

**Board of Supervisors**

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Wendy E. Maurer
Cindy C. Shelton
George Washington District

Thomas C. Foley
County Administrator

Infrastructure Committee Meeting

AGENDA

February 6, 2018 - 1:30 pm
Conference Room A/B/C, Second Floor

Committee Members: Meg Bohmke, Jack Cavalier and Mark Dudenhefer

Agenda Item	
1.	Election of Committee Chairman
2.	Discussion of release of SLAF Grant funds for Armed Services Memorial Pond and alternative measures for treatment of stormwater
3.	Transportation: <ul style="list-style-type: none">a. RSTP/CMAQ Application for FRED Bus Northern Routeb. Proposed Smartscale projectsc. Discussion of Possible Transportation Funding Sources
4.	Utilities: <ul style="list-style-type: none">a. Discuss rates associated with the Regional Public Water and Sewer Mutual Aid and Assistance Agreement between Stafford, Spotsylvania and Fredericksburgb. Update on the Master Plan status and the proposed public hearing schedule
	Next IC meeting is scheduled for March 6, 2018

INFRA/Agenda02062018



Armed Services Memorial Stormwater Local Assistance Fund

- The Board, by Resolution R17-29, authorized submission of grant application in the total amount of \$240,000 from the Stormwater Local Assistance Fund (SLAF) for improvements to the stormwater management pond serving the Stafford County Government Center. The County would be responsible to fund 50% of this amount, or \$120,000. The improvements would provide water quality treatment for the Armed Services Memorial. The County was successful in being awarded the full amount of the application.
- Following design, the project was offered for public bids, and the low bid was nearly \$600,000, far exceeding the available grant. The County would have been required to fund the entire amount above the \$120,000 approved by the state.
- Upon receipt of these bids, County staff evaluated options and decided to purchase credits from a mitigation bank to meet the SWM requirements. We solicited prices from interested mitigation banks, and received four responses, ranging from just under \$4,000 to \$6,000
- Staff recommends rescinding the awarded SLAF grant from the state and proceeding to acquire the necessary mitigation credits.

Consideration of Extending the FRED Service to North Stafford and Quantico and Application for CMAQ Funding to Offset the Costs

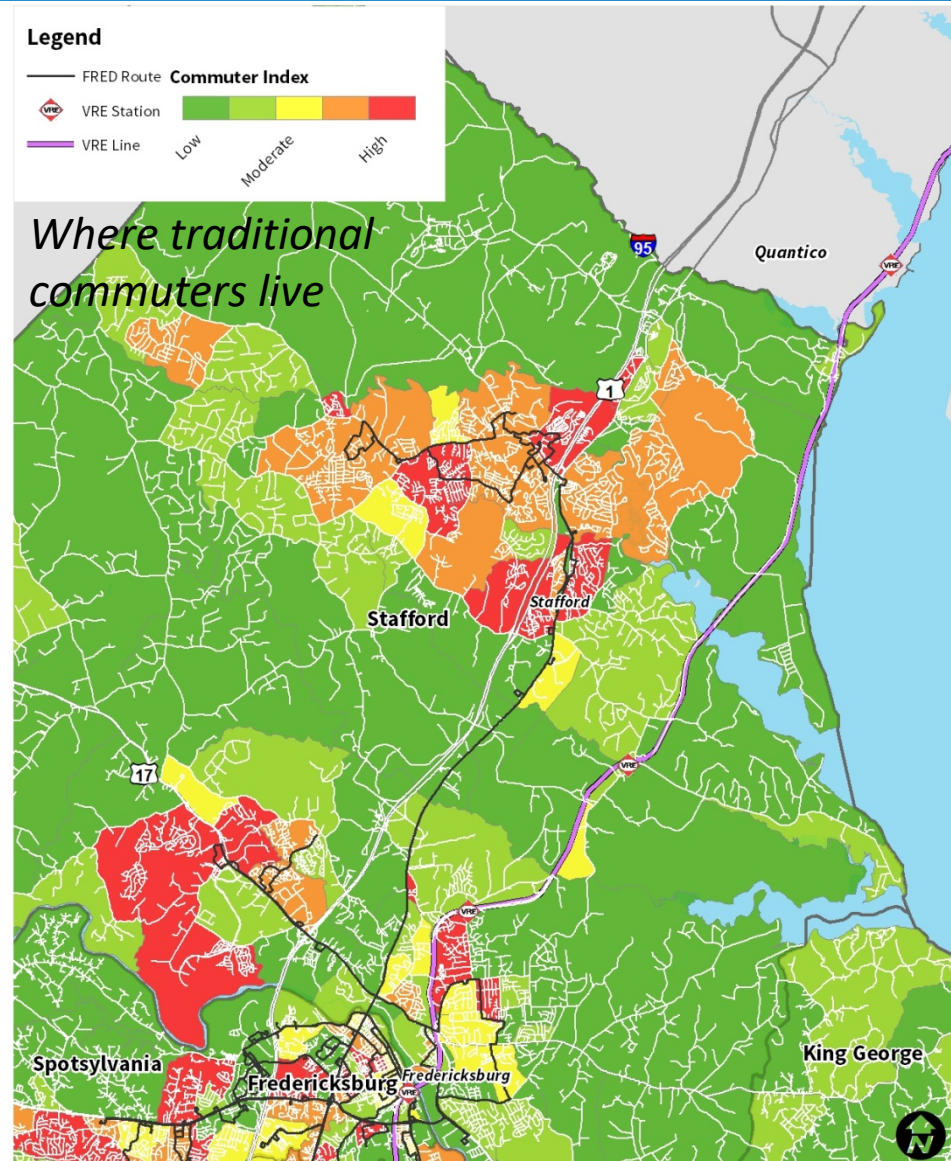
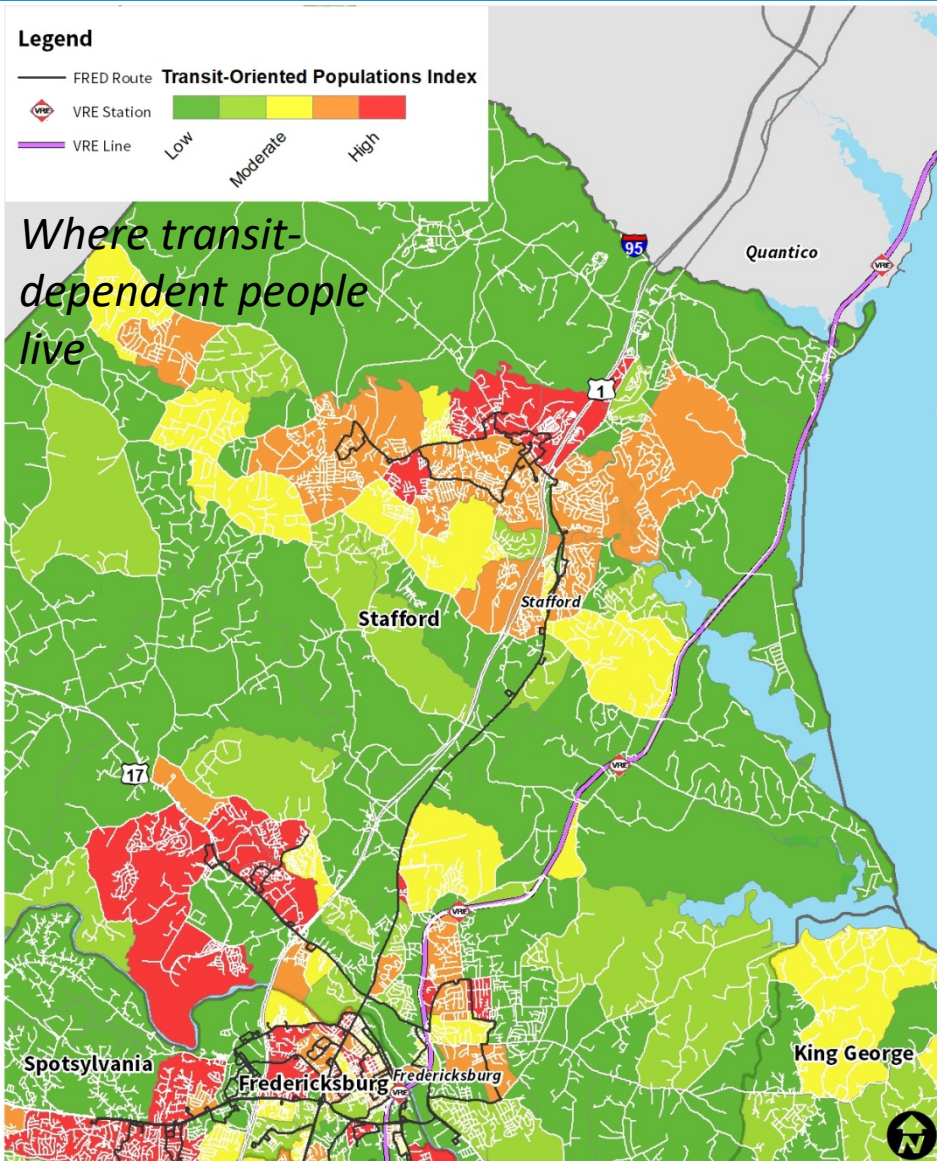
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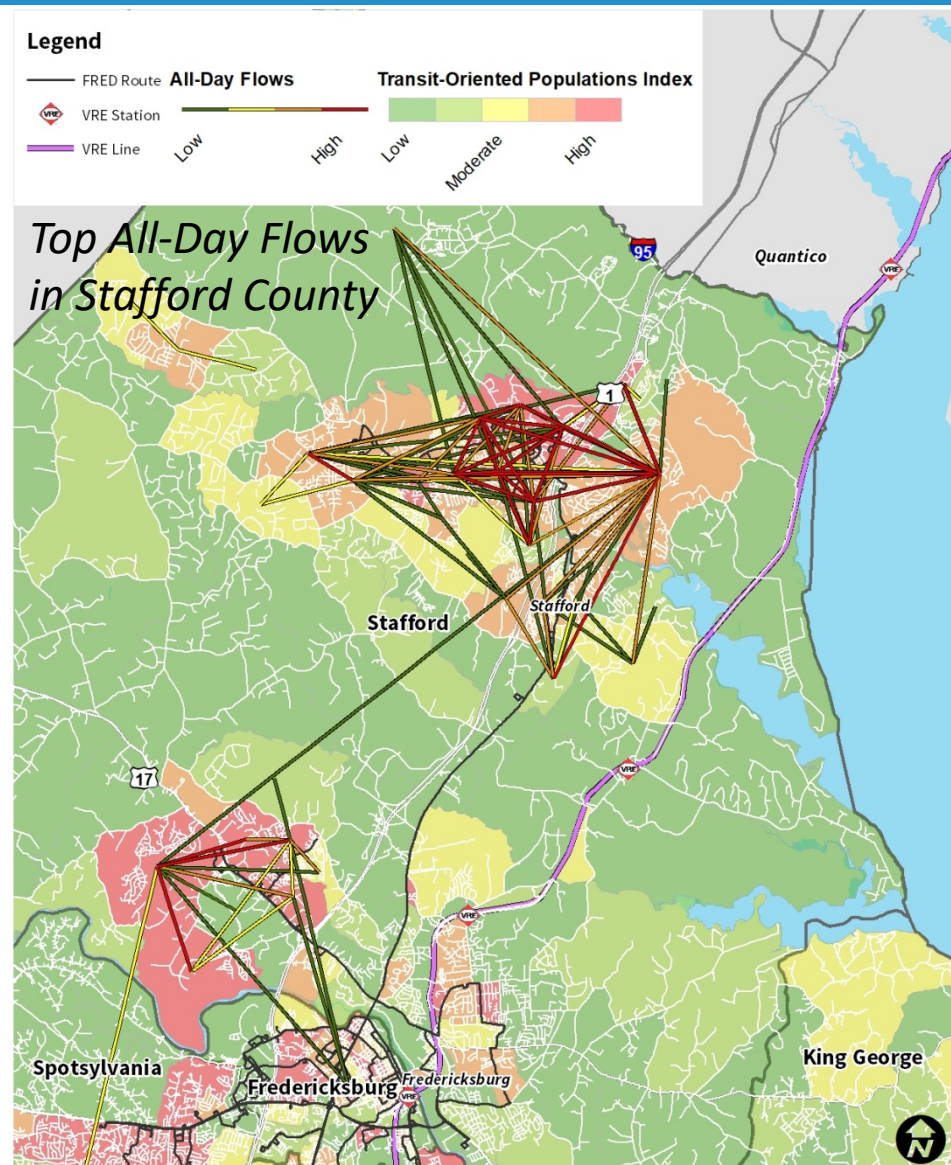
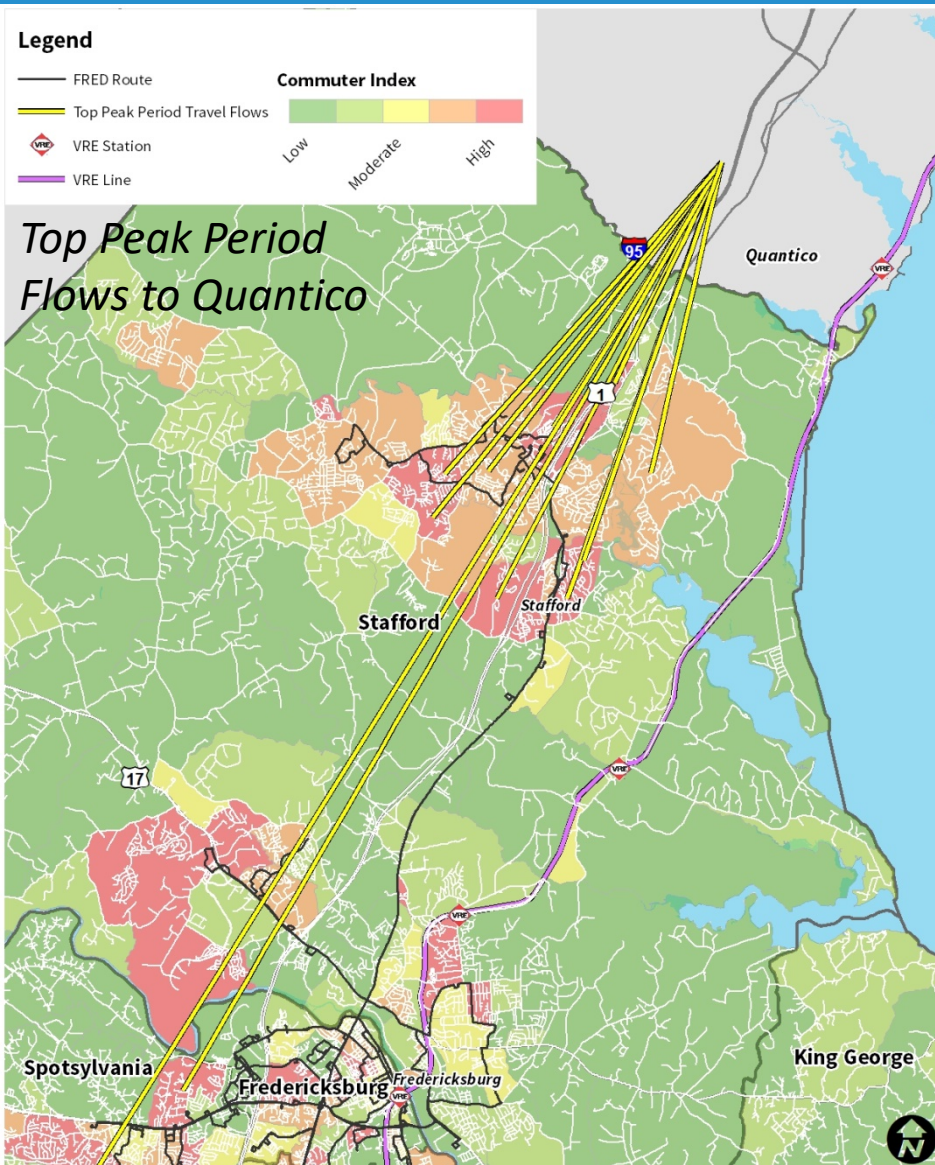
Background

- County has received requests for service north of Route 610 and connections to PRTC
- The I-95 Transit/TDM Study identified a significant need for service between north Stafford (630 and 610) and Quantico
- Staff has worked with FAMPO and FRED to research the transportation patterns, need for service and options for providing a northern extension
- Staff has also submitted an application for federal Congestion Mitigation and Air Quality funding to cover the costs if the Board chooses to move forward
- The Application is not binding and can be removed if the Board chooses not to pursue

Transit Need Analysis



Transit Need Analysis – Travel Flows



Transit Need

■ Peak Periods:

- Largest demand in Stafford is between Garrisonville area and Aquia Harbor to Quantico
- This includes the 630, 610, and Route 1 corridors
- Routes 1 and 610 have existing FRED service (D₃ and D₄), for local routes, but they do not extend north of 610 or very far west on 610

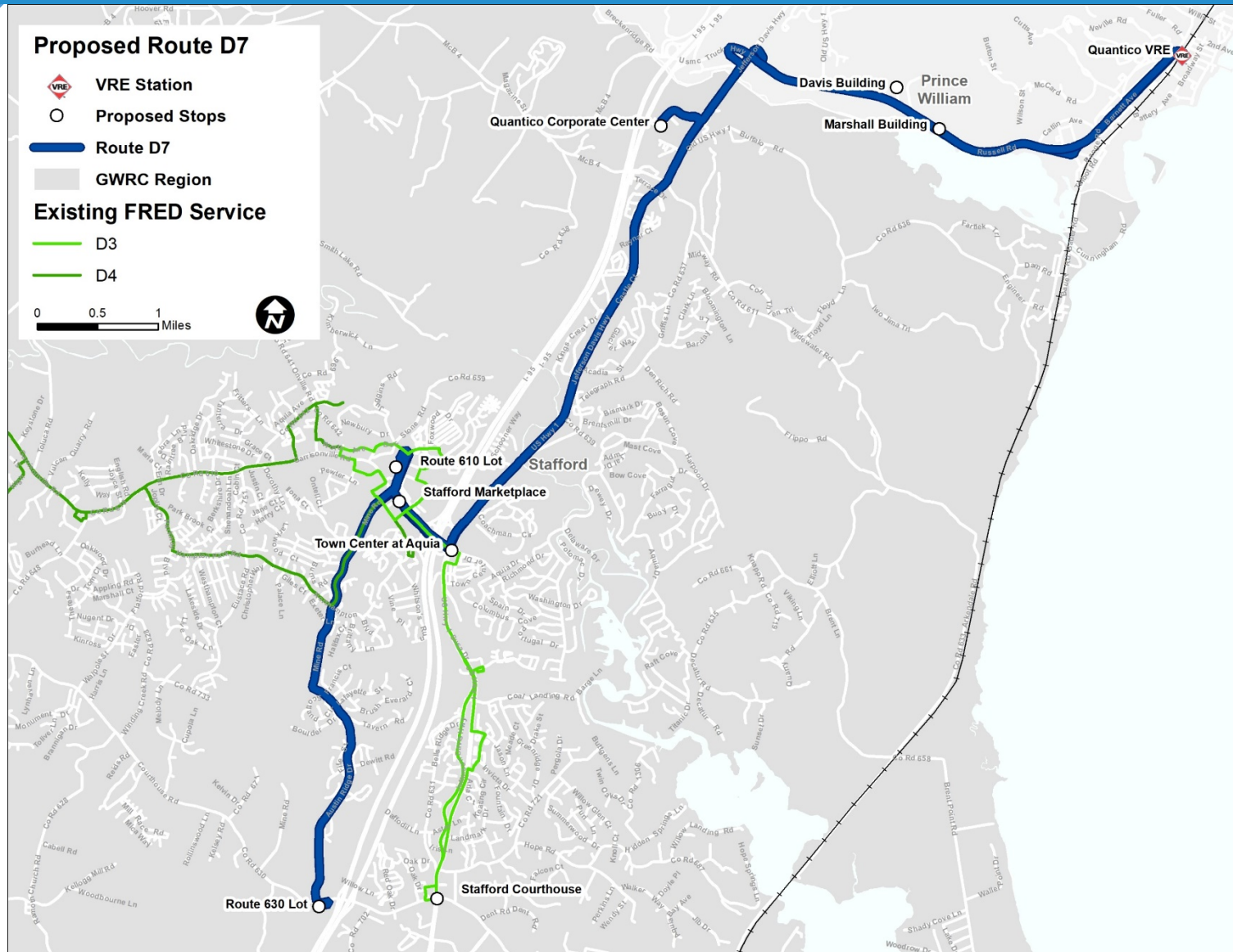
■ Off-Peak Periods:

- Most demand already satisfied by existing FRED service
- Some unmet demand for service on Route 1 in Aquia, north of Route 610

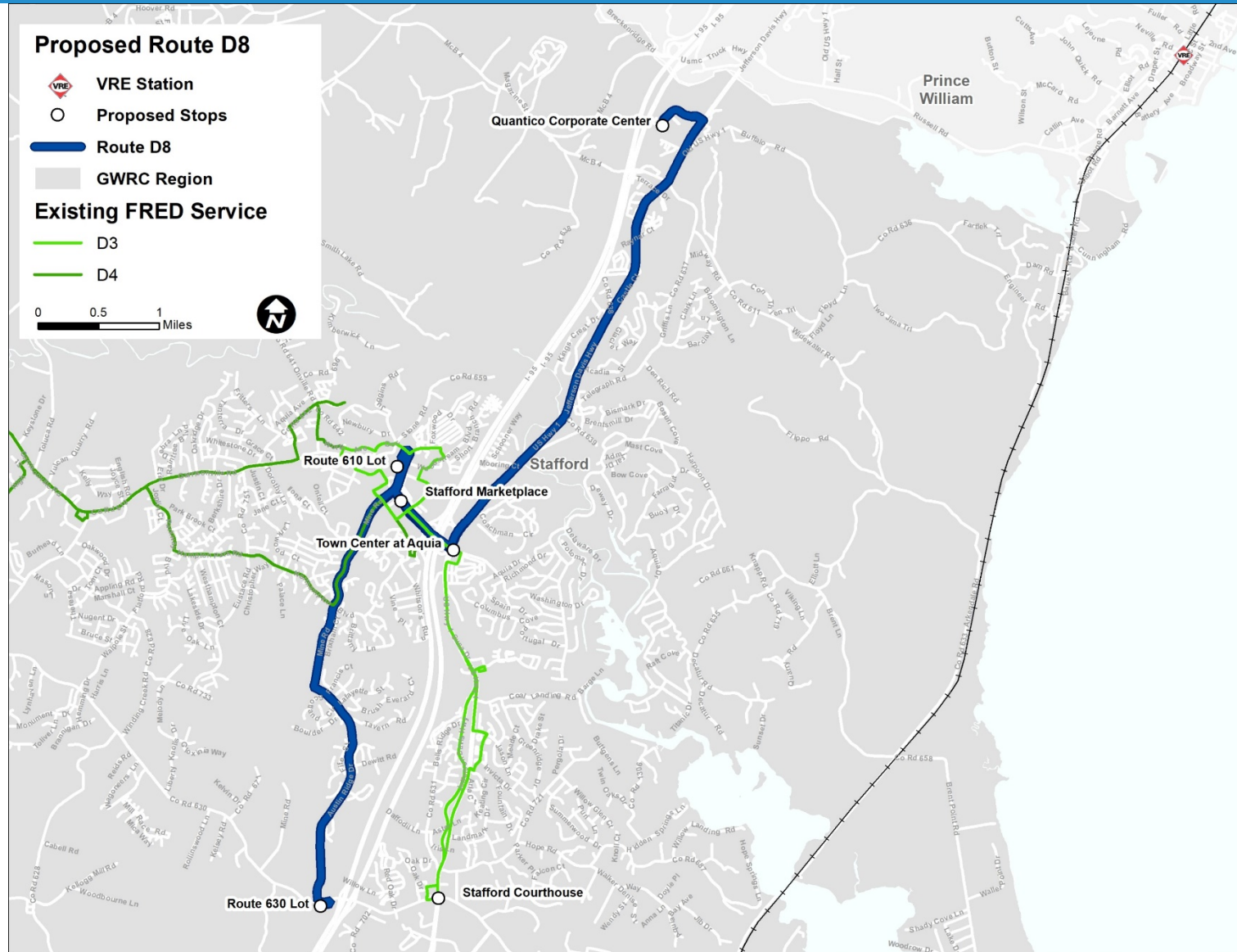
■ Considerations:

- Overall ridership in FRED service has decreased by 20% between 2013 and 2017, for a variety of reasons, including lower gas prices

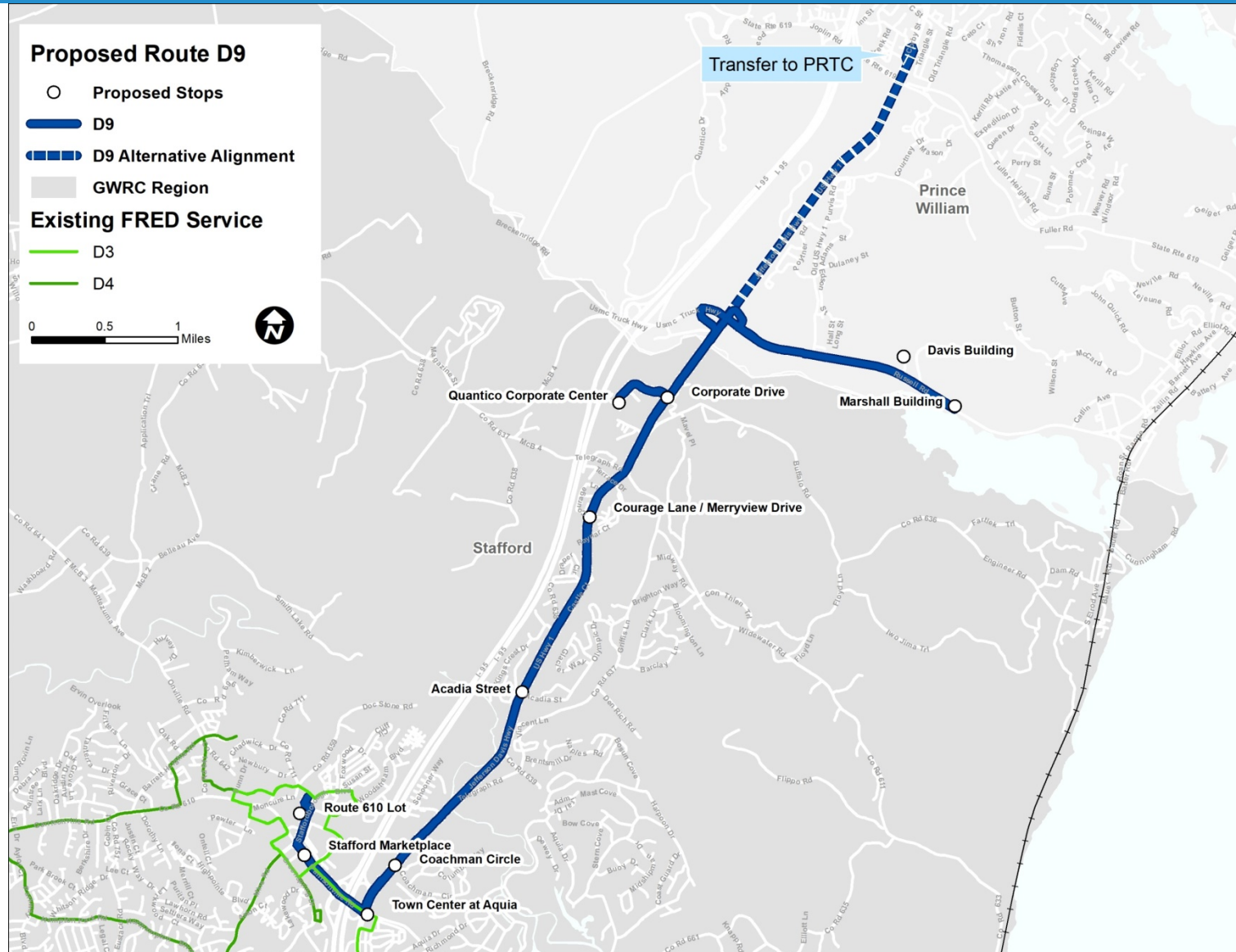
630 Lot to Quantico VRE (D7)



630 Lot to Quantico Corporate Center (D8)



610M Lot to Marshall Building or Fuller Rd (D9)



Recommendation – D9/D4 or D7/D9/D4

- Incrementally implement either alternative
- Both alternatives could connect to PRTC
- **D9 yields the most ridership and highest productivity**
- **D9 has adequate amount of layover time**
- FRED also suggests that which ever option is chosen, it should include an expansion of the D4 span of service for passengers to continue west (D4 currently operates from 8:50am to 4:30pm)

Implementation – D9/D4

- Incrementally implement the D9/D4:
 1. Start as a peak hour commuter route
 2. Increase frequency in peak hours to build ridership
 3. Add D4 trips to increase connectivity
 4. Add midday trips
 5. Increase frequency in midday to further build ridership

Year	Description	D9 Span of Service	D9 Headway	Vehicles	Annual Revenue Hours	Annual Operating Cost*	Annual Local Contribution*	New Vehicle Cost*	New Vehicle Cost Local Contribution*
1	D9 Peak Only	6:46am-8:46am; 3:46pm-5:46pm	60 peak only (2 roundtrips in each peak)	1	1,000	\$72,630	\$29,052	\$115,000	\$17,250
2	D9 Peak Only	6:46am-8:57am; 3:46pm-5:57pm	30 peak only (4 roundtrips in each peak)	2	2,000	\$147,003	\$58,801	\$116,380	\$17,457
3	Add D4 trips	6:46am-8:57am; 3:46pm-5:57pm	30 peak only (4 roundtrips in each peak)	2	3,000	\$223,151	\$89,260	\$0	\$0
4	D9 All Day	6:46am-5:57pm	60 all day	3	4,750	\$357,562	\$143,025	\$119,190	\$17,878
5	D9 All Day	6:46am-5:57pm	30 all day	3	6,500	\$495,167	\$198,067	\$0	\$0

* Cost inflated to implementation year

Implementation – D7/D9/D4

- Incrementally implement the D7/D9/D4:
 1. Start as a peak hour commuter route (D7)
 2. Increase number of D7 trips during peak hours
 3. Add D9 trips during midday
 4. Add D4 trips for increased connectivity
 5. Increase frequency on D9 in midday to further build ridership

Year	Description	Span of Service	Headway	Vehicles	Annual Revenue Hours	Annual Operating Cost*	Annual Local Contribution *	New Vehicle Cost*	New Vehicle Cost Local Contribution*
1	D7 Peak Only	4:35am-7:35am; 4:25pm-7:35pm	4 trains served	1	1,713	\$124,379	\$49,752	\$115,000	\$17,250
2	D7 Peak Only	4:35am-7:35am; 4:25pm-8:50pm	6 trains served	2	2,221	\$163,235	\$65,294	\$116,380	\$17,457
3	Add D9 trips during midday	4:35am-8:50pm	60 / 6 trains served	2	4,258	\$316,750	\$126,700	\$0	\$0
4	Add D4 trips	4:35am-8:50pm	60 / 6 trains served	3	5,258	\$395,827	\$158,331	\$119,190	\$17,878
5	Add more D9 trips during midday	4:35am-8:50pm	30 / 6 trains served	3	8,604	\$655,461	\$262,184	\$0	\$0

* Cost inflated to implementation year

Federal Funding Availability

- CMAQ funding will cover the full operations and capital costs for up to three years (60% of operational costs for an additional two years)
- The application requests includes up to \$72,000 for annual operating funding and capital costs for the new route, with escalating requests for out years if a need exists to expand the pilot program
- The Board can discontinue this program if there is insufficient ridership
- It is recommended the Board not commit to the pilot route until the CMAQ funding has been awarded in order to determine if the full amount will be covered

Next Steps

- If the Committee would like staff to continue, a Resolution of support for the CMAQ application will come to the full Board
- FRED will include the amount for the chosen route in funding request
- Conduct further analyses on preferred option, to include:
 - Runtimes
 - Notional schedules
 - Coordination with other Stafford routes, VRE and AMTRAK
 - Capital and operating cost refinements
- Explore additional potential funding sources/ receive notification of CMAQ request
- Assess timeframes for potential implementation

2018 Smart Scale Application Updates

- Staff has initiated coordination with VDOT and FAMPO regarding the 3rd round of Scale project applications.
- The completed applications are due by August 1, 2018, and VDOT has requested receipt of local district grant candidate projects by June 1st if localities wish technical support from VDOT staff.
- We have been advised that projects submitted during this round of Smart Scale will be eligible for funding in FY2024 and 2025. Exact funding amounts have not been established by the state, but are estimated at \$25 to \$30 million total.
- To develop a local projects candidate list, staff reviewed previous Board priority projects, and lessons learned from previous Smart Scale submissions.
- Staff believes that projects which have support from previously completed studies, and/or a local government funding source, will score highest in the Smart Scale process.
- Staff is suggesting the projects below be considered as local district grant projects for the 3rd round of Smart Scale. Localities are allowed to submit up to four projects.

Route 1/Enon Road – Staff recommends this as the first priority for district Smart Scale funding and includes improvements to the intersection of Route 1 and Enon Road, and extending along Enon Road. Our previous Smart Scale application for these improvements extended to the I-95 Bridge, and was estimated at \$10.1 million, but was not chosen for funding. The Board could chose to resubmit the same project this year in the amount of \$10.4 million (adjusted for inflation due to the later starting date), but with additional state and local funding applied. The additional funding, when combined with the fact that several local projects were funded ahead of our project during the last cycle and no longer competing, should improve the chance for a successful application. The funding could be as shown below:

<u>Fuels Tax</u> -	\$50,000
<u>CMAQ/RSTP</u> -	\$3,500,000
<u>Impact Fees</u> -	\$1,500,000
<u>Smart Scale</u> -	<u>\$5,350,000</u>
Total	\$10,400,000

- We believe that our effort last year was scored lower due to the high cost relative to the local contribution of approximately \$400,000 previously expended for survey and preliminary engineering.
- The Board could also consider scaling back the project from the initial plan, but retaining the most important features, including the turn lane improvements on Route 1 and the added third lane to the school entrance. The total cost for the scaled back project is estimated at \$7,966,000, and funded as follows:

<u>Fuels Tax</u> -	\$50,000
<u>CMAQ/RSTP</u> -	\$3,500,000
<u>Impact Fees</u> -	\$1,500,000
<u>Smart Scale</u> -	<u>\$2,916,000</u>
Total	\$7,966,000

- Staff recommends the Board consider the projects listed below for Smart Scale funding, although they are not shown in priority order.
- Eskimo Hill Road Improvements – The 1.8 mile segment of Eskimo Hill Road between Big Springs Lane and Potomac Run Road is constructed as a narrow, winding rural road without shoulders or adequate clear zone. In addition, there has been a significant increase in large trash truck traffic to the Regional Landfill. This has created traffic volumes in excess of the capacity of this road, and placed small private vehicles in close proximity to much larger commercial vehicles. Local funding for these improvements could be provided from a contribution from the R-Board that recognizes the impact of additional landfill traffic on the safety of this road. These local funds could be matched with revenue sharing to reduce the Smart Scale request and enhance competitiveness. The funding plan could be as shown below:

<u>R-Board</u> -	\$1,000,000
<u>Revenue Sharing</u> -	\$1,000,000
<u>Smart Scale</u> -	<u>\$5,920,000</u>
Total	\$7,920,000

- Winding Creek Road Widening – the Board may wish to consider improvements to Winding Creek Road between Courthouse Road and Walpole Street with this round of Smart Scale funding. A substantial portion of this road is being improved with the Courthouse Road widening, and another very difficult section is proffered for completion with a recent rezoning. The remaining section is approximately 0.7 mile long and is estimated to cost \$3,300,000. Funding could be provided using developer proffered contributions, along with impact fees and revenue sharing.

- Decatur Road – this project was submitted during the last round but scored near the bottom of all projects. Without a significant investment in local funds, it is unlikely the scoring will improve significantly. The project includes approximately 2.6 miles of 2-lane reconstruction between the emergency exit for Aquia Harbour and Widewater Road. The project will include widening travel lanes, adding shoulders and striping, and straightening out horizontal and vertical curves, making the road much safer for motorists. It is proposed to apply the 3R (resurfacing, restoration, and rehabilitation) road standard for these improvements, similar to the Brooke Road improvements, to reduce cost. This involves using 11' lanes and 2' shoulders. The project is estimated to cost \$15,500,000, with the entire amount funded by Smart Scale.
- Stefaniga and Mountain View Road Intersection – this project has been studied by VDOT, and is therefore supported by an engineering study. VDOT recommended construction of a roundabout at this location to improve safety and traffic flow. The estimated cost for these improvements is \$4,400,000 in 2024. Local contribution options are limited to proffers or other local revenue, as neither Mountain View Road nor Stefaniga Road are presently included in our impact fee ordinance.
- Other Possible Road Improvement Projects – the Courthouse Road widening, Shelton Shop Road and Garrisonville Road widening from Eustace Road to Shelton Shop Road have all been listed previously in the Capital Improvement Program, and are much needed projects. It should be noted that each of these would absorb all available local district grant funding for this round of Smart Scale applications. Providing significant local funding match would also prove challenging given the high cost. While the Garrisonville Road Service District offers an opportunity for local funding for the Garrisonville Road widening, the tax rate would have to be increased significantly to add the debt service for another large project. Breaking the improvements into phases is also a possibility to lower the initial cost.

FAMPO and GWRC Projects

- Both these agencies submitted projects during the last round that weren't funded. Since those results were posted, localities in the planning district have been engaged in regional discussions about improving the results for the current round of Smart Scale. Staff has held off on examining candidate projects while these broader discussions were underway.

Transportation Project Funding Sources

February 6, 2018

Federally Funded

The programs listed below are federally funded for the most part, although they are administered by VDOT.

Transportation Alternatives Set-Aside Program (TAP)

- Program has been used to fund multiple sidewalk/pedestrian projects throughout the County.
- If a project is awarded funding, then the project is paid in-full by the County. However, the County is reimbursed 80% of the project cost as there is a 20% local match requirement.
- Applications are submitted annually in the fall to VDOT and the Fredericksburg Area Metropolitan Planning Organization (FAMPO). VDOT scores a candidate project against others within the VDOT District. In June of the following calendar year, the CTB will decide which projects will receive funding. These funds become available later that fall as soon as the federal fiscal year begins.
- County projects awarded – Belmont-Ferry Farm Trail, Mine Road Sidewalk, Onville Road Sidewalk.
- Flatford Road sidewalk is pending a decision by the CTB

Highway Safety Improvement Program (HSIP)

- Program can be used to fund multimodal pedestrian safety facilities and roadway safety improvements with the purpose of achieving reduction in fatalities and serious injuries on all public roads.
- No local match is required.
- Applications are submitted annually by VDOT Fredericksburg District to VDOT Central Office in the fall. Central Office makes its recommendations to the CTB and their decision comes in June of the following calendar year. This year, these funds will become available in FY2022-FY2023.
- VDOT District works with localities to identify bike/pedestrian projects that are relatively small in nature and not expensive. If projects are awarded, VDOT will administer them.
- County projects awarded – Bike and Pedestrian Upgrades on Leeland Road and the sidewalk from the VDOT District Offices on Deacon Road to Castle Rock Drive.

Regional Surface Transportation Program (RSTP)

- Federal funds made available to Metropolitan Planning Organizations which can be used for a wide variety of roadway, transit and TDM projects.
- Funds are only made available to regional organizations to cover areas with a population greater than 200,000.
- RSTP funding is administered through FAMPO which administers the screening and scoring process.
- FAMPO receives approximately \$1.5M annually to spread amongst various projects in Stafford, Spotsylvania and the City.

- FAMPO annually asks for new candidate projects in January. If screened through and then scored, by April, new and existing projects could potentially receive RSTP funds.
- Any RSTP allocations on new projects would be for the end of the six-year plan.
- County projects with RTSP funds allocated to it – Route 1 / Enon Road Intersection and Roadway Improvements, Garrisonville Road / Onville Road Intersection Improvements.

Congestion Mitigation and Air Quality (CMAQ)

- Provides federal funding to Metropolitan Planning Organizations for transportation projects and programs that help improve air quality and reduce traffic congestion.
- Funds are only made available to regional organizations to cover areas with a population greater than 200,000.
- CMAQ funding is administered through FAMPO which administers the screening and scoring process.
- FAMPO receives approximately \$2.3M annually to spread amongst various projects in Stafford, Spotsylvania and the City.
- FAMPO annually asks for new candidate projects in January, with recommendations by April. If successful with the screening and scoring process, new and existing projects could potentially receive CMAQ funds.
- Any CMAQ allocations on new projects would be for the end of the six-year plan.
- County projects with CMAQ funds allocated to it – Route 1 / Enon Road Intersection and Roadway Improvements, Garrisonville Road / Onville Road Intersection Improvements, and the Staffordboro Commuter Lot.

State Funded

The programs listed below are primarily state funded, although there may be a mix with federal funds as well.

Smart Scale Program

- Broken into two grant programs – the Construction District Grant Program and the High-Priority Projects Program – these transportation funds are awarded based on a screening and scoring process.
- Once projects are screened and determined to meet a capacity and operation need of the VTrans2040 Plan, projects are evaluated and scored based on as many as six factors - Safety, Congestion Mitigation, Accessibility, Environmental Quality, Economic Development and Land Use. Weighting is dependent on the category for the project submitted.
- A local match is not required, but a funding commitment of some kind from a locality improves a project's score and therefore, its chance of being selected for funding.
- Applications are submitted on a biannual timeline to VDOT to be screened and scored in the fall of that calendar year. The Commonwealth Transportation Board (CTB) makes the final decision in June of the following calendar year and this year funding will become available in FY2024-FY2025 for this next cycle.
- County projects awarded – Route 1 / Courthouse Road Area Corridor Road Improvements, Route 1 @ Potomac Creek Drive, Safety Improvements on Route 1 @ Woodstock Lane and Telegraph Road (south).

Secondary Six-Year Plan (SSYP)

- Monies the County receives in telecommunications fees totaling approximately \$520,000 annually are used to fund the program.
- No local match required.
- The funding can be applied to a wide variety of secondary road improvements.
- Funding is projected out for six years and can be adjusted annually by joint agreement of VDOT and the Board of Supervisors. The joint public hearing is held in April.
- After approval by the Board, the document is sent to the CTB for their approval in June.
- Used for paving unpaved roads already within the State system.
- Local Example: Numerous unpaved state roads have been paved, improvements at Poplar and Mountain View Roads.

Revenue Sharing

- Provides match funding (50% State / 50% Local) for a locality to construct or improve highway systems. Can include construction, reconstruction, improvement, or maintenance projects.
- Allows localities to contribute 50% in match funds for projects totaling \$5M annually or \$10M per one project.
- Applications are submitted biannually to VDOT in the fall. Selected applications advance to the CTB for approval in June of the following year.
- Local Examples: Almost all of our locally administered projects have used some revenue sharing funding, including the Garrisonville Road Widening Project, Brooke Road Safety Improvements, Route 1 / Courthouse Road Transportation Improvements.

Recreational Access Program

- Used to provide improvements to the access roads of publicly-developed recreational areas or historic sites operated by a State agency, locality, or local authority.
- Project applications require coordination with the Virginia Department of Conservation and Recreation (DCR) or the Virginia Department of Historic Resources (DHR).
- Applications are submitted annually to VDOT. Selected applications advance to the CTB for authorization.
- Program allows for unmatched funding in the form of \$400k for state roads, \$250k for local roads, and an additional \$100k which can be matched by the applicant.
- We have made only limited use of these funds due to the program restrictions.
- Local Example: Crow's Nest Natural Area Preserve

Local Funding Sources

Road Impact Fee Trust Fund

- Per County Code Sec. 13-5, Article 1, adopted on May 21st, 2013 and beginning on May 21st, 2014, a road impact fee was assessed on all newly created lots in order to “generate revenue to fund or recover the costs of reasonable road improvements benefiting new development”.
- All land within the County, not part of MCB Quantico, is included in the impact fee service area.
- Impact fees are due at the time a building permit is issued.
- Non-residential developments and family subdivisions are exempt from paying impact fees.

- Enactment of the countywide fee service area established a road impact fee trust fund and only roads identified on the Road Impact Fee Project List are eligible to receive these collected fees.
- Impact fee amount collected per dwelling unit (Single Family Detached, Single Family Attached, & Multi-family) is \$2,999.00.
- Examples of projects with impact fees applied include the Courthouse Road Widening, Truslow Road Improvements, and the Brooke Road Safety Improvements.

Proffers

- Developers often offer cash funding to offset or minimize the impact of a rezoning and/or new residential or commercial development.
- Proffers are usually specific to the impacts associated with a given residential or commercial development.
- Examples of projects where proffers have been applied include the Truslow Road and Berea Church Road improvements.

Transportation Fund

- Revenue sources for this fund are the fuels tax and recordation fees.
- Although the transportation fund was used to complete a number of projects initially, this source of revenue has dropped with the reduction in fuel tax collections.
- The transportation fund now serves mainly as the revenue source for Fredericksburg Regional Transit (FRED), Potomac-Rappahannock Regional Transit (PRTC), Virginia Railway Express (VRE), and other transportation-related agencies.
- Examples of projects using fuels and recordation funding include the Route 1 turn lane at Garrisonville Road and the completion of Centreport Parkway.

Impact Fee Project Lists

From Impact Fee Study

	From	To
Richards Ferry Road	Warrenton Road (Rt. 17)	Cotton Lane
Holly Corner Road	Warrenton Road (Rt. 17)	Hall Lane
Ramoth Church Road	Courthouse Road	Kellogg Mill Road
Embrey Mill Road	Winding Creek Road	Eustace Road
Courthouse Road	Cedar Lane	Ramoth Church Road (628)
Enon Road	Hulls Chapel Road	Truslow Road
Enon Road	Porter Lane	Hulls Chapel Road
Enon Road	Cambridge Street (US-1)	Porter Lane
Cambridge St (1)	City of Fredericksburg Line	Warrenton Rd. / Butler Rd.
Eustace Road	Embrey Mill Road	Garrisonville Road
Kellogg Mill Road (651)	Poplar Road	Ramoth Church Road (628)
Eskimo Hill Road	Jefferson Davis Hwy (Rt.1)	Potomac Run Road
Brooke Rd (608)	New Hope Church Road	Andrew Chapel Rd
Jefferson Davis Hwy	Coachman Circle	0.37 miles N of Coachman Cir
Andrew Chapel Road	Courthouse Road	Brooke Road
Winding Creek Road	Courthouse Road	Shelton Shop Road
Staffordboro Boulevard	Sunningdale Drive	Pike Place
Staffordboro Boulevard	Garrisonville Road	Stafford Market Place
Mine Road	Garrisonville Road	North Vine Place
Truslow Road (652)	Enon Road	Poplar Road
Garrisonville Rd.	Longwood Drive	Joshua Road
Plantation Drive	South Gateway Drive	Lyons Blvd / Gladstone Drive
Joshua Road	Garrisonville Road	St. George's Drive

Infrastructure Committee
Regional Public Water and Sewer
Mutual Aid and Assistance Agreement
2/06/2018

- In 2009 Stafford County, Spotsylvania County and the City of Fredericksburg entered into a “Regional Public Water and Sewer Mutual Aid and Assistance Agreement”.
- The Agreement provides for mutual aid and assistance in the form of personnel, equipment, supplies, raw water, treated water, and wastewater treatment during times of need.
- This agreement was used most recently in January 2018 when Spotsylvania County was unable to keep up with treated water demands in the City of Fredericksburg after experiencing a significant amount of water main breaks and frozen meters due to extreme cold
- The agreement stipulates a guiding Committee consisting of the City Manager, the County Administrators and the requisite Public Works or Utilities Directors from each locality. The Committee is to develop policies, determine rates for water sales, and review emergency preparedness and procedures.
- Representatives from the Committee have met over the past year on a number of occasions to ensure preparedness, exchange information on available assets, conduct interjurisdictional training, and propose rates.
- Proposed Water Sale Rates for Calendar Year 2018 are as follows:
 - Regular Rate: \$4.81
 - Water-Conservation Rate: \$12.25
 - Water conservation rates apply when voluntary or mandatory water restrictions are placed on water system consumers due to water shortages or the suppliers' inability to meet water demands.

Regional Public Water and Sewer Mutual Aid and Assistance Agreement

AGREEMENT

This Agreement is made and entered into by the City of Fredericksburg, the County Board of Supervisors Spotsylvania County, and the County Board of Supervisors Stafford County who have, by executing this Agreement, manifested their intent to participate in a Program for Mutual Aid and Assistance for public water and sewer services.

ARTICLE I. PURPOSE

Recognizing that assistance in the form of personnel, equipment, supplies, raw water, treated water, and wastewater treatment may be required from time to time, the signatory utilities established this Program for Mutual Aid and Assistance. Through the Mutual Aid and Assistance Program, Members coordinate response activities and share resources. This Agreement sets forth the procedures and standards for the administration of the Mutual Aid and Assistance Program.

ARTICLE II. DEFINITIONS

- A) Authorized Official – The County Administrator, or the City Manager or their respective designees that are authorized by the Member’s governing board or management to request assistance or offer assistance under this Agreement.
- B) Confidential Information- Any document shared with any signatory of this Agreement that is marked confidential, including but not limited to any map, report, notes, papers, opinion, or e-mail which relates to the system vulnerabilities of a Member.
- C) Emergency—A natural or manmade event that is, or is likely to be, beyond the control of the services, personnel, equipment, and facilities of a Mutual Aid and Assistance Program Member as determined by the Authorized Official of the requesting member.
- D) Member— Members are Stafford County, Spotsylvania County, and the City of Fredericksburg.
- E) National Incident Management System (NIMS)—A national, standardized approach to incident management and response that sets uniform processes and procedures for emergency response operations.
- F) Non-potable water- Partially treated water that does not meet the primary drinking water regulatory requirements of the Safe Drinking Water Act and/or the primary regulatory requirements for drinking water as set forth by the Virginia Department of Health’s Drinking Water Regulations. Non-potable water may be partially treated water delivered by pipe, conduit, or other man made means from one source user to another.

- G) **Period of Assistance**—A specified period of time when a Responding Member assists a Requesting Member. The period commences when personnel, equipment, or supplies depart from a Responding Member's facility and ends when the resources return to their facility (portal to portal). In the case of water transfers, the period commences when water is transferred from the Responding Member's transmission system to the Requesting Members system via interconnect or release from an impound by the Responding Member and ends when the Requesting Member returns to self-supporting capabilities. All protections identified in the agreement apply during this period. The specified Period of Assistance may occur during response to or recovery from an emergency, as previously defined.
- H) **Potable Water**- Water that meets the primary drinking water regulatory requirements of the Safe Drinking Water Act and the primary regulatory requirements as set forth by the Virginia Department of Health's Drinking Water Regulations.
- I) **Raw Water** – Any untreated source water used by a member. Raw water may be conveyed by river, pipe, conduit, or other natural or manmade means from one source user to another.
- J) **Responding Member**—A Member that responds to a request for assistance under the Mutual Aid and Assistance Program.
- K) **Requesting Member**—A Member who requests assistance under the Mutual Aid and Assistance Program.
- L) **Water Conservation Measures**- Voluntary or Mandatory Water Restrictions placed on water system consumers due to water shortages or the suppliers' inability to meet water demands.

ARTICLE III. ADMINISTRATION

The Mutual Aid and Assistance Program shall be administered through a Committee consisting of the City Manager and the County Administrators from each participating member and the Public Works Directors or Utility Directors from each member utility. The purpose of the Committee is to provide local coordination of the Mutual Aid and Assistance Program before, during, and after an emergency. The Committee, under the leadership of a Chairperson selected by the Committee, shall meet annually prior to January 31st to address Mutual Aid and Assistance Program issues, develop and authorize policies related to assistance, determine the rates at which water will be sold, and review emergency preparedness and response procedures. The Committee shall also develop operational and planning procedures for the Mutual Aid and Assistance Program. These procedures shall be reviewed and updated annually as needed by the committee, and shall be an official part of the Agreement Documents. While the authority is being granted to the Committee to develop policies and procedures for mutual aid, for any assistance

lasting more than seven (7) days the committee members shall notify their respective governing bodies.

The Chairperson of the Committee shall represent the committee's interests on the Statewide Committee in the event that a Virginia Statewide Program is developed.

ARTICLE IV. REQUESTS FOR ASSISTANCE

Member Responsibility: The Authorized Officials and alternates will provide contact information including 24-hour access, and maintain resource information made available by the utility for mutual aid and assistance response.

In the event of an Emergency, a Member's Authorized Official may request mutual aid and assistance from a participating Member. Requests for assistance shall be directed to the appropriate Authorized Official of the participating Member.

Response to a Request for Assistance: After a Member receives a request for assistance, the Authorized Official shall determine the resources which are available to respond to the request for assistance. Following the evaluation, the Member shall inform the Requesting Member about the type of available resources and the approximate arrival time of such assistance.

Discretion of Responding Member's Authorized Official

The Responding Member will assist the Requesting Member, provided that the Responding Member does not violate compliance standards, jeopardize its facilities and/or place the public health of its citizens at risk. The Responding Member may require that the Requesting Member take steps including imposing water conservation measures on its customers to insure that the impact on the Responding Member is minimized. If the Responding Member imposes water conservation measures on its customers to assist the Requesting Member, then all three Members agree to impose water conservation measures that are equal to or more stringent than those imposed by the Responding Member.

ARTICLE V. RESPONDING MEMBER PERSONNEL

National Incident Management System: When providing assistance under this Agreement, the Requesting Utility and Responding Utility shall be organized and shall function under the National Incident Management System.

Control: Responding Member personnel shall remain under the direction and control of the Responding Member. The Requesting Member's Authorized Official shall coordinate response activities with the designated supervisor(s) of the Responding Member(s). Whenever practical, Responding Member personnel must be self sufficient for up to 72 hours.

Food and Shelter: The Requesting Member shall supply reasonable food and shelter for Responding Member personnel. If the Requesting Member fails to provide food and shelter for Responding personnel, the Responding Member's designated supervisor is authorized to secure the resources necessary to meet the needs of its personnel. The cost for such resources must not exceed the State per diem rates for that area. The Requesting Member remains responsible for reimbursing the Responding Member for all costs associated with providing food and shelter, if such resources are not provided.

Communication: The Requesting Member shall provide Responding Member personnel with radio equipment as available, or radio frequency information to program existing radio, in order to facilitate communications with local responders and utility personnel.

Status: Unless otherwise provided by law, the Responding Member's officers and employees retain the same privileges, immunities, rights, duties, and benefits as provided in their respective jurisdictions.

Licenses and Permits: To the extent permitted by law, Responding Member personnel who hold licenses, certificates, or permits evidencing professional, mechanical, or other skills shall be allowed to carry out activities and tasks relevant and related to their respective credentials during the specified Period of Assistance.

Right to Withdraw: The Responding Member's Authorized Official retains the right to withdraw some or all of its equipment and/or personnel if the response violates compliance standards, jeopardizes its own facilities and/or places the public health of its citizens at risk. Notice of intention to withdraw must be communicated to the Requesting Member's Authorized Official in a reasonable amount of time to allow the requesting party to attempt to secure alternative means. In the event that the Responding Member becomes unable or loses the capacity to continue providing resources due to an unforeseen emergency then the Responding Member may withdraw at any time.

ARTICLE VI. COST REIMBURSEMENT

Unless otherwise mutually agreed in whole or in part, the Requesting Member shall reimburse the Responding Member for each of the following categories of costs incurred while providing aid and assistance during the specified Period of Assistance.

A. Treated Water: The rates for treated water shall be determined by the committee on an annual basis prior to January 31st of each year based upon the Members' current adopted rate structures. The committee shall establish rates for non-peak periods for water supplied between November 1st and April 30th. The committee will also establish a separate rate for peak periods between May 1st and September 30th or whenever water conservation measures are enacted by the Responding Member to supply water.

B. Non Potable Water: The rates for non potable water shall be established by the committee on an annual basis and will be based upon the Members' current adopted rate structures less any commodity costs for treatment.

C. *Raw Water*: The rates for raw water shall be determined annually by the committee and shall be based upon actual pumping and storage costs of the raw water source.

D. *Payment Period*: The Responding Member must provide an itemized bill to the Requesting Member for all expenses it incurred as a result of providing assistance under this Agreement. The Requesting Member must send the itemized bill not later than ninety (90) days following the end of the Period of Assistance. The Requesting Member must pay the bill in full on or before the forty-fifth (45th) day following the billing date.

E. *Records*: Each Responding Member and its duly authorized representatives shall have access to a Requesting Member's books, documents, notes reports, papers and records which are directly pertinent to this Agreement for the purpose of reviewing the accuracy of a cost bill or making a financial, maintenance or regulatory audit. Likewise, each Requesting Member and its duly authorized representatives shall have access to a Responding Member's books, documents, notes reports, papers and records which are directly pertinent to this Agreement for the purpose of reviewing the accuracy of a cost bill or making a financial, maintenance or regulatory audit. Such records shall be kept for a period of three (3) years or longer where required by law

ARTICLE VII. DISPUTES

Any controversy, disputes, claims and other matters in question between the Parties under this Agreement shall only be resolved as follows:

A. The Parties shall first endeavor to resolve any disputes, claims or other matters in question between them through direct negotiations, and if such direct negotiations fail, by non-binding mediation. Should the dispute, claim, or other matter in question remain unresolved for the shorter of (i) following negotiation and mediation, or (ii) more than ninety (90) days after mediation is requested by a Party, either Party may proceed in accordance with subparagraph (b) below.

B. If the procedures of subparagraph (a) have been followed, but, more than ninety (90) days have passed since a Party has requested mediation, and the dispute, claim or matter in question remains unresolved, then either Party may institute a lawsuit or chancery action, as appropriate, and may pursue all available appeals in Virginia state courts, to the extent they have jurisdiction.

C. Nothing in subsections A or B of this section shall prevent a Party from seeking temporary injunctive or other temporary equitable relief in a state court if circumstances so warrant.

ARTICLE VIII. WORKER'S COMPENSATION CLAIMS

The Responding Member is responsible for providing worker's compensation benefits and administering worker's compensation. The Requesting Member shall reimburse the Responding Member for all costs, benefits, and expenses associated with worker's compensation and other claims that arise from or are related to providing assistance under

this Agreement. Reimbursement shall be made on a quarterly basis, or on other terms mutually agreed upon by the Requesting Member and Responding Member.

ARTICLE IX.

NOTICE

A Member who becomes aware of a claim or suit that in any way, directly or indirectly, contingently or otherwise, affects or might affect other Members of this Agreement shall provide prompt and timely notice to the Members who may be affected by the suit or claim. Each Member reserves the right to participate in the defense of such claims or suits as necessary to protect its own interests.

ARTICLE X.

INSURANCE

Members of this Agreement shall maintain an insurance policy that covers activities that it may undertake by virtue of membership in the Mutual Aid and Assistance Program.

ARTICLE XI.

EFFECTIVE DATE

This Agreement shall be effective after the authorized representatives execute the Agreement. The payment of any funds required under this Agreement beyond the current fiscal year is subject to funds being lawfully available and appropriated by the governing body of the receiving jurisdiction. Nothing in this Agreement shall be construed to constitute a debt in violation of Virginia law.

ARTICLE XII.

RENEWAL

This Agreement shall have an initial term of 20 years and shall be renewed every 10 years thereafter.

ARTICLE XIII.

WITHDRAWAL

A Member may withdraw from this Agreement by providing written notice of its intent to withdraw to the Committee Chair. Withdrawal takes effect 60 days after the appropriate officials receive notice.

ARTICLE XIV.

MODIFICATION

No provision of this Agreement may be modified, altered, or rescinded by individual parties to the Agreement. Modifications to this Agreement may be due to programmatic operational changes to support the agreement. Modifications require a unanimous agreement of the members.

ARTICLE XV.

PRIOR AGREEMENTS

This Agreement supersedes all prior Emergency Water Agreements between and among Members to the extent that such prior Agreements are inconsistent with this Agreement.

ARTICLE XVI.

PROHIBITION ON THIRD PARTIES AND ASSIGNMENT OF RIGHTS/DUTIES

This Agreement is for the sole benefit of the Members and no person or entity must have any rights under this Agreement as a third-party beneficiary. Assignments of benefits and delegations of duties created by this Agreement are prohibited and must be without effect.

ARTICLE XVII

DISCLOSURE

To the extent permitted by law, any Member shall maintain in the strictest confidence and shall take all reasonable steps necessary to prevent the disclosure of any confidential information disclosed under this agreement. If any Member, third party or other entity requests or demands by subpoena or otherwise, that a Member disclose any confidential information disclosed under this agreement, the Member shall immediately notify the owner of the confidential information and shall take all reasonable and necessary steps to prevent the disclosure of any confidential information by asserting all applicable rights and privileges with respect to such information and shall cooperate fully in any judicial or administrative proceeding relating thereto. Nothing contained herein shall require a Member to violate the Virginia Freedom of Information Act.

ARTICLE XVIII

INTRASTATE AND INTERSTATE MUTUAL AID AND ASSISTANCE PROGRAMS

Members may voluntarily agree to participate in an interstate Mutual Aid and Assistance Program for water and wastewater utilities through this Agreement if such a Program were established.

ARTICLE XIX

PRELIMINARY ENGINEERING STUDY

The members agree to participate in a preliminary engineering study of a river crossing between Spotsylvania County and Stafford County for emergency water supply. The total cost of the study is not to exceed \$50,000. The members agree to share the cost of the study in the following proportions:

- Spotsylvania County 40% of the total cost
- Stafford County 40% of the total cost
- The City of Fredericksburg- 20% of the total cost

The above proportionate costs are solely for the cost sharing of the preliminary engineering study as described below and will have no bearing on any future joint projects undertaken by the members.

The scope of the preliminary engineering study will include:

- Evaluate two alternative alignments/crossing points
- Determine permit requirements
- Perform geological desktop study of rock/subsurface conditions

using existing information (borings from Motts Run, Rocky Pen Run)

- Evaluate land/easement requirements
- Determine piping configuration, meter and valve vaults, and tie-in points to each system
- Evaluate pipe size and hydraulics for 5 mgd flow
- Evaluate method of construction including horizontal directional drilling and microtunneling
- Evaluate pipeline material (related to methods)

Now, therefore, in consideration of the covenants and obligations set forth in this Agreement, the Water and Wastewater Utility listed here manifests its intent to be a Member of the Intrastate Mutual Aid and Assistance Program for Water and Wastewater Utilities by executing this Agreement on this 19th day of February 2008.

Spotsylvania County

By: C. Douglas Barnes
C. Douglas Barnes
Interim County Administrator

Approved as to Form

By: Jacob P. Stroman, IV
Jacob P. Stroman, IV
County Attorney

Stafford County

By: Anthony J. Romanello
Anthony J. Romanello
County Administrator

Approved as to Form

By: Joseph L. Howard, Jr.
Joseph L. Howard, Jr.
County Attorney

City of Fredericksburg

By: Phillip L. Rodenberg
Phillip L. Rodenberg
City Manager

Approved as to Form

By: Kathleen Dooley
Kathleen Dooley
City Attorney



Stafford County 2018 Water and Sewer Master Plan

Briefing to the Board of Supervisors | February 6, 2018

Jason Towery PE, Director of Utilities & Bryon Counsell, Asst. Director – Engineering and Construction



AGENDA

Objectives of 2018 Water and Sewer Master Plan
Guiding Principles for the Master Planning Process

Overview:

- Changes in needs
- Investment priorities
- Operational enhancements

Alignment with Planned Development

Cost Summary

Questions and Answers



OBJECTIVES of the 2018 Water and Sewer Master Plan

Provide Capacity for Growth and Development

Provide adequate capacity in County's water and wastewater treatment facilities, and the water distribution and sewage collection systems, to meet projected growth and development

Meet or Exceed Regulatory Requirements

Meet or exceed current and anticipated future regulations governing the County's water and sewer system, such as the quality of drinking water and treated wastewater effluent

Maintain Reliability

Maintain reliable service through rehabilitation or replacement of critical water and sewer system assets



***GUIDING
PRINCIPLES***
for the Master
Planning process



Excellent Customer Services



Proactive Planning



Sustainability



Fiscal Responsibility



Adaptability

OVERVIEW:

Changes in Needs

(Since 2006 Water
and Sewer
Master Plan)

Completed projects

DOU completed approximately **35 water and sewer projects** recommended in the 2006 Water and Sewer System Master Plan, including the Lake Mooney water supply, addressing the key needs identified in 2006

Lower projected water demands and sewer flows at build-out conditions

Projected **water demands** under build-out conditions **reduced** from (2006 MP) 30.8 mgd avg./46 mgd peak to 22.7 mgd avg./34 mgd peak, **and**

Projected **sewer flows** under build-out conditions **reduced** from (2006 MP) 19.8 mgd avg./69.4 mgd peak to 19.2 mgd avg./55.7 mgd peak;

Due to:

- Changes in County's Comprehensive Plan and related land use
- Limiting new water service outside the Urban Service Area
- Changes in customer behavior
- Improved control of peak sewer flows (less infiltration and inflow)



OVERVIEW: Investment Priorities

Economic Development

Near-term investment priorities focus on **economic development**, reliability and regulatory compliance



County's water supply, water treatment and wastewater treatment facilities have available capacity to support economic development

- Water supply and treatment capacity is adequate through 2030, *even if there is a major new water user*
- Wastewater treatment capacity is also adequate for projected near-term growth (2028)



2018 Master Plan includes \$47 for near-term infrastructure projects to support planned economic development

OVERVIEW:

Investment Priorities

Reliability and Regulatory Compliance

Near-term investment priorities focus on economic development, **reliability** and **regulatory compliance**



Reliability

- Major treatment assets (Aquia WWTP, Smith Lake WTP, and Little Falls Run WWTP) are currently, or will be 30 years old in near-term, and require investments to maintain reliability
- Increased funding recommended for rehabilitation/replacement of water and sewer pipelines to address water quality and aging infrastructure



Regulatory Compliance

- DOU is preparing for more stringent wastewater treatment permit limits from regulatory agencies, which could be enacted in near-term
- “Placeholder” projects, will be updated when new NPDES Permits are issued in 2018 (Aquia WWTP) and 2020 (Little Falls Run WWTP)



OVERVIEW: Operational Enhancements

Recommended changes to water distribution system



Consolidate water system pressure zones from 10 zones down to 8 zones

- Takes advantage of the new Lake Mooney supply in southern part of County
- Simplifies operations
- Reduces water quality problems associated with dead-end water mains



Decommission four water storage tanks

- Avoids unnecessary tank maintenance

Recommended changes to sewer system



Decommission seven wastewater pumping stations which avoids unnecessary maintenance and operating costs

Master Plan Aligned With Planned Development

Updated planning methods and tools



Buildout flow projections coordinated with County Planning Department, based on County's current Comprehensive Plan

- Near-term CIP projects include capacity improvements at Centreport (\$19M) and Courthouse (\$28M) areas to support Economic Development (available 2018, complete 2022)



DOU's updated Water and Sewer System Computer Models allow rapid assessment of capacity for future developments

DOU IS FINANCIALLY INDEPENDENT

Funded entirely
by water sales,
Availability fees
and Connection
Fees

Water Sales and User Fees

Monthly billings and fees based on customer usage

Availability and Pro Rata Fees

Fees charged to developers and new connections:
“Growth pays for growth”

Enterprise Fund

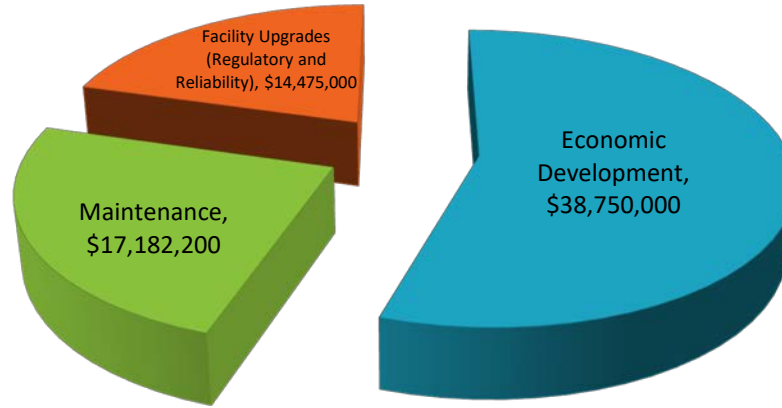
- ✓ DOU revenues collected into separate Enterprise Fund
- ✓ No County taxes used for DOU operations



PROJECT CATEGORY BREAKDOWN

Economic
Development and
Capacity
Investments vs.
Pure Maintenance

Water Projects Breakdown FY19 - FY28 CIP



Wastewater Projects Breakdown FY19 - FY28 CIP



UPCOMING ACTIVITIES

Tentative Dates for Public Hearings

February 6: Board to request public hearings by Planning Commission and Utilities Commission on Draft Utilities Water & Sewer Master Plan

March 13: Presentation to Utilities Commission and public hearing

March 28: Presentation to Planning Commission and public hearing

April 17: Presentation to Board and public hearing

Stafford County 2018 Water and Sewer Master Plan



QUESTIONS?

Thank you!