



ROUTE 151- ROCKFISH VALLEY HWY

CORRIDOR IMPROVEMENT STUDY PROJECT ALTERNATIVES INPUT MEETING

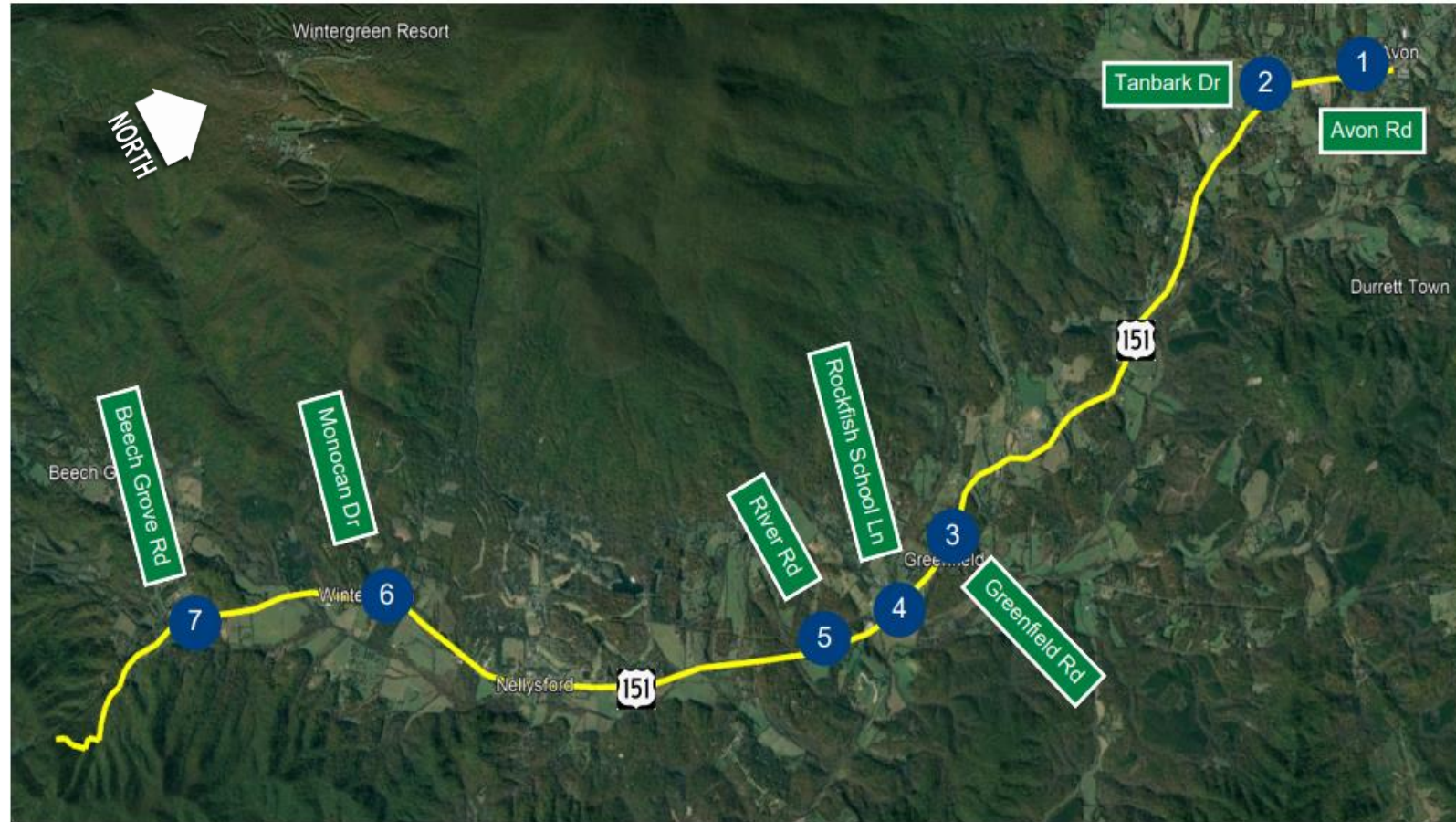
Nelson County, VA

November 1, 2023



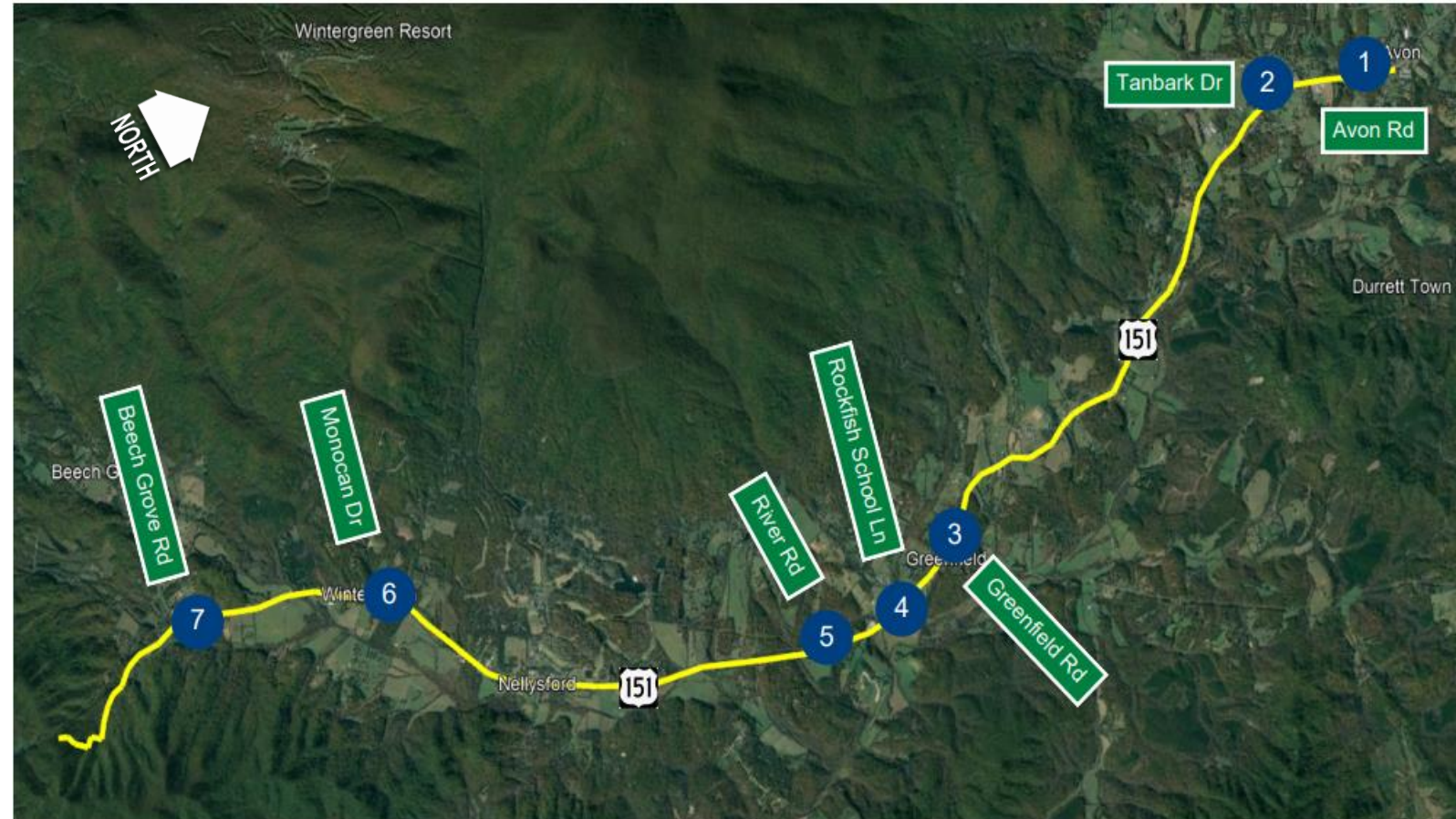
STUDY AREA

- Study area starts from Afton Mountain Rd. intersection to 2.5 mile south of Beech Grove Rd.
- Study area is approximately 14 miles
- All the 7 intersections are TWSC



STUDY SCOPE

- Evaluate the operational and safety characteristics of the Rte. 151 corridor
- Improve accessibility, operations, and safety for all modes of transportation
- Improve multi-modal accessibility within the Nellysford community



NO-BUILD CONDITIONS OPERATIONS

Traffic Level of Service

Good

Fair

Poor

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Greenfield Rd. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	WBL	-	24	13.4	24	15.0	34	23.2
	WBR	-	30	13.5	36	15.0	34	23.2
	WB	-	54	13.5	60	15.0	68	23.2
	NBT	-	371	0.0	371	0.0	499	0.0
	NBR	134	20	0.0	23	0.0	26	0.0
	NB	-	391	0.0	394	0.0	525	0.0
	SBL	285	13	8.2	25	8.3	10	8.6
	SBT	-	304	0.3	454	0.4	700	0.1
	SB	-	317	0.3	479	0.4	710	0.1
	Overall			762	1.1	933	1.2	1,303
Rockfish School Ln. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	30	13.9	45	17.1	66	68.1
	EBR	-	43	13.9	60	17.1	73	68.1
	EB	-	73	13.9	105	17.1	139	68.1
	NBL	320	40	8.1	44	8.5	74	9.9
	NBT	-	360	0.8	349	1.0	459	1.4
	NB	-	400	0.8	393	1.0	533	1.4
	SBT	-	292	0.0	413	0.0	660	0.0
	SBR	-	36	0.0	65	0.0	74	0.0
	SB	-	328	0.0	478	0.0	734	0.0
	Overall			801	1.7	976	2.2	1,406

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour		
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	
Afton Mountain Rd/Avon Rd. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	20	15.8	18	18.9	26	31.0	
	EBT	-	6	15.8	10	18.9	3	31.0	
	EBR	-	41	15.8	70	18.9	55	31.0	
	EB	-	67	15.8	98	18.9	84	31.0	
	WBL	-	19	15.9	21	21.9	1	15.7	
	WBT	-	15	15.9	15	21.9	4	15.7	
	WBR	-	58	15.9	38	21.9	24	15.7	
	WB	-	92	15.9	74	21.9	29	15.7	
	NBL	348	36	7.9	53	8.4	73	9.0	
	NBT	-	309	0.8	288	1.3	459	1.2	
	NBR	190	47	0.8	21	1.3	1	1.2	
	NB	-	392	0.8	362	1.3	533	1.2	
	SBL	298	40	8.1	39	8.0	23	8.5	
	SBT	-	264	1.1	405	0.7	554	0.3	
	SBR	176	10	1.1	21	0.7	49	0.3	
	SB	-	314	1.1	465	0.7	626	0.3	
	Overall			865	3.7	999	4.3	1,272	3.1
	Tanbark Dr. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	13	14.7	10	16.4	15	23.8
EBT		-	4	14.7	1	16.4	1	23.8	
EBR		-	11	14.7	21	16.4	20	23.8	
EB		-	28	14.7	32	16.4	36	23.8	
WBL		-	0	10.6	2	14.5	0	11.8	
WBT		-	0	10.6	2	14.5	0	11.8	
WBR		-	9	10.6	7	14.5	1	11.8	
WB		-	9	10.5	11	14.5	1	11.8	
NBL		-	10	7.9	22	8.7	25	8.9	
NBT		-	370	0.0	297	0.0	517	0.0	
NBR		-	11	0.0	4	0.0	1	0.0	
NB		-	391	0.2	323	0.6	543	0.1	
SBL		-	11	8.8	4	8.4	10	8.8	
SBT		-	297	0.0	416	0.0	585	0.0	
SBR		168	16	0.0	20	0.0	15	0.0	
SB		-	324	0.3	440	0.1	610	0.1	
Overall				752	0.9	806	1.1	1,190	0.8

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.



No-BUILD CONDITIONS OPERATIONS

Traffic Level of Service

Good

Fair

Poor

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Beech Grove Rd. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	91	10.4	91	10.3	136	10.9
	EBT	-	1	10.4	1	10.3	1	10.9
	EBR	-	15	10.4	40	10.3	49	10.9
	EB	-	107	10.4	132	10.3	186	10.9
	WBL	-	1	9.3	1	9.4	3	9.5
	WBT	-	1	9.3	3	9.4	0	9.5
	WBR	-	3	9.3	3	9.4	4	9.5
	WB	-	5	9.3	7	9.4	7	9.5
	NBL	-	31	7.4	14	7.4	20	7.4
	NBT	-	35	0.0	41	0.0	69	0.0
	NBR	-	1	0.0	1	0.0	1	0.0
	NB	-	67	3.4	56	1.8	90	1.6
	SBL	-	4	7.3	8	7.3	4	7.3
	SBT	-	34	0.0	60	0.0	73	0.0
SBR	366	65	0.0	85	0.0	168	0.0	
SB	-	103	0.8	153	0.9	245	0.4	
Overall			282	5.2	348	4.8	528	4.4

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
			2022 Volume (vph)	HCM Delay (s/vehs)	Sim Traffic Max Q (Feet)	2022 Volume (vph)	HCM Delay (s/vehs)	Sim Traffic Max Q (Feet)	2022 Volume (vph)	HCM Delay (s/vehs)	Sim Traffic Max Q (Feet)
River Rd. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	0	0.0		1	23.9	19	1	64.1	15
	EBT	-	0	0.0		0	23.9	19	0	64.1	15
	EBR	-	0	0.0		0	23.9	19	0	64.1	15
	EB	-	0	0.0		1	23.9		1	64.1	
	WBL	-	24	11.7	96	29	13.6	121	29	25.6	202
	WBT	-	1	11.7	96	0	13.6	121	1	25.6	202
	WBR	-	165	11.7	96	143	13.6	121	222	25.6	202
	WB	-	190	11.7		172	13.6		252	25.6	
	NBL		0	0.0	6	0	0.0	18	0	0.0	8
	NBT		149	0.0	6	162	0.0	18	205	0.0	8
	NBR	-	27	0.0	6	29	0.0	18	45	0.0	8
	NB	-	176	0.0		191	0.0		250	0.0	
	SBL		137	8.0	112	182	8.2	132	301	8.8	164
	SBT		134	0.0	112	190	0.0	132	293	0.0	164
	SBR	-	0	0.0	112	1	0.0	132	1	0.0	164
	SB	-	271	4.1		373	4.0		595	4.5	
	Overall			637	5.2		737	5.2		1,098	8.4
Monocan Dr. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	43	11.2	59	20	11.6	38	104	16.5	76
	EBR	146	50	9.3	63	50	9.4	55	105	10.2	66
	EB	-	93	10.2		70	10.0		209	13.3	
	NBL	360	32	7.7	41	44	7.7	41	87	8.1	61
	NBT		118	10.2		156	1.7		161	2.8	
	NB	-	150	10.2		200	1.7		248	2.8	
	SBT		131	0.0		148	0.0		218	0.0	
	SBR	260	28	0.0	2	40	0.0	9	74	0.0	20
	SB	-	159	0.0		188	0.0		292	0.0	
	Overall			402	3.0		458	2.3		749	4.6

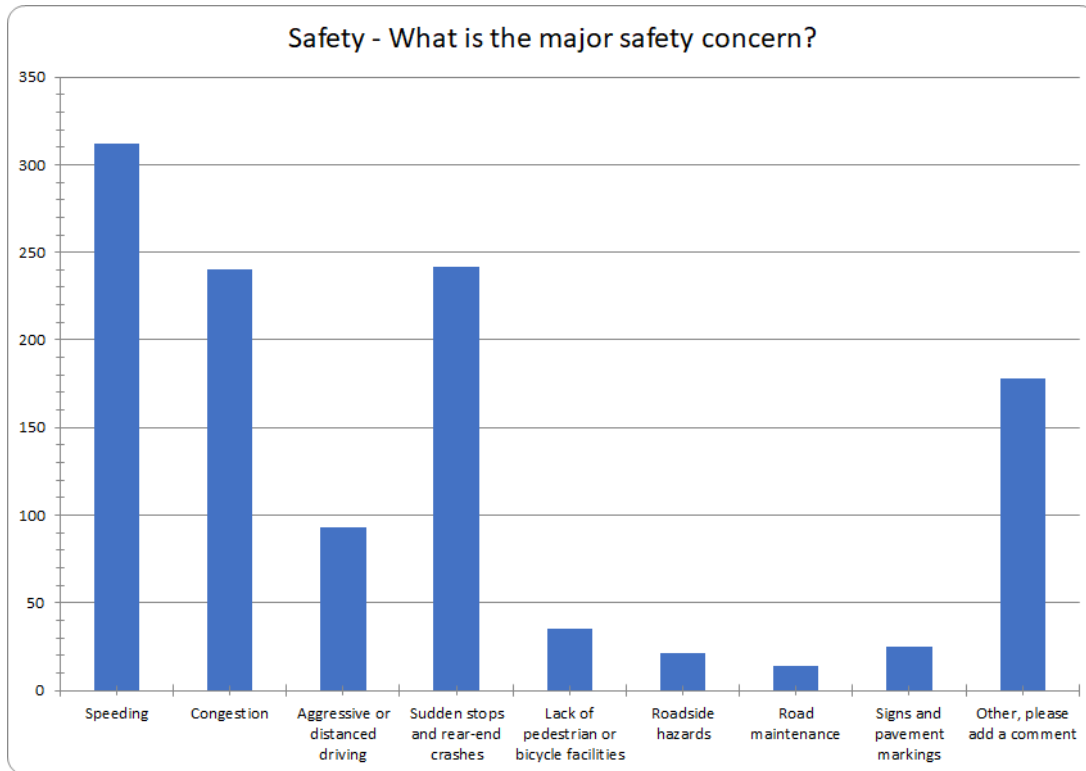
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CRASH ANALYSIS

Safety was the highest priority from first public survey.



Results from initial public input survey

Start Year	Number of Crashes
2017	45
2018	39
2019	37
2020	42
2021	49

Severity	Number of Crashes
Fatal	0
Severe Injury	14
Visible Injury	37
Nonvisible Injury	2
PDO	159
Total	212

Crash data from August 1, 2017 to July 31, 2022



CONCEPT DEVELOPMENT PROCESS

- **Identify wide range of potential improvements to address safety and operational issues.**
 - **Improve accessibility, operations, and safety for all modes of transportation**
 - **Operational assessment (Does it work?)**
- **Types of Improvements**
 - Multi-modal improvements (e.g., new sidewalks, pedestrian crosswalks)
 - Intersection control changes (e.g., roundabouts at River Rd)
 - Turn lane improvements
 - Signing and marking Improvements
 - Road segment improvements – edge line rumble strips, widen shoulders, guard rails, etc.



AFTON MTN RD / AVON RD INTERSECTION

■ Primary Concerns

- Saturday eastbound right turn movement experiences delay issues
- Limited Sight Distance
- Skewed intersection alignment increases potential for angle crashes

■ Potential Improvement Options

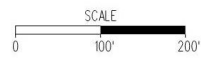
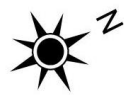
- Cut embankment to improve sight distance
- Modify existing flashers to actuated watch for turning vehicles

OR

- Convert intersection to roundabout to minimize angle crashes and improve operations




Route 151 at Afton Mountain Road / Avon Road



Legend

 Proposed Road

 Proposed Shared Use Path

 Proposed Grass Area

 Existing GIS Parcel Boundaries

Project Name - Nelson County, Virginia - UPC XXXXX

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way. Additional Easements for Right of Way may be required beyond the proposed right-of-way shown on these plans.



AFTON MTN RD / AVON RD INTERSECTION

2045 No-Build

2045 Build

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Afton Mountain Rd/Avon Rd. (Rockfish Valley Hwy.; N-S) at Rt. 151 Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	20	15.8	18	18.9	26	31.0
	EBT	-	6	15.8	10	18.9	3	31.0
	EBR	-	41	15.8	70	18.9	55	31.0
	<i>EB</i>	-	67	15.8	98	18.9	84	31.0
	WBL	-	19	15.9	21	21.9	1	15.7
	WBT	-	15	15.9	15	21.9	4	15.7
	WBR	-	58	15.9	38	21.9	24	15.7
	<i>WB</i>	-	92	15.9	74	21.9	29	15.7
	NBL	348	36	7.9	53	8.4	73	9.0
	NBT	-	309	0.8	288	1.3	459	1.2
	NBR	190	47	0.8	21	1.3	1	1.2
	<i>NB</i>	-	392	0.8	362	1.3	533	1.2
	SBL	298	40	8.1	39	8.0	23	8.5
	SBT	-	264	1.1	405	0.7	554	0.3
	SBR	176	10	1.1	21	0.7	49	0.3
	<i>SB</i>	-	314	1.1	465	0.7	626	0.3
	Overall			865	3.7	999	4.3	1,272

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Afton Mountain Rd/Avon Rd. (Rockfish Valley Hwy.; N-S) at Rt. 151 Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	20	5.0	18	6.7	26	8.0
	EBT	-	6	5.0	10	6.7	3	8.0
	EBR	-	41	5.0	70	6.7	55	8.0
	<i>EB</i>	-	67	5.0	98	6.7	84	8.0
	WBL	-	19	5.8	21	5.5	1	5.8
	WBT	-	15	5.8	15	5.5	4	5.8
	WBR	-	58	5.8	38	5.5	24	5.8
	<i>WB</i>	-	92	5.8	74	5.5	29	5.8
	NBL	-	36	5.9	53	5.5	73	7.3
	NBT	-	309	5.9	288	5.5	459	7.3
	NBR	200	47	2.9	21	2.8	1	2.6
	<i>NB</i>	-	392	5.5	362	5.3	533	7.2
	SBL	-	40	6.7	39	8.9	23	11.5
	SBT	-	264	6.7	405	8.9	554	11.5
	SBR	-	10	6.7	21	8.9	49	11.5
	<i>SB</i>	-	314	6.7	465	8.9	626	11.5
	Overall			865	5.9	999	7.2	1272

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

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Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated Level of Service A-C, D, E and F, respectively.

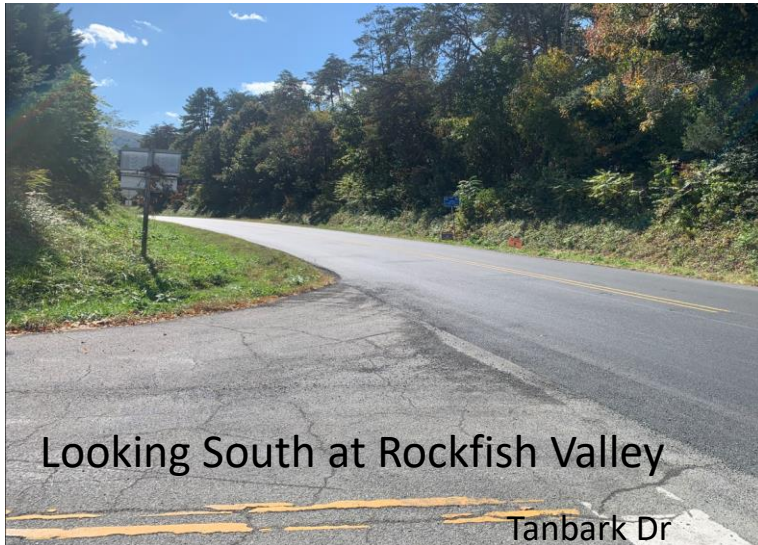
Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated Level of Service A-C, D, E and F, respectively.



TANBARK DR INTERSECTION

■ Tanbark Dr Intersection Issues

- High crash intersection noted within VDOT's potential safety improvement intersections
- Limited sight distance due to embankments on southern side of the intersection



■ Potential Improvement Options

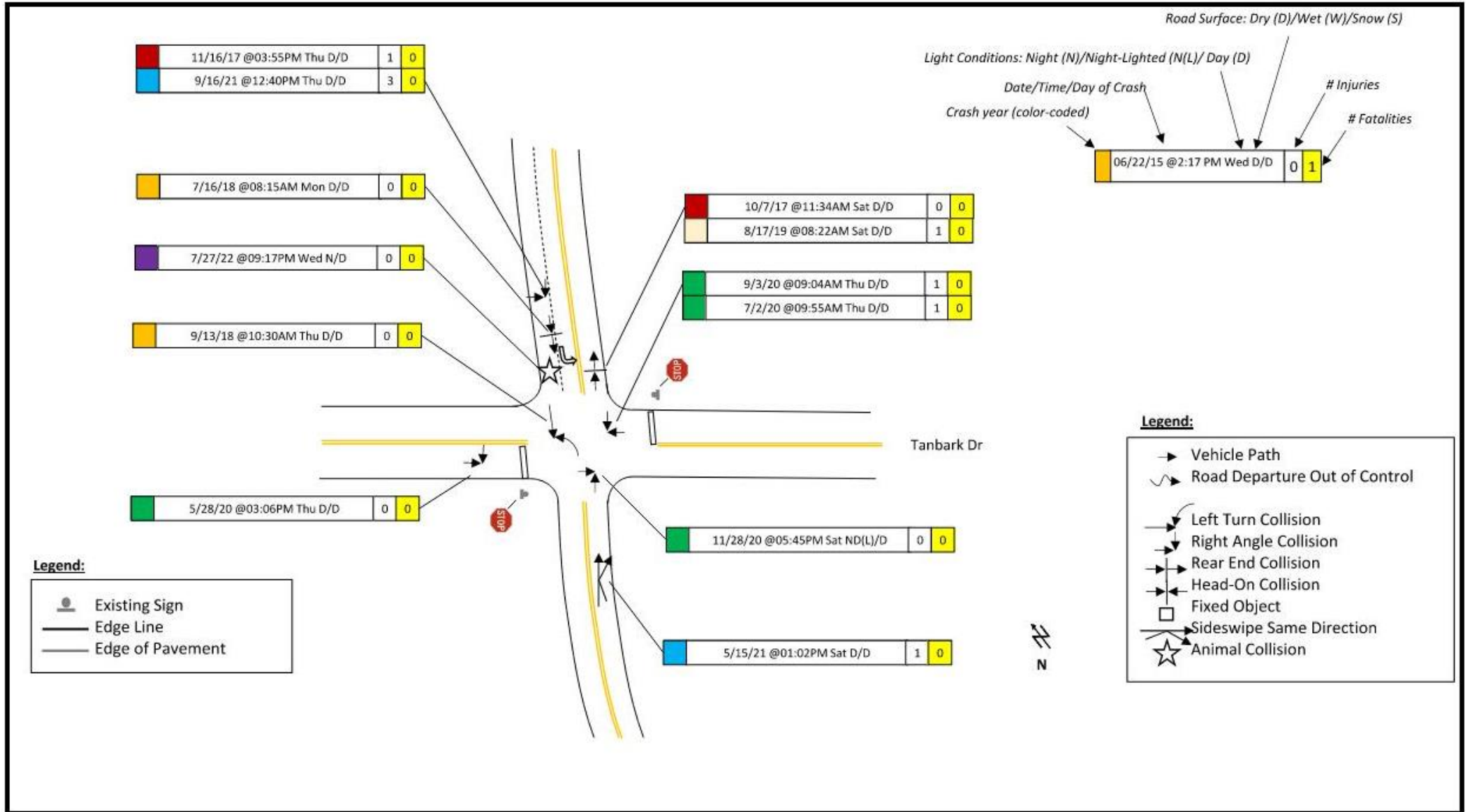
- Cut embankments to improve sight distance
- Add vehicles entering highway sign with flashers
 - Add detection on WB approach
- Modify access points to the gas station on Rte. 151 SB
- Add left turn lane in northbound & southbound direction

OR

- Consider roundabout as long-term safety solution



TANBARK DR CRASH DIAGRAM



Route 151 at Tanbark Drive



Legend



Proposed Road



Proposed Shared Use Path



Proposed Grass Area

Existing GIS Parcel Boundaries

Project Name - Nelson County, Virginia - UPC XXXXX

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way. Additional Easements for Right of Way may be required beyond the proposed right-of-way shown on these plans.



Route 151 at Tanbark Drive



Legend

- Proposed Road
- Proposed Shared Use Path
- Proposed Grass Area
- Existing GIS Parcel Boundaries

Project Name - Nelson County, Virginia - UPC-XXXXX

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TANBARK DR INTERSECTION TURN LANE IMPROVEMENT OPERATIONS

2045 No-Build

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Tanbark Dr. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	13	14.7	10	16.4	15	23.8
	EBT	-	4	14.7	1	16.4	1	23.8
	EBR	-	11	14.7	21	16.4	20	23.8
	<i>EB</i>	-	28	14.7	32	16.4	36	23.8
	WBL	-	0	10.6	2	14.5	0	11.8
	WBT	-	0	10.6	2	14.5	0	11.8
	WBR	-	9	10.6	7	14.5	1	11.8
	<i>WB</i>	-	9	10.5	11	14.5	1	11.8
	NBL	-	10	7.9	22	8.7	25	8.9
	NBT	-	370	0.0	297	0.0	517	0.0
	NBR	-	11	0.0	4	0.0	1	0.0
	<i>NB</i>	-	391	0.2	323	0.6	543	0.1
	SBL	-	11	8.8	4	8.4	10	8.8
	SBT	-	297	0.0	416	0.0	585	0.0
	SBR	168	16	0.0	20	0.0	15	0.0
	<i>SB</i>	-	324	0.3	440	0.1	610	0.1
	Overall			752	0.9	806	1.1	1,190

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.

2045 Turn Lane Build

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Tanbark Dr. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	13	14.7	15	16.4	15	23.6
	EBT	-	4	14.7	1	16.4	1	23.6
	EBR	-	11	14.7	24	16.4	20	23.6
	<i>EB</i>	-	28	14.7	40	16.4	36	23.6
	WBL	-	0	10.6	3	14.4	0	11.8
	WBT	-	0	10.6	3	14.4	0	11.8
	WBR	-	9	10.6	10	14.4	1	11.8
	<i>WB</i>	-	9	10.6	16	14.4	1	11.8
	NBL	150	10	7.9	25	8.7	25	8.9
	NBT	-	370	0.0	337	0.0	517	0.0
	NBR	-	11	0.0	5	0.0	1	0.0
	<i>NB</i>	-	391	0.2	367	0.6	543	0.4
	SBL	150	11	8.8	5	8.4	10	8.8
	SBT	-	297	0.0	471	0.0	585	0.0
	SBR	168	16	0.0	20	0.0	15	0.0
	<i>SB</i>	-	324	0.3	496	0.1	610	0.1
	Overall			752	0.9	919	1.3	1190

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.



TANBARK DR INTERSECTION ROUNDABOUT IMPROVEMENT OPERATIONS

2045 No-Build

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Tanbark Dr. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	13	14.7	10	16.4	15	23.8
	EBT	-	4	14.7	1	16.4	1	23.8
	EBR	-	11	14.7	21	16.4	20	23.8
	EB	-	28	14.7	32	16.4	36	23.8
	WBL	-	0	10.6	2	14.5	0	11.8
	WBT	-	0	10.6	2	14.5	0	11.8
	WBR	-	9	10.6	7	14.5	1	11.8
	WB	-	9	10.5	11	14.5	1	11.8
	NBL	-	10	7.9	22	8.7	25	8.9
	NBT	-	370	0.0	297	0.0	517	0.0
	NBR	-	11	0.0	4	0.0	1	0.0
	NB	-	391	0.2	323	0.6	543	0.1
	SBL	-	11	8.8	4	8.4	10	8.8
	SBT	-	297	0.0	416	0.0	585	0.0
	SBR	168	16	0.0	20	0.0	15	0.0
	SB	-	324	0.3	440	0.1	610	0.1
Overall			752	0.9	806	1.1	1,190	0.8

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.

2045 Roundabout Build

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Tanbark Dr. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	13	4.4	15	5.7	15	6.0
	EBT	-	4	4.4	1	5.7	1	6.0
	EBR	-	11	4.4	24	5.7	20	6.0
	EB	-	28	4.4	40	5.7	36	6.0
	WBL	-	0	4.6	3	4.6	0	5.3
	WBT	-	0	4.6	3	4.6	0	5.3
	WBR	-	9	4.6	10	4.6	1	5.3
	WB	-	9	4.6	16	4.6	1	5.3
	NBL	150	10	7.3	25	6.8	25	8.9
	NBT	-	370	7.3	337	6.8	517	8.9
	NBR	-	11	7.3	5	6.8	1	8.9
	NB	-	391	7.3	367	6.8	543	8.9
	SBL	150	11	6.3	5	8.6	10	9.8
	SBT	-	297	6.3	471	8.6	585	9.8
	SBR	168	16	6.3	20	8.6	15	9.8
	SB	-	324	6.3	496	8.6	610	9.8
Overall			752	6.7	919	7.7	1190	9.3

Note 1: HCM Delay for unsignalized intersections represents Average Control Delay reported from the HCM 6th module within Synchro.

Note 2: Delay values highlighted in Green, Yellow, Orange, and Red indicated LOS A-C, D, E and F, respectively.



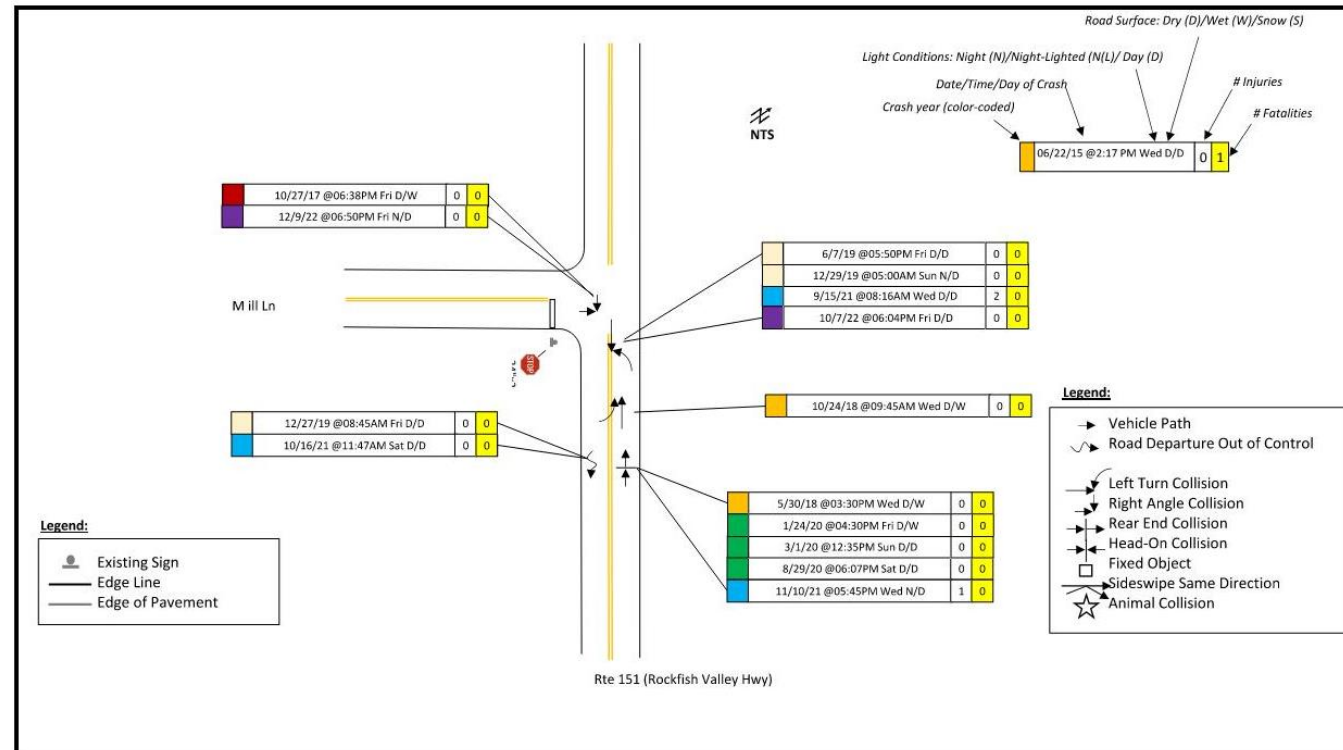
MILL LN INTERSECTION

Intersection Issues

- High rear end and angle crash location due to vehicles entering and exiting the gas station

Proposed Improvements

- Install dedicated northbound left turn lane
- Modify access points to the gas station along Rte. 151



Route 151 at Mill Lane



Legend

- Proposed Road
- Proposed Shared Use Path
- Proposed Grass Area
- Existing GIS Parcel Boundaries

Project Name - Nelson County, Virginia - UPC XXXXX

These plans are unfinished and unapproved and are not to be used for any type of construction or the acquisition of Right of Way. Additional Easements for Right of Way may be required beyond the proposed right-of-way shown on these plans.



GREENFIELD RD INTERSECTION

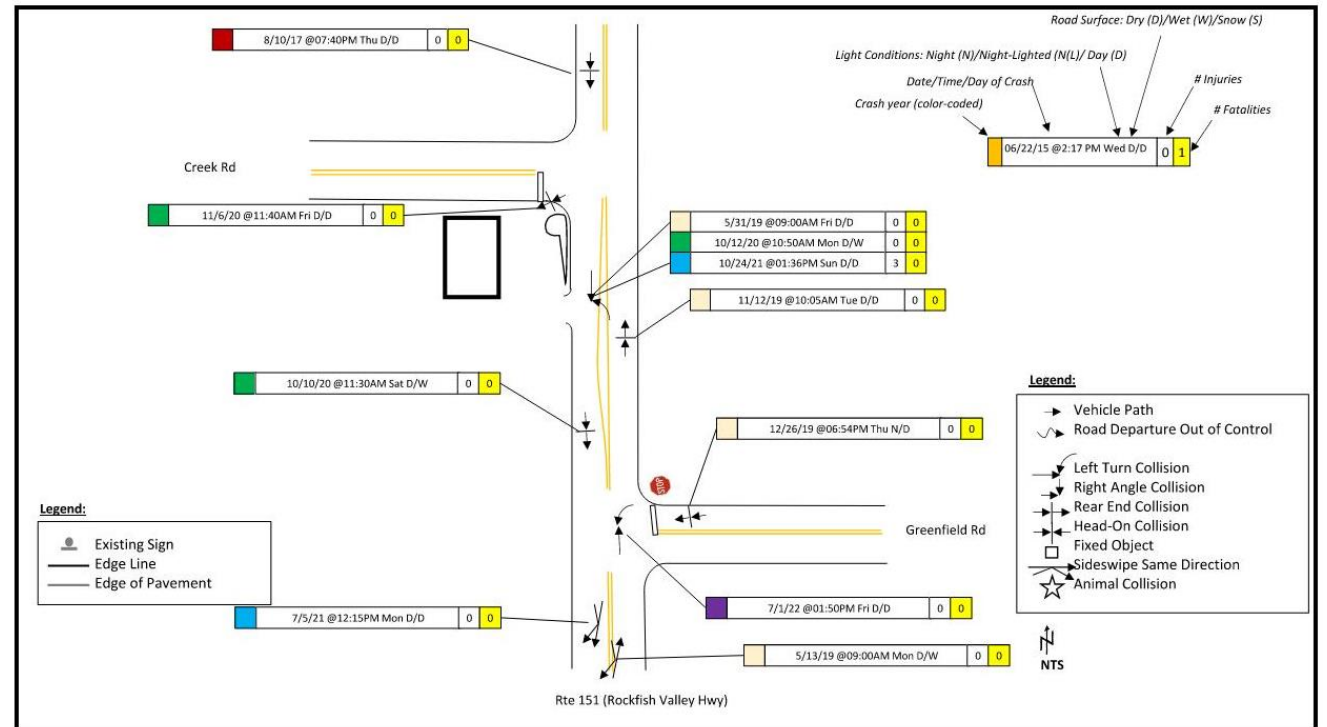
Rockfish School Ln Intersection Issues

- High rear end and angle crash location due to vehicles entering the gas station north of Greenfield Rd
- Limited sight distance from southbound approach

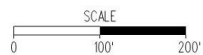


Types of Improvements

- Install “Watch for Turning Vehicles” signage along southbound Rte. 151
- Extend northbound right turn bay by restriping existing shoulder



Route 151 at Greenfield Road



Legend



Proposed Road



Proposed Shared Use Path



Proposed Grass Area



Existing GIS Parcel Boundaries



ROCKFISH SCHOOL LN INTERSECTION

Primary Concerns:

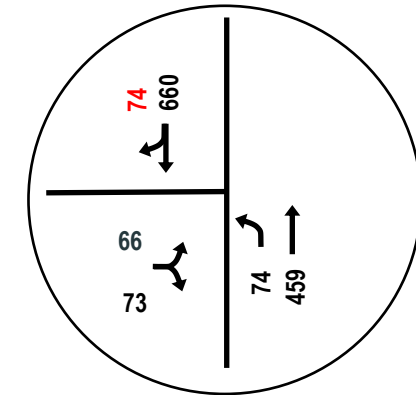
- High southbound right turn volumes during the Saturday peak warrant turn lane
- Shared through-right lane poses concern for potential rear end crashes as volumes grow

Proposed Improvements:

- Install dedication right turn lanes in southbound and eastbound legs



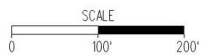
Looking north at Rockfish Valley



2045 Projected No-Build Saturday Volumes



Route 151 at Rockfish School Lane



Legend

- Proposed Road
- Proposed Shared Use Path
- Proposed Grass Area
- Existing GIS Parcel Boundaries

Project Name - Nelson County, Virginia - UPC XXXXX

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ROCKFISH SCHOOL LN INTERSECTION

2045 No-Build

2045 Build

Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Rockfish School Ln. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	30	13.9	45	17.1	66	68.1
	EBR	-	43	13.9	60	17.1	73	68.1
	<i>EB</i>	-	73	13.9	105	17.1	139	68.1
	NBL	320	40	8.1	44	8.5	74	9.9
	NBT	-	360	0.8	349	1.0	459	1.4
	<i>NB</i>	-	400	0.8	393	1.0	533	1.4
	SBT		292	0.0	413	0.0	660	0.0
	SBR	-	36	0.0	65	0.0	74	0.0
	<i>SB</i>	-	328	0.0	478	0.0	734	0.0
	Overall			801	1.7	976	2.2	1,406

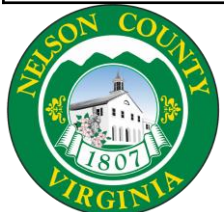
Study Intersection	Movement	Storage Length (Feet)	AM Peak Hour		PM Peak Hour		SAT Peak Hour	
			2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)	2045 Volume (vph)	HCM Delay (s/vehs)
Rockfish School Ln. (Rockfish Valley Hwy.; N-S) at Rt. 151Rockfish Valley Hwy <i>Unsignalized</i>	EBL	-	31	16.5	45	19.2	66	59.4
	EBR	300	43	10.3	60	11.5	73	15.7
	<i>EB</i>	-	74	12.9	105	14.8	139	36.4
	NBL	320	40	8.1	44	8.5	74	9.9
	NBT	-	360	0.0	349	0.0	459	0.0
	<i>NB</i>	-	400	0.8	393	1.0	533	1.4
	SBT		292	0.0	413	0.0	660	0.0
	SBR	300	36	0.0	65	0.0	74	0.0
	<i>SB</i>	-	328	0.0	478	0.0	734	0.0
	Overall			802	1.6	976	2.0	1,406

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RIVER RD INTERSECTION

Primary Concerns

- Shared through-left turn lane on SB
- Queue length
- High crash intersection

Types of Improvements

- Upcoming project to convert intersection to roundabout



NELLYSFORD SEGMENT

■ Primary Concerns

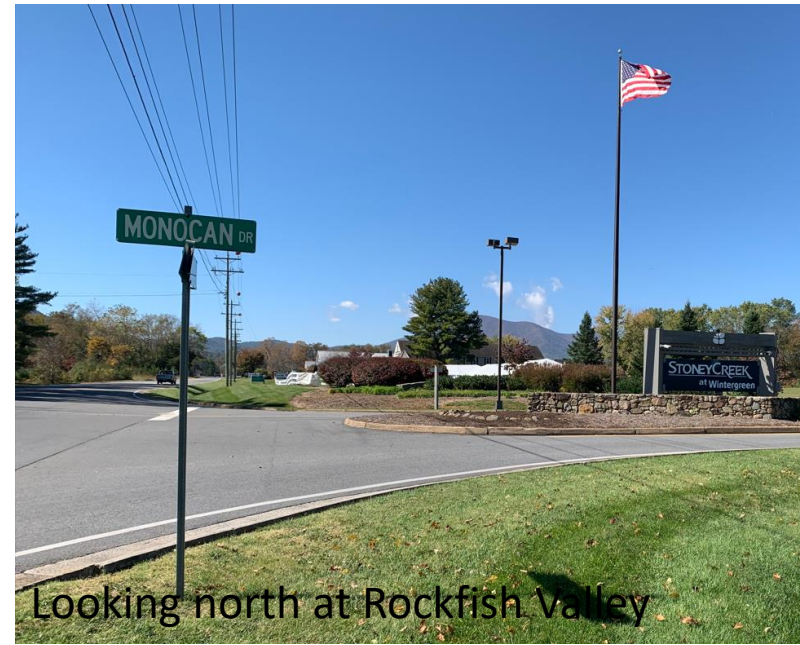
- No bicycle / pedestrian facilities along Rte. 151
- No pedestrian crosswalks



Looking north at Rockfish Valley

■ Types of Improvements

- Install shared use paths along the western side of the corridor within Nellysford to connect the commercial area with the Wintergreen entrance
- Add pedestrian crosswalk near Adial Rd



Looking north at Rockfish Valley



Route 151 near Monocan Drive, Nellysford



Legend

- Proposed Road
- Proposed Shared Use Path
- Proposed Grass Area
- Existing GIS Parcel Boundaries

Project Name - County, Virginia - State Project xxxxxxxxxx, P101, R201, C501 - UPC XXXXXX - Federal Project BRXXXXXXX
 These plans are unperfected and unapproved and are not to be used for any type of construction or the acquisition of Right of Way. Additional Easements for Right of Way may be required beyond the proposed right-of-way shown on these plans.
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SPRUCE CREEK LN / GLENTHORNE LOOP INTERSECTION

■ Primary Concerns

- Limited sight distance
- Special events on Glenthorne Loop increases cross traffic

■ Types of Improvements

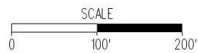
- Install intersection conflict warning system for approaching vehicles and special events
- Regrade large hill in northwestern corner to improve sight distance.



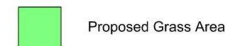
Looking south at Rockfish Valley



Route 151 at Glenthorne Loop / Spruce Creek Lane



Legend



Project Name - Nelson County, Virginia - UPC XXXXX

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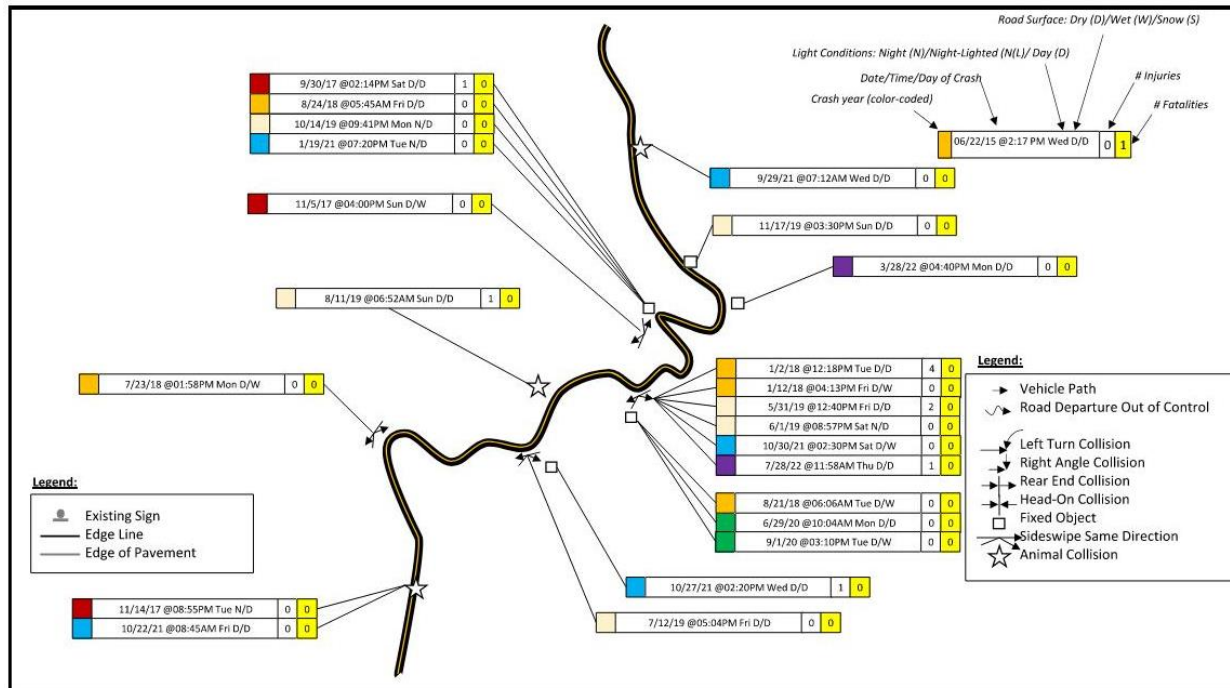
2.5 MILES SOUTH OF BEECH GROVE RD SEGMENT

Primary Concerns

- High crash location
- Steep slope segments and tight radii curves
- Speed limit (Posted speed 55 mph)
Advisory Speed = 15 mph in spots

Potential Improvements

- Install high surface friction treatment
- Add oversized chevron signs
- Consider adding flashing beacons to chevron signs



"High friction surface treatments (HFST) are pavement treatments that dramatically and immediately reduce crashes, injuries, and fatalities associated with friction demand issues, such as:

- A reduction in pavement friction during wet conditions, and/or
- A high friction demand due to vehicle speed and/or roadway geometrics."

- U.S Department of Transportation Federal Highway Administration



CORRIDOR WIDE IMPROVEMENTS

■ Corridor Wide Issues

- Lack of pedestrian and bicycle facilities
- Safety concerns along the corridor
 - Citizen noted speed concerns
 - Geometric challenges
 - Access management
 - 212 crashes along Rte. 151 in 5-year period

■ Potential Improvement Options

Safety:

- Detailed Speed Study for remaining 55 mph segments
- Widen shoulders where terrain permits

Pedestrian / Bicycle Improvements:

- Short term: Install shared-use path (SUP) and crosswalks within Nellysford
- Mid Term: Connect Nellysford SUP to a path down to Beech Grove Rd and existing Rockfish Valley Trail Network.
 - Add bicycle lanes where feasible and context sensitive
- Long term: Shared use facility along Rte. 151 corridor consistent with the draft greenways plan from the Nelson County 2042 Comprehensive Plan

Travel Demand Management:

- Explore new park and ride locations along the corridor





VDOT

Rick Youngblood – rick.youngblood@vdot.virginia.gov

RK&K

Anthony Donald – adonald@rkk.com

NEXT STEPS

- Conduct 2nd public outreach. (*YOU ARE HERE*)
- Conduct online public outreach (*Coming soon*)
- Refine project alternatives
- Produce detail concept sketches and estimates
- Study Report

