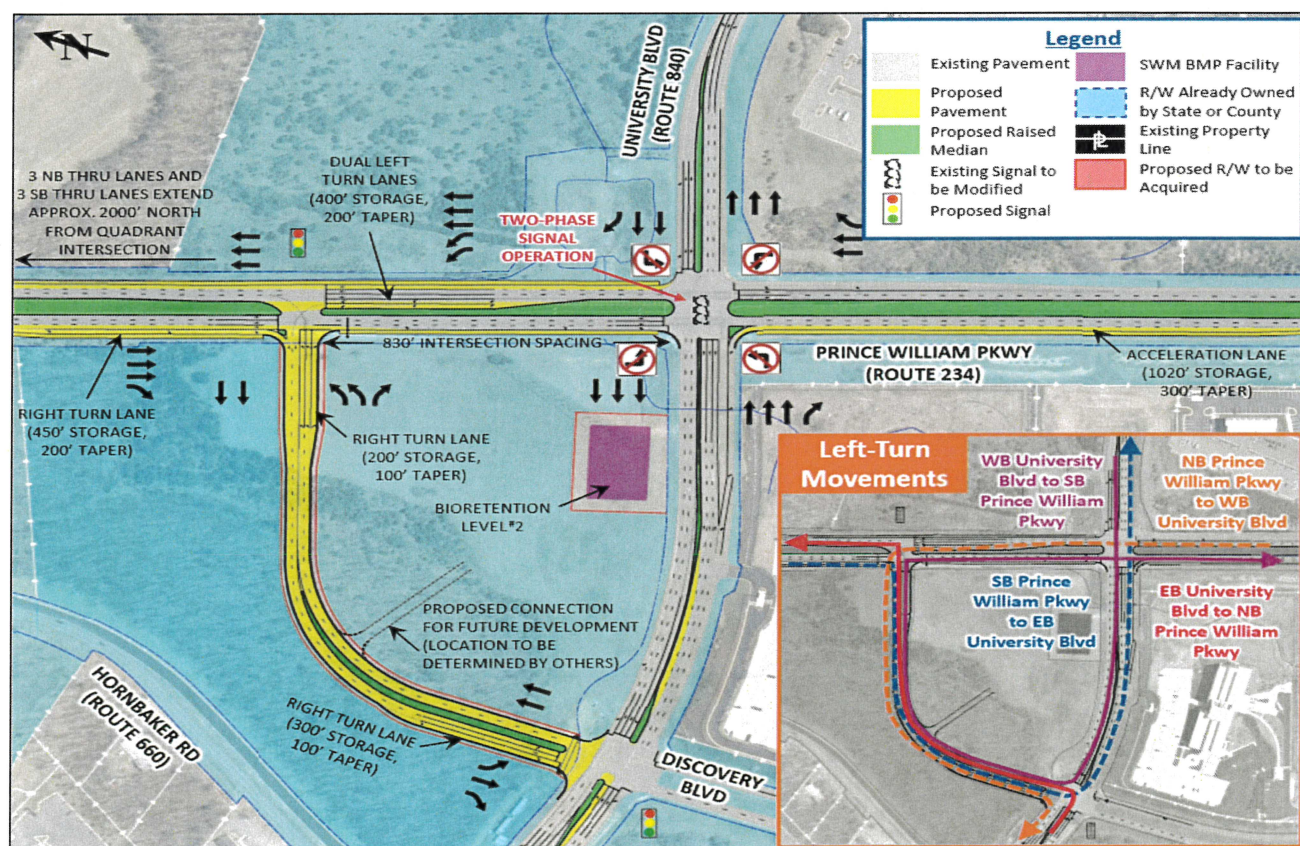
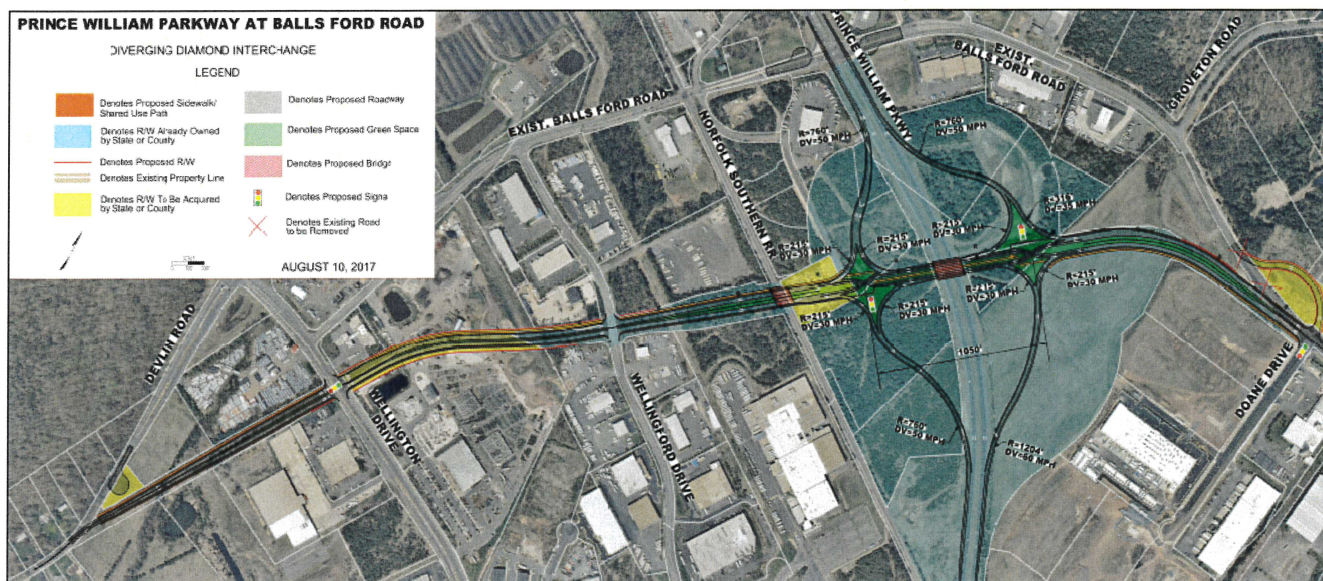
PWC DOT is one of the few agencies in the state that consistently and successfully delivers projects through all of these methods.

The department has further adopted an innovative approach to how projects are programmed. Certain types of funding have various restrictions, such as the rigorous requirements for federal and state funding. With various funding options available to the department, staff will use a specific funding type for certain phases and project types to maximize available funding and ensure the project is completed and streamlined.

#### Innovative Project Design and Construction

In order to maximize the limited funding in recent years, PWC DOT has innovated unique approaches to projects. For example, the department has partnered with VDOT to develop innovative, cost-effective transportation solutions in the county. As part of VDOT's STARS (Strategically Targeted Affordable Roadway Solutions) study, the county and the state analyzed the entire Route 234 corridor (From I-66 to Dumfries Road) for potential alternative improvements. Through these efforts, the department identified alternative intersection/interchange designs, as opposed to the expensive traditional grade-separated cloverleaf interchanges, at four locations along the Route 234 corridor. Projects identified as part of the study that have received project funding include the Route 234/Balls Ford Road Diverging Diamond Interchange, Route 234/University Quadrant Intersection, Route 234/Brentsville Road Alternative Interchange Design, and the Route 234/Clover Hill Road Bowtie Interaction (see Figures 4a/4b/4c/4d). Since 2018, the department has obtained funding for these alternative-innovative intersection projects for a total cost of approximately \$230 million using outside funding sources.







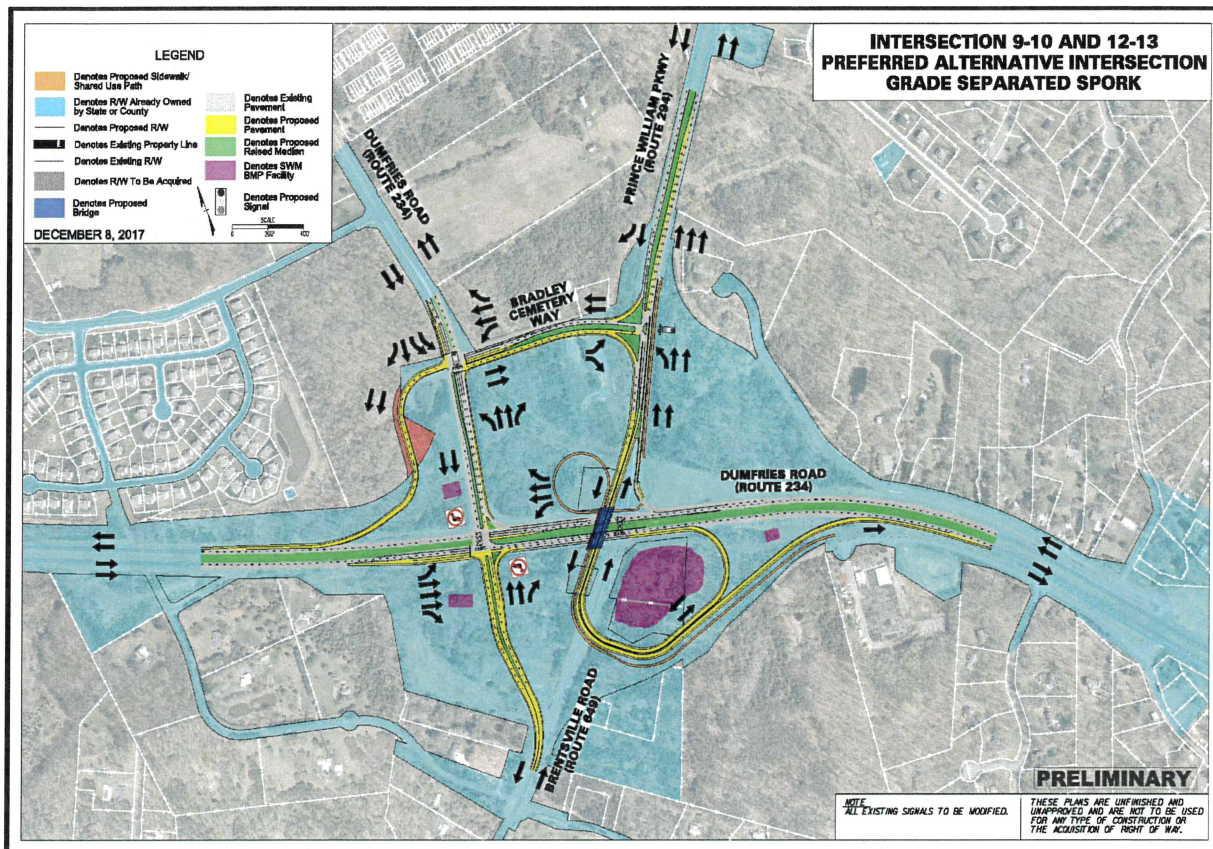


Figure 4c: Route 234/Brentsville Road Innovative Intersection Design

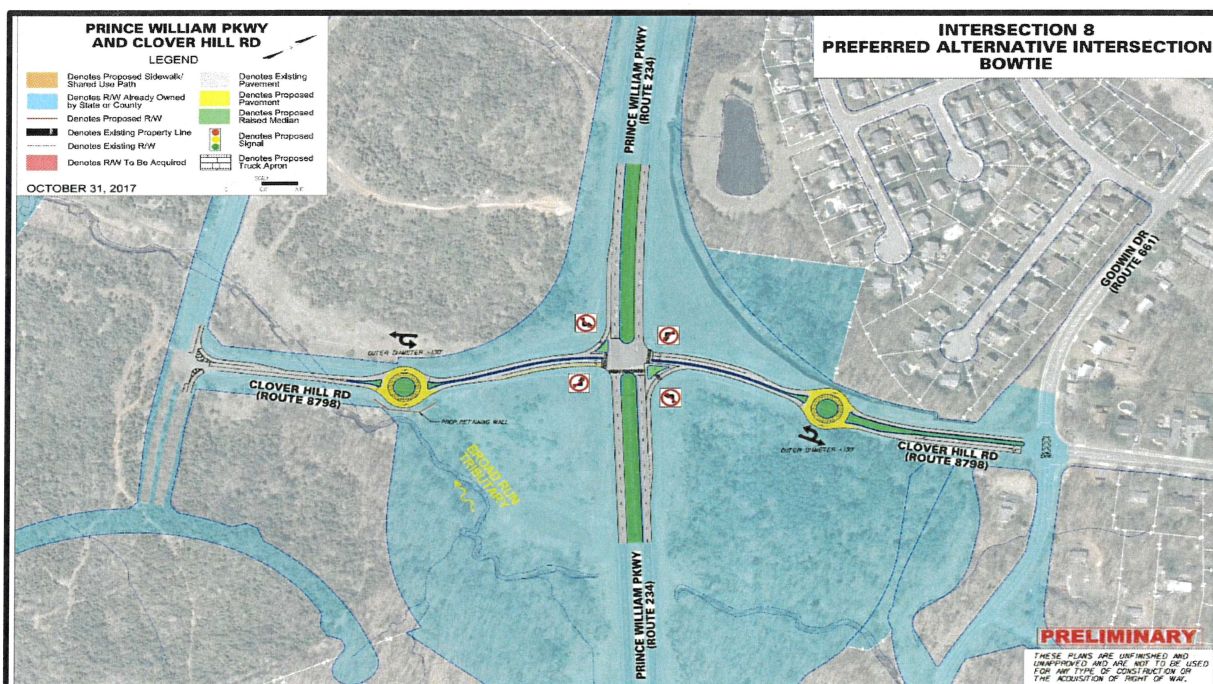


Figure 4d: Route 234/Clover Hill Road Bowtie Intersection

As needs of the county continue to grow, PWC DOT continues to pursue new types of funding mechanisms and projects. Recently, Prince William County received state grant funding for the county's first commuter garage. This 1,400-space garage will be constructed in a high-density area and will be procured through the innovative Design-Build Method.

In addition to infrastructure improvements, the PWC DOT's Traffic Safety Branch also encourages innovative ways to improve traffic operations and address safety issues in the county. Over the years, the department has implemented various pilot programs to look at creative solutions to improving safety. For example, the department has recently implemented the Pole Mounted Speed Display Pilot Program (See Figure 5) as an alternative and effective tool to reduce vehicle speeds and is now looking to implement out-of-the-box solutions to speeding such as the use of optical speed bars (See Figure 6).

Despite having a minimum level of staffing and limited funding needed to operate, PWC DOT has been able to maintain a large construction program and inspire innovation by enlisting knowledge-diversified cross-trained individuals who understand how to address the transportation needs of the county and because PWC DOT staff is cross trained, and provide support across all department core functions. As a result, the department is known for functioning as a high-performing organization that continually crosses department lines.





*Figure 5: Pole-Mounted Speed Display Sign*



*Figure 6: Proposed Innovative Solutions to Reduce Speeding – Optical/Speed Bars*



### Project Expectations and Future of Department

Over the years, PWC DOT has greatly emphasized consistently communicating with the Board of County Supervisors with a robust information program to notify them of all our processes. The department provides clear expectations on project schedule and budget and has a strong reputation for meeting these goals, creating trust between the BOCS and department staff. As the department's program grows and unique challenges are presented, staff will continue to ensure transparency with the BOCS and the general public, which has contributed to the department's success over the years. Support from county residents and the BOCS is a key element in the successful completion of all transportation projects.

PWC DOT will continue to identify innovative ways to acquire funding for secondary and primary priority projects in Prince William County. Furthermore, the department will continue to work with mobility partners to implement creative and innovative projects. It is anticipated that various funding and grant programs will become more competitive and provide less funds. The department plans to continue leveraging funds, successfully complete multimodal projects, and work closely with other county, regional, state, and federal entities to address the county's and Region's transportation problems in the most innovative way. The department will continue to foster creativity and offer unique transportation solutions as new problems emerge in the county and the region.



Route 28 Phase 1 Ribbon-Cutting



Route 1 Widening - Neabsco Road to Featherstone Road Ribbon-Cutting