

Board of Supervisors

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County Administrator

Infrastructure Committee AGENDA

April 14, 2015 @ 1:30 p.m.
ABC Conference Room, Second Floor

Agenda Item	
	Introduction ❖ Welcome
1.	Secondary Six Year Plan Funding
2.	Revenue Sharing Reductions
3.	Exit 140 Interchange/Courthouse Road West Update
4.	Ferry Road/Route 3 Intersection Improvements
5.	Truslow Road Safety Study
6.	Miscellaneous Road Project Updates (Leeland Road, Woodstock Lane, Onville Road)
7.	Next Meeting – May 5, 2015
	Adjourn

1 – SECONDARY SIX YEAR PLAN FUNDING

- Staff has initiated discussions with VDOT regarding the FY2016 to 2021 SSYP.
- This state funding program is reviewed each year. Currently, new funding in this program is limited mainly to TeleFee revenue, with limited funding for unpaved state maintained roads – estimated at just over \$400,000 each year for the period – approximately \$2.6 million total over 6 years.
- The proposed SSYP (attached) includes funding for several projects currently underway, including:
 - Poplar Road Ph. III, at the intersection with Mountain View Road - \$337,641 next fiscal year, and \$43,735 the following year
 - Courthouse Road Widening – about \$1.32 million over four years. The project budget has been increased to nearly \$39 million due to cost estimate increases and changes to the Exit 140 project.
 - Leeland & Primmer House Intersection Signal – fully funds project. The distribution of these funds is expected to change when the cost estimate is updated.
- The proposed SSYP also includes \$135,000 in funding in FY2017 & 2018 for improvements to Bells Hill Road.
- The proposed funding continues the Board priority to fund paving those unpaved state maintained roads which qualify for state funding as follows:
 - Coakley Lane – fully funded for construction this season.
 - Southern View Drive – funded for construction during the 2016 season.
 - Quarry Road – fully funded for construction in 2019, but we will look at applying any surplus funding from other projects to complete this road as soon as 2017.
 - Juggins Road – funded in the last year of the plan, pending completion of the replacement for the Moncure Elementary School.
 - Other roads will be considered for paving when they reach required traffic counts and as funding permits.
- Funding also applied to other categories like traffic engineering and secondary road signs.
- The SSYP is planned to go to the Board for authorization for a joint public hearing with VDOT on April 21, with the public hearing scheduled for the May 19 meeting.
- The Board resolution is scheduled for delivery to the District Office by May 31.

Secondary Six Year Plan Summary

Projects	Estimated Cost	Prior Funding	Additional Funding Needed	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Balance to Complete	Total Funding Applied	Scope of Work
Poplar Road (Route 616)	2,021,621	1,640,245	381,376	337,641	43,735	-	-	-	-	-	2,021,621	Safety Improvement
From: 0.08 Miles North West of Intersection Route 616 and Route 627												
To: 0.27 Miles South of Intersection of Route 616 and Route 627												
Courthouse Road	38,973,410	27,161,153	11,812,257	3,552,000	210,964	366,829	387,640	360,247	-	6,934,577	32,038,833	Reconstruction with Added Capacity
From: 0.10 Miles West of Route 628												
To: 0.22 Miles West of Route 732												
Centreport Parkway	1,539,250	1,539,250	-	-	-	-	-	-	-	-	1,539,250	New Construction
From: 0.096 Miles South of Route 628												
To: Route 628												
Leeland & Primmer House Road Intersection Signal	550,000	488,328	61,672	43,869	17,803	-	-	-	-	-	550,000	Safety Improvement
From: 0.10 Miles North Intersection Route 626 & Route 624 Primmer House Road												
To: 0.10 Miles North Intersection Route 626 & Route 624 Primmer House Road												
Bells Hill Road	200,000	-	200,000	-	110,996	24,004	-	-	-	65,000	135,000	Safety Improvement
From: Intersection Route 1												
To: Cork Street												
Coakley Lane	137,679	90,803	46,876	46,876	-	-	-	-	-	-	137,679	Resurfacing
From: Route 655 Holly Corner Road												
To: End of State Maintenance												
Southern View Drive	125,000	26,065	150,996	4,692	55,681	38,562	-	-	-	-	125,000	Resurfacing
From: Route 628 Eskimo Hill Road												
To: End of State Maintenance												
Quarry Road	109,200	-	109,200	-	-	-	41,561	67,639	-	-	109,200	Resurfacing
From: 0.26 Miles S of Intersection with Route 658												
To: Dead End												
Juggins Road	170,599	440	170,159	-	-	-	-	-	170,159	-	170,599	Resurfacing
From: 0.04 Miles South of End of Maintenance												
To: 0.28 Miles North of Route 659 Doc Stone Road												
Countywide Traffic	250,000	273,029	(23,029)	-	-	14,610	17,803	17,500	-	n/a	322,942	Safety Improvement
Services include secondary speed zones, speed studies, and other new secondary signs												
Countywide Rural	250,000	64,291	185,709	-	-	-	-	-	-	n/a	64,291	Reconstruction without Added Capacity
Reconstruction without added capacity												
Maintenance Paving				-	-	-	-	-	235,284	n/a	235,284	Resurfacing
Patching and resurfacing existing paved roads												
Countywide Right of Way	250,000	39,793	210,207	-	-	-	-	-	-	n/a	39,793	Right of Way Acquisition
Use when impractical to open a project : Attorney Fees and Acquisition Cost												
Countywide Engineering	250,000	25,028	224,972	-	-	-	-	-	-	n/a	25,028	Preliminary Engineering
Minor Survey & Preliminary Engineering for Budget items and Incidental Type Work												
Total		\$31,348,425	\$13,530,395	\$3,985,078	\$439,179	\$444,005	\$447,004	\$445,386	\$405,443	\$6,999,577	\$37,514,520	

Funding Sources FY2016 to FY2021		Prior Funding		FY2016	FY2017	FY2018	FY2019	FY2020	FY2021		Total FY2016 to 2021 Funding
CTB Formula- Unpaved State Roads				27,635	33,736	38,563	41,561	39,943	-		181,438
TeleFee				405,443	405,443	405,443	405,443	405,443	405,443		2,432,658
Total Funding Sources Identified		-		433,078	439,179	444,006	447,004	445,386	405,443	-	2,614,096

2 - REVENUE SHARING & CIP UPDATE

- Staff was recently advised that Stafford County was not awarded the entire \$10 million in revenue sharing matching funds requested for FY2016. This information was provided after the initial Board CIP briefing in March.
- We were initially informed that our request would be reduced by slightly over \$2 million, which reduced or eliminated revenue sharing amounts for Mountain View Road Phase I, and the Phase II Extension, Poplar Road Phase II, and Truslow Road.
- We soon learned that another locality had decided not to accept the revenue sharing awarded to them, and we would be awarded their share.
- This reduced the shortfall to about \$1.3 million. The initial funding request and revised funding amounts are shown in the table below.

	Requested Amount	Original Awarded Amount	Revised Awarded Amount
Courthouse Road West (to Ramoth Church Road)	1,776,000	1,776,000	1,776,000
Mountain View Road, Phase 1	889,000	661,383	889,000
Mountain View Road Extension	915,000	-	524,291
Truslow Road	558,000	-	-
Brooke Road	356,000	356,000	356,000
Poplar Road, Phase II	343,000	-	-
Enon Road	414,000	414,000	414,000
Ferry Road & Route 3 Intersection	964,000	964,000	964,000
Route 1 at Garrisonville Road	382,000	382,000	382,000
Courthouse Road & Route 1 Intersection	1,152,000	1,152,000	1,152,000
Berea Church Road	<u>2,251,000</u>	<u>2,251,000</u>	<u>2,251,000</u>
	\$10,000,000	\$7,956,383	\$8,708,291

- The result is that FY2016 revenue sharing amounts were eliminated for Truslow Road and Poplar Road Phase II, while the amount we requested for the Mountain View Road Extension was reduced by just under \$400,000.
- Staff has modified the CIP to reflect this change, with the revenue sharing applied to the project in subsequent years. This change can be made without any impact to funding of other transportation priorities.

- Staff has also made some other changes to the CIP to optimize the application of future revenue sharing to transportation projects.
- By doing so, the current proposed CIP shows that the Leeland Road improvement is fully funded with design beginning in FY2021, and construction underway in FY2025.
- Both the Butler Road improvements and Shelton Shop Road widening are back in the CIP, with design beginning in FY2025.
- These transportation improvements would utilize debt and revenue sharing to fund. Debt service would be funded from the General Fund, since there will be no remaining capacity in the Transportation Fund.
- The updated CIP also reflects in the increased cost estimate for the Courthouse Road widening project discussed with the SSYP item.

TRANSPORTATION SUMMARY

Projects	Prior Funding	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	Later Years Funding	Total Project Cost
(5) Route 610, Garrisonville Rd (PPTA)	7,567,739	6,197,739	0	0	0	0	0	0	0	0	0	0	13,765,478
(10) Route 652, Truslow Rd, West of I-95 (PPTA)	3,446,528	3,937,912	0	0	0	0	0	0	0	0	0	0	7,384,440
(1) Route 1, Jefferson Davis Hwy	0	0	0	0	100,000	0	567,079	0	567,079	0	0	65,842	1,300,000
(2) Route 616, Poplar Rd, south of Mountain View Rd	1,500,000	0	0	0	0	0	0	0	0	0	0	0	1,500,000
(3) Route 627, Mountain View Rd from Joshua Rd to Rose Hill Farm Rd	7,550,000	0	0	0	0	0	0	0	0	0	0	0	7,550,000
(6) Route 606, Ferry Rd	400,000	2,651,668	0	0	0	0	0	0	0	0	0	0	3,051,668
(15) Courthouse Road & Route 1 Intersection Improvements	600,000	0	2,000,000	0	0	0	0	0	0	0	0	0	2,600,000
(7) Route 630, Courthouse Rd: Cedar Lane to Winding Creek Rd	9,393,358	0	10,000,000	19,580,052	0	0	0	0	0	0	0	0	38,973,410
(8) Route 630, Courthouse Rd: Winding Creek Rd to Shelton Shop Rd	0	0	0	0	0	0	0	2,800,000	0	10,420,522	0	14,583,478	27,804,000
(12) Route 627, Mountain View Road Ext. to High School	3,680,700	0	0	0	0	0	0	0	0	0	0	0	3,680,700
(14) Streetscape Phase 2	0	2,344,000	7,080,000	5,022,000	3,638,000	0	0	0	0	0	0	0	18,084,000
(16) Garrisonville Road & Route 1 Intersection Improvements	800,000	165,100	0	0	0	0	0	0	0	0	0	0	965,100
(18) Enon Road Improvements	950,000	0	2,679,500	0	0	0	0	0	0	0	0	0	3,629,500
(19) Butler Road ¹	0	0	0	0	0	0	0	0	0	0	4,000,000	16,200,000	20,200,000
(20) Garrisonville Road Eustace Road to Shelton Shop Rd	0	0	0	0	3,000,000	14,000,000	11,400,000	0	0	0	0	0	28,400,000
(21) Eskimo Hill Road	0	0	750,000	0	3,300,000	0	3,300,000	0	0	0	0	0	7,350,000
(22) Leeland Road ¹	0	0	0	0	0	0	500,000	0	2,000,000	0	2,500,000	0	5,000,000
(23) Shelton Shop Road ¹	0	0	0	0	0	0	0	0	0	0	4,000,000	11,000,000	15,000,000
(25) Berea Church Road	0	480,000	300,000	0	0	4,112,068	0	0	0	0	0	0	4,892,068
(26) Tech Center Drive	0	0	0	2,600,000	0	0	0	0	0	0	0	0	2,600,000
(28) Route 608, Brooke Road, South of Eskimo Hill Road	6,500,000	714,900	0	0	0	0	0	0	0	0	0	0	7,214,900
(29) Route 616, Poplar Road, North of Truslow Road	2,687,300	0	0	0	0	0	0	0	0	0	0	0	2,687,300
Rt. 709 Capital Avenue Extended	0	0	0	0	0	0	0	0	0	0	5,330,000	0	5,330,000
Total	\$45,075,625	\$16,491,319	\$22,809,500	\$27,202,052	\$10,038,000	\$18,112,068	\$15,767,079	\$2,800,000	\$2,567,079	\$10,420,522	\$15,830,000	\$41,849,320	\$228,962,564

¹ Projects included after presentation of proposed CIP

TRANSPORTATION SUMMARY

Funding Sources	Prior Funding	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	Later Years Funding	Total Project Cost
Bonds	2,807,563	4,706,189	0	9,507,743	0	0	250,000	1,400,000	1,000,000	5,210,261	10,580,000	20,891,739	56,353,495
Cash	0	0	0	2,575,000	0	0	0	0	0	0	0	0	2,575,000
Proffers	1,672,914	555,665	0	25,000	0	0	0	0	0	0	0	0	2,253,579
Service District Supported GO Debt*	5,870,478	0	0	0	0	14,200,000	0	0	0	0	0	0	20,070,478
Service District	995,000	0	0	1,109,966	0	0	0	0	0	0	0	0	2,104,966
Fuel Tax	8,813,113	4,323,791	0	0	0	0	0	0	0	0	0	0	13,136,904
Revenue Sharing	32,421,000	8,708,291	1,495,675	648,763	7,618,305	9,600,000	817,079	1,400,000	1,000,000	5,210,261	5,250,000	20,957,581	95,126,955
State/Federal	3,381,799	2,494,000	7,290,964	5,388,829	11,071,671	360,247	0	0	0	0	0	0	29,987,510
Impact Fees	838,177	100,000	100,000	1,515,500	1,600,000	1,600,000	1,600,000	0	0	0	0	0	7,353,677
Total Funding Sources Identified	56,800,044	20,887,936	8,886,639	20,770,801	20,289,976	25,760,247	2,667,079	2,800,000	2,000,000	10,420,522	15,830,000	41,849,320	228,962,564

Operating Impacts	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Debt Service	0	393,000	393,000	1,189,000	1,189,000	1,189,000	1,210,000	1,327,000	1,411,000	1,847,000
Service District Debt Service	491,238	491,238	491,238	491,238	491,238	1,679,484	1,679,484	1,679,484	1,679,484	1,679,484
	\$491,238	\$884,238	\$884,238	\$1,680,238	\$1,680,238	\$2,868,484	\$2,889,484	\$3,006,484	\$3,090,484	\$3,526,484

3 – EXIT 140 INTERCHANGE – COURTHOUSE ROAD WEST

- VDOT recently briefed the committee on the plans to modify the design for the Exit 140 interchange from a modified cloverleaf to a diverging diamond configuration.
- VDOT estimates this change will allow completion of the intersection within the \$155 million currently budgeted for this project.
- VDOT is currently proceeding with more detailed evaluation of this alternative, and expects to have it under contract as a design/build project next spring.
- The Courthouse Road widening project budget was increased due to the change in the interchange project terminus, increasing by about \$7 million to about \$39 million. Funding to cover this increase has not been identified to date.
- The change to the Courthouse Road widening project also impacts the project schedule due to the need to revise the design to include the added length. The project terminus is now near Austin Ridge Drive, which is adjacent to the interchange project which has not been designed.
- It was suggested to VDOT that they consider including the Courthouse Road widening project with the Exit 140 project to place the responsibility for interface between the two projects with the design build team. VDOT has examined this concept in the District and Central offices, and believes it is a reasonable approach.
- Disadvantages
 - Efforts to acquire right of way will be placed on hold until the design build team is selected.
 - Uncertainty about the long term impacts to schedule.
 - Need to identify those project features which must not be redesigned (e.g. signal at Courthouse, Winding Creek, and Ramoth Church Roads).
 - Combined project budget of \$194 million limits participation.
- Advantages
 - Single entity responsible to design the interface for the two projects.
 - Opportunity for innovative approaches which could save cost on both projects.
 - Eliminates the potential for interference between two contractors working in the same area.
 - Single cost for contractor overhead, maintenance of traffic, etc.
 - Potential to save some or all of the estimated \$7 million
- VDOT has agreed to accept County funding on a schedule based on the projected expenditure schedule, rather than all funding upfront.

- Staff believes the advantages are significant enough to recommend this approach.
- VDOT has requested the Board formally request modification of the Project Agreement to proceed with a design build approach for completing the Courthouse Road West widening project.

Rt 630 Interchange and Rt 630 Widening Projects



4 – FERRY ROAD – ROUTE 3 INTERSECTION

- VDOT is administering the project to improve the intersection of Ferry Road and Route 3. Planned improvements include the addition of a second left turn lane southbound on Ferry Road, extension of the vehicle storage area north of the CSX tracks, and the extension of the right turn lane westbound on Route 3 to Ferry Road. These cost of these improvements are estimated at \$3.1 million, and are funded by a combination of impact fee, revenue sharing, and transportation fund revenues.
- The George Washington Foundation (GWF) is planning major improvements to the George Washington boyhood home at Ferry Farm. Part of the phased improvements includes a new entrance off of Route 3 opposite the Ferry Road improvements.
- GWF has expressed an interest in having their improvements included with the intersection project. The road improvements requested include construction of a left turn lane from westbound Route 3 into the new entrance for Ferry Farm, a right turn lane from eastbound Route 3 into the facility, and installation of the fourth leg of the signalized intersection. GWF has not identified the source of funding for these improvements.
- VDOT initially advised in a recent meeting that their funding criteria will not allow the use of state revenue sharing for these improvements. Following subsequent conversations with their Central Office, they have determined that these improvements are eligible for revenue sharing. Our proposed CIP has approximately \$1.3 million in revenue sharing capacity in FY2016, provided we can identify matching funds.
- Including these improvements into the overall project would be the most cost effective option. VDOT has expressed a willingness to include them in the design for the intersection, provided the funding for them was provided to VDOT in advance.
- VDOT provided an estimate for this additional work. They estimate about \$900,000 to include a left turn lane sufficient to meet expected traffic counts into the facility. It will be necessary to identify the funds quickly and provide to VDOT to prevent delays to the intersection improvements.
- The additional cost for these improvements is presently not included in the CIP.

<p align="center">4-9-2015 Estimate for Additional Work VDOT UPC #103084</p>
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200' Left Turn Lane Option

200' Left Turn Lane with 200' taper (Westbound Rte 3) ¹	\$233,245
200' Right Turn Lane with 200' taper (Eastbound Rte 3)	\$69,796
Utility Relocation	\$169,493
Drainage	\$92,387
Maintenance of Traffic	\$58,278
Traffic Signal ²	\$70,497
Preliminary Engineering	\$54,718
Construction Engineering and Inspection	\$98,492
Contingency	\$65,661
Total	\$912,567

¹ - 200' Left Turn Lane includes retaining wall

² - Traffic signal estimate based on standard poles.
Decorative poles are not included with this estimate.

100' Left Turn Lane Option

100' Left Turn Lane with 100' taper (Westbound Rte 3)	\$56,308
200' Right Turn Lane with 200' taper (Eastbound Rte 3)	\$69,796
Utility Relocation	\$169,493
Drainage	\$92,387
Maintenance of Traffic	\$58,278
Traffic Signal ²	\$70,497
Preliminary Engineering	\$40,327
Construction Engineering and Inspection	\$72,589
Contingency	\$48,393
Total	\$678,068

² - Traffic signal estimate based on standard poles.
Decorative poles are not included with this estimate.

Signal Pole Alternatives:

- *Brown Powder Coated - \$6,000 increase per pole/mast arm combination. Therefore for a four pole intersection the cost increase would be \$24,000.*
- *Decorative Fluted and Powder Coated - \$7,000 increase per pole/mast arm combination. Therefore for a four pole intersection the cost increase would be \$28,000.*

TRUSLOW ROAD SAFETY STUDY

- Improvements to Truslow Road west of Berea Church Road are included as a Transportation Impact Fee project. This is a section of road for which staff and VDOT frequently receive concerns from the residents who drive it.
- Adjacent to our Truslow Road improvements between Plantation Drive and Berea Church Road, this section of road is characterized by narrow lanes and shoulders, with excessive horizontal and vertical curvature limiting sight distance.
- VDOT had completed installation of hardened shoulders recently, which improved conditions somewhat.
- It is likely that traffic has increased due to the Route 17 widening now underway.
- Continuing the systematic safety study of selected rural roads in the County, VDOT recently completed the attached safety study of Truslow Road. Some key findings are as follows:
 - 2013 AADT were 2,156 between Berea Church and Poplar Road
 - The current speed limit of 35 mph appears appropriate
 - Road width is around 18', with 1' to 3' grass shoulders
 - Although marked with a centerline, the roadway is not wide enough for edge lines.
 - Clear zone width should be 12' to 14' for this road, but is far less in many locations.
 - Right of way width is generally 30' (15' from center line)
 - Crash and injury history is very close to the district average. The most prevalent crash type was run off the road collision with fixed object. This is typical on roads with narrow pavement width, narrow shoulders, and fixed objects in the clear zone.
- VDOT had recently performed a traffic safety sign survey and installed/replaced a number of signs; consequently, signage was satisfactory for this road.
- VDOT identified numerous trees within the clear zone that present a hazard to motorist safety. This is consistent with the most frequent motorist complaint.
- Similar to other road safety improvements completed recently, Stafford County would take the lead to remove trees identified in the safety study with the permission of the homeowner. No trees on private property will be removed without homeowner permission.
- Staff currently has a similar project underway on Telegraph Road, and will initiate this effort later this year.



Central Region Operations Traffic Engineering

TECHNICAL MEMORANDUM

TO: Stafford County

FROM: Peter Hedrich, PE, PTOE, Area Traffic Engineer

DATE: February 27, 2015

SUBJECT: Stafford County, Route 652 (Truslow Road), Safety Review



VDOT - Traffic Engineering
Central Region Operations
Fredericksburg Area Traffic
Engineer

Introduction:

VDOT has completed a safety evaluation of Truslow Road from Route 654 (Berea Church Road) to Route 616 (Poplar Road) as shown on the attached location map at the request of the Stafford Board of Supervisors. The total length of the roadway in the study area is approximately 2.54 miles. This work included review of crash data, visual assessment of the appropriateness of the posted speed, assessment of the need for curve warning signs, evaluation of available sight distances at public roadway intersections, and evaluation of the recommended clear zone along the roadway.

Existing Conditions:

Traffic Volume: The 2013 AADT between Route 654 and Route 616 was 2156 vehicles.

Geometry: Truslow Road is generally 18' wide with 1' to 3' grass shoulders. The roadway has significant horizontal and vertical curvature at various locations along the section. Warning signs for horizontal curves along the roadway are in place and were recently reviewed as the result of a speed study conducted on this segment of Route 652. Edge drop offs were observed at several locations and have requested that the VDOT Residency review for possible action.

Speed Limit and Associated Factors: The posted speed limit from Route 654 to Route 616 is 35 mph by resolutions dated January 6, 1999 and August 23, 2013. Land use is mostly wooded and residential. Shoulder width prohibits on-street parking along the entire length of Truslow Road. Based on this field review the posted speed limit appears to be appropriate.



Central Region Operations Traffic Engineering

Traffic Control Devices: The roadway is marked with centerline. There are no edge lines. This section of Truslow Road is free-flowing. There are school bus stop ahead signs at various locations along the roadway as well as curve warning signs. This roadway was evaluated for warning signs within the last two years and the signing now in place addresses existing safety concerns. Most signs were installed by late 2014.

Clear Zone: The clear zone for the 35 mph speed limit and indicated traffic volume is recommended to be 12-14 feet. This is the area that should be free of fixed objects, steep slopes, bodies of water, etc. that could increase the severity of run off the road crashes. The rural character and narrow right-of-way of Virginia's roadway system makes providing recommended clear zones impractical on a system-wide basis. VDOT strives to address the most critical locations as identified in our crash history data-base, as well as significant deficiencies that can be addressed by removal of isolated fixed objects and/or placement of guard rail and delineators. The right-of-way width for most secondary rural roads is 30 feet unless a specific project has occurred resulting in additional width. This limits our ability to remove obstructions as most will be outside the right-of-way. During our field review, we noted numerous trees within the right of way that are recommended for removal as detailed later in this memo.

Crash History: Crash occurrence for the three-year period from January 1, 2011 to December 31, 2013 was reviewed for the corridor, and tabulated to identify any particular areas with a high incidence of crashes. The average crash rate for the roadway is just below the statewide and district crash rate for similar roadways as detailed below:

The **crash** rate for this section of highway is: 235

The **injury** rate for this section of highway is: 126

The **fatality** rate for this section of highway is: 0

For secondary highways:

The district average **crash** rate is 254 per 100 million VMT.

The district average **injury** rate is: 128 per 100 million VMT.

The district average **fatality** rate is: 2.68 per 100 million VMT.

For secondary highways:

The state average **crash** rate is 241 per 100 million VMT.

The state average **injury** rate is: 127 per 100 million VMT.

The state average **fatality** rate is: 2.06 per 100 million VMT.

There were 13 total crashes in the three-year period. The most prevalent type of crash was run off the road collisions with fixed objects – eight crashes.



Central Region Operations Traffic Engineering

Recommendations:

Based on the completed research and field review, we have the following recommendations for this roadway:

1. The existing posted speed limit of 35 mph appears to be appropriate.
2. We recommend removal/relocation of the following roadside obstructions:
 - a. Trees within or touching the right of way:
 - i. One tree on the right shoulder approximately 0.14 mile north of Route 654;
 - ii. One tree on the right shoulder approximately 0.21 mile north of Route 654;
 - iii. Four trees on the right shoulder approximately 0.24 mile north of Route 654;
 - iv. One tree on the left shoulder and seven trees on the right shoulder approximately 0.27 mile north of Route 654;
 - v. Three trees on the right shoulder approximately 0.32 mile north of Route 654;
 - vi. Three trees on the right shoulder approximately 0.39 mile north of Route 654;
 - vii. Two trees on the right shoulder approximately 0.42 mile north of Route 654;
 - viii. One tree on the right shoulder approximately 0.45 mile north of Route 654;
 - ix. Three trees on the right shoulder approximately 0.49 mile north of Route 654;
 - x. Six trees on the right shoulder approximately 0.52 mile north of Route 654;
 - xi. Fifteen trees on the right shoulder between 0.54 and 0.57 mile north of Route 654;
 - xii. One tree on the left shoulder approximately 0.58 mile north of Route 654;
 - xiii. One tree on the left shoulder approximately 0.60 mile north of Route 654;
 - xiv. One tree on the right shoulder approximately 0.67 mile north of Route 654;
 - xv. Three trees on the right shoulder approximately 0.68 mile north of Route 654;
 - xvi. One stump on the right shoulder approximately 0.88 mile north of Route 654;

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- xvii. One tree on the right shoulder approximately 0.89 mile north of Route 654;
 - xxviii. One tree on the left shoulder approximately 1.11 miles north of Route 654;
 - xix. One tree on the left shoulder approximately 1.13 miles north of Route 654;
 - xx. One tree on the left shoulder approximately 1.18 miles north of Route 654;
 - xxi. One tree on the right shoulder approximately 1.24 miles north of Route 654;
 - xxii. One tree on the left shoulder approximately 1.28 miles north of Route 654;
 - xxiii. One tree on the left shoulder approximately 1.48 miles north of Route 654;
 - xxiv. One tree on the left shoulder approximately 1.58 miles north of Route 654;
 - xxv. One tree on the left shoulder approximately 1.68 miles north of Route 654;
 - xxvi. Two trees on the left shoulder approximately 1.76 miles north of Route 654;
 - xxvii. One tree on the left shoulder approximately 1.78 miles north of Route 654;
 - xxviii. One tree on the left shoulder approximately 1.79 miles north of Route 654;
 - xxix. One tree on the left shoulder approximately 1.87 miles north of Route 654;
 - xxx. Numerous trees on the left shoulder between 1.9 and 1.98 miles north of Route 654;
 - xxxi. One tree on the left and one tree on the right shoulder approximately 2.03 miles north of Route 654;
 - xxxii. Two trees on the left shoulder approximately 2.05 miles north of Route 654;
 - xxxiii. One tree on the right shoulder approximately 2.10 miles north of Route 654;
 - xxxiv. One tree on the right shoulder approximately 2.13 miles north of Route 654;
 - xxxv. One tree on the right shoulder approximately 2.20 miles north of Route 654;
 - xxxvi. One tree on the right shoulder approximately 2.21 miles north of Route 654;
 - xxxvii. Numerous trees on the left shoulder between 2.32 and 2.43 miles north of Route 654;
 - xxxviii. One tree on the left shoulder approximately 2.45 miles north of Route 654;
 - xxxix. One tree on the left shoulder approximately 2.50 miles north of Route 654;
 - xl. Two trees on the left shoulder approximately 2.96 miles north of Route 654.
- b. A fence made of utility poles on the right shoulder between 0.83 and 0.95 mile north of Route 654 is within the clear zone and should be removed or rebuilt with less rigid posts.



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- c. Utility poles should be located as far from the roadway as possible. There are several utility poles along the length of the roadway that are located behind the ditch line but within the outer limits of the 12-14' clear zone. As roadway or utility projects are undertaken, poles should be relocated with particular areas of concern as follows:
 - i. One utility pole on the right shoulder approximately 0.56 north of Route 654;
 - ii. Two utility poles on the right shoulder approximately 1.13 miles north of Route 654;
 - iii. Two utility poles on the left shoulder approximately 2 miles north of Route 654;
 - iv. One utility pole on the right shoulder approximately 2.15 miles north of Route 654
- d. Warning signs currently in place are adequate with no further signing needs identified.
- e. Pavement edge drop offs to be addressed by the Residency as practical.

VDOT will pursue the utility pole issues in conjunction with permit applications, utility work and road work projects. Removal of trees and fences on private property would require the involvement of the County in contacting homeowners to determine their willingness to allow removal of these items.

Please contact us with any questions.

6 – UPDATE ON VARIOUS ROAD PROJECTS

- Staff was made aware of recent developments on several projects as follows:

Onville Road Intersection

- VDOT recently re-advertised this project and received no bids for the work. They were told by a few contractors that their work schedules were too full to take on additional work at this time, but they would be interested in bidding the project at a later date.
- Although adjacent to the County's Garrisonville Road widening project, the VDOT project can't be included due to the use of federal funds for Onville Road.
- VDOT plans to rebid the intersection project in August.

Route 1 at Woodstock Lane Intersection Improvements

- VDOT's Highway Safety Improvement Program grant application was denied. We have not identified the balance of funding necessary for this project to proceed.
- Staff is exploring the option of another federal grant designated for projects which improve access to military bases. Given the proximity to Quantico, and improvements to traffic flow on Route 1, this project may qualify for the 80-20 matching fund grant. VDOT has expressed support for this application.
- The County's 20% matching funds could be provided by the remaining Widewater CDA funds.

Leeland Road Improvements

- VDOT's Highway Safety Improvement Program grant application was denied. The project can still proceed as it is funded in the proposed CIP, but without federal funding to offset the project cost.