

Preferred Alternative – Turn Lane Improvements



Design Deficiencies

- No turn lanes present and the high traffic volumes on southbound Potter Road result in queueing across railroad tracks
- Multiple full access driveways in close proximity to the intersection
- Minimal pedestrian accommodations

Design Considerations

- Limited space and substantial right-of-way constraints due to commercial development in close proximity to the intersection
- Railroad crossing approximately 200 feet north of intersection
- Underground water, sewer, gas, and overhead utilities present at intersection
- Strong desire to maintain a walkable and pedestrian friendly downtown area

Proposed Design Improvements

- Construct right and left-turn lanes from Potter Road to NC 75 and left-turn lanes from NC 75 to Potter Road
- Implement access management measures
- Construct crosswalks and sidewalks

Cost

Preliminary Engineering	\$0.7 M
Right-of-Way	\$1.54 M
Construction	\$3.35 M
TOTAL	\$5.59 M
Local Match (Min. 20%)	\$1.1 M

NOTE: Project cost estimated based on FY 2020 dollars and may need to be modified for future year funding opportunities

Jurisdiction	Existing Conditions	Turn Lane(s)
Mineral Springs	Signalized Intersection	No

Analysis Results

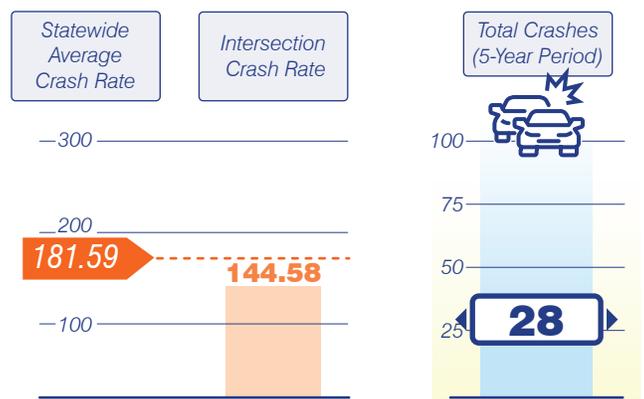
Congestion

	LOS	Delay (sec/veh)	V/C
2019	C	26	0.88
2035 No-Build	F	101	1.30
2035 Build	D	45	0.96

Reduction of Delay (2035 Build vs. No-Build) 56%

Congestion data based on weighted average of the AM and PM peak hour delay for comparison purposes.

Safety



Reduction in Total Crashes (Estimated with preferred alternative) 12%

Crash data from 8/1/2015 through 7/31/2020

Daily Emissions Reduction

Year	CO	VOC	NOx	PM2.5	Reduction in Total Emissions	42% 56%	2019 2035
2019	7.89 kg	1.45 kg	0.49 kg	0.01 kg			
2035	42.07 kg	7.76 kg	2.60 kg	0.08 kg			