

Staunton District I-81 Operations Summary

September 2017

Traffic and Tractor Trailer (TT) Volumes

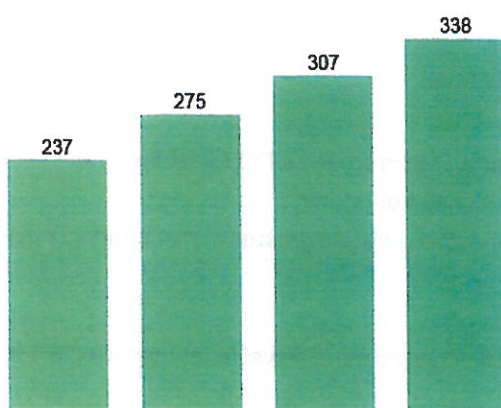
LOCATION	2007 AADT*	2016 AADT*	% Increase 2007-2016 (10 Yr.)	% Increase 2012-2016 (5 Yr.)	TT Volume 2016	%TT Increase 2012-2016 (5 yr.)
Raphine	44,000	47,000	7%	15%	12,690 (27%)	15%
Harrisonburg	52,000	57,000	10%	12%	13,110 (23%)	17%
Winchester	61,000	67,000	10%	10%	12,060 (18%)	10%

*Average Annual Daily Traffic; source: VDOT annual traffic data publications

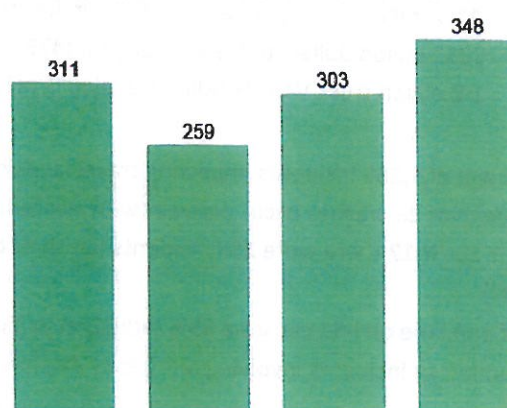
Incidents and Incident Duration (source: VA Traffic)

The number of incidents involving crashes or disabled vehicles impacting one or more travel lanes increased 21% from FY 13-FY 17.

Number of Incidents on I-81S in Staunton I



Number of Incidents on I-81N in Staunton I



- Locations with the most incidents from FY13-FY17 include: Verona (Exit 227) to Mt Crawford (Exit 240), Mt. Crawford (Exit 240) to Exit 251, and Stephens City (Exit 307) to Clearbrook (Exit 321).
- 107 incidents exceeded 4 hours in duration from FY13-FY17 (21 per year average).
- Locations with the largest number of incidents exceeding 4 hours in duration from FY13-FY17 include: Mt Crawford (Exit 240) to Exit 251 and Edinburg (Exit 279) to Toms Brook (Exit 291).
- The five-year average incident duration from FY13-FY17 is 66 minutes.
- Number of FY 17 lane impacting incidents over 30 min. duration by type:
 - Tractor-Trailer Crash= 156; Vehicle Crash= 441; Disabled Vehicle= 67

Vehicle-Hours Delay (VHD)

Source: INRIX travel time reported in the June 2017 Operation Performance Measures report for the last five fiscal years.

- Delay can be caused by traffic incidents, weather, work zones, or other congestion. The annual VHD has increased 55% since FY13. In FY17 the total delay for I-81 was 474,013 vehicle hours.
- Locations with the most average annual delay include, Fairfield (Exit 200) to Greenville (Exit 213), Edinburg (Exit 279) to Toms Brook (Exit 291), and Toms Brook (Exit 291 to I-66 (Exit 300)

Fatal and Serious Injury Crashes

Source: VDOT's RNS system for the last five fiscal years, includes travel lanes & ramps.

	I-81 Staunton District					Total
	FY13	FY14	FY15	FY16	FY17	
# Fatal Crashes	10	6	8	6	15	45
# Fatalities	13	6	8	7	17	51
# Serious Injury Crashes	77	65	59	62	55	318
# Serious Injuries	100	88	79	80	61	408

I-81 Statewide Statistics

September 2017

I-81 in Virginia

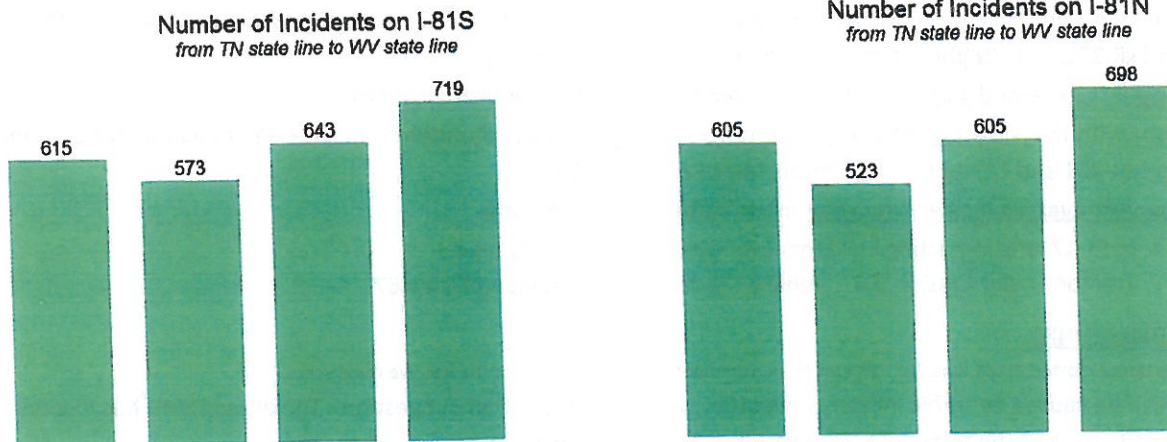
- I-81 is 325 miles in length (86.6 miles in Bristol District/ 86.8 miles in Salem District/ 151.6 miles in Staunton District)
- 48 miles of I-81 have grades greater than 3%
- Along I-81, there are 6 metropolitan areas, and 30 higher education institutions
- Estimated cost to widen I-81: \$10-15 Million (per mile, per direction) to add one lane with wide shoulders, plus an additional \$30-50 Million (per interchange).

Freight

- I-81 carries 42% of statewide truck traffic volume
- Trucks make up 20-30% of the traffic volumes on some sections of I-81
- Total Truck freight traffic on I-81 serves:
 - 11.7 million units per year (33% of Virginia total)
 - \$312 billion dollars of freight per year (47% of Virginia total)
 - 1.2 billion truck Vehicle Miles Traveled (VMT) (42% of Virginia total)

Operations

- An average of 1,259 incidents impacting travel lanes occurred per year on I-81 from FY13-FY17 (last 5 years).
- An average of 25 crashes occur per year with clearance times greater than 6 hours
- From FY 13-FY 17 there were 259 incidents (crash or disabled vehicle) with a duration greater than 4 hours (52 per year average)
- Loss of one lane on I-81 causes a 65% reduction in highway capacity
- The number of incidents involving crashes or disabled vehicles impacting one or more travel lanes increased 8% from FY 13-FY 17



Safety

Source: VDOT's RNS system for the last five fiscal years, includes travel lanes & ramps.

	All Of I-81					
	FY13	FY14	FY15	FY16	FY17	Total
# Fatal Crashes	21	17	14	14	28	94
# Fatalities	25	21	14	15	32	107
# Serious Injury Crashes	174	142	145	144	142	747
# Serious Injuries	231	187	191	180	172	961