Washington State Department of Transportation

Engineering and Traffic Investigation – Speed Limit
SR 202 / Snoqualmie MP 25.42 to MP 27.95
February 2022

Background: The SR 202 speed limits in the Snoqualmie area have been 45 mph and 30 mph since 1987. Typical ADT has now increased to 10,000, and this segment of SR 202 serves the popular weekend destinations of Snoqualmie Falls, Salish Lodge, Northwest Railway Museum, and the Snoqualmie Ridge golf course. These locations generate recurring congestion on weekends during periods of favorable weather. The complexity of traffic with the proximity of these attractions has led the City of Snoqualmie to request a reduction in the speed limit for a 2 ½ mile stretch.

Proposed Action:
Based on this engineering & traffic investigation, WSDOT proposes the following recommendations for the individual segments within this section of roadway:

MP 25.42 to MP 26.19 – City Limits to Snoqualmie Parkway - 35 mph Recommended Speed Limit

- The measured 85th percentile speeds are lower than the current posted speed of 45 mph. In addition, the measured 85th percentile speeds fall within the 10 mph pace range.
- The roadway & roadside characteristics warrant this reduction.

MP 26.19 to MP 26.57 – Snoqualmie Parkway to SE Northern Street - 35 mph Recommended Speed Limit

- From MP 26.19 to MP 26.55 the 85th percentiles show a need to lower the speed limit from 45 mph.
- From MP 26.55 to 26.57 we will be raising the speed limit from 30 mph to 35 mph.
- The roadway & roadside characteristics warrant this change.

MP 26.57 to MP 27.07 – SE Northern St to SE Newton Street – 25 mph Recommended Speed Limit

- Most of the 85th percentile speeds are below the posted speed of 30 mph and well within the pace range. These measured speeds justify lowering the speed limit to 25 mph
- The roadway and roadside characteristics warrant this change

MP 27.07 to MP 27.95 – SE Newton St to Milepost 27.95 – 35 mph recommended Speed Limit

- The measured 85th percentile speeds are lower than the posted speed of 40 mph. In addition, the measured 85th percentile speeds fall within the 10 mph pace range.
- The roadway & roadside characteristics warrant this reduction.

Speed Field Study:

Speed studies were conducted in April of 2019. The table below summarizes the speed measurements.

SR 202 Snoqualmie Area
Measured Speeds

Date	Location	Location (Description)	Direction	85th Percentile Speed (mph)	10 mph Pace Range (mph)	Current Posted Speed
April 2019	25.8	EB shoulder	EB	39	30-39	45
April 2019	25.8	EB shoulder	WB	37	29-38	
April 2019	26.86	WB shoulder	EB	27	20-29	30
April 2019	26.86	WB shoulder	WB	27	20-29	
April 2019	27.15	WB shoulder	EB	36	28-37	40
April 2019	27.15	WB shoulder	WB	34	26-35	
April 2019	27.50	EB shoulder	EB	39	31-40	
April 2019	27.50	EB shoulder	WB	39	31-40	

85th Percentile Speed: measured speed at which 85 out of 100 vehicles travel at or below
10 mph Pace Range: the 10 mph range of speed that the most vehicles are traveling at

Crash Analysis:

Crash data were analyzed for five years from January 2017 to December 2021.

MP 25.42-26.19
Total of 18 crashes with no fatal and 7 injury crashes.

- 5 were **entering at angle** crashes
- 4 were **single-vehicle/fixed object** crashes
- 4 were **rear-end** crashes
- 2 were **opposite direction one left turn-one straight** crashes
- One crash was reported for the following types: parking related, pedalcycle related, and vehicle overturned

MP 26.19-26.57
Total of 12 crashes with no fatal and 4 injury crashes.

- 7 were **rear-end** crashes
- 2 were **entering at angle** crashes
- One crash was reported for the following types: single vehicle-fixed object, parking related, and a vehicle crash with elk

MP 26.57-27.07
Total of 23 crashes with none fatal and 5 injury crashes.

- 7 were **rear-end** crashes
- 6 were **parking** related crashes
- 5 were **entering at angle** crashes
- 2 **sideswipe** crashes
- One crash was reported for the following types: single vehicle-fixed object, pedalcycle related, and opposite direction one left turn-one straight

MP 27.07-27.95
Total of 24 crashes with none fatal and 8 injury crashes.

- 12 were **rear-end** crashes (5 crashes)

- 5 were **fixed object** crashes
- 3 were **entering at angle** crashes
- 2 were **vehicle crashes with elk**
- One crash was reported for the following types: parking related and sideswipe

Other Considerations:

Average Daily Traffic Volume – The ADT in 2018 and 2019 was 11,000, reducing to 10,000 in 2020 during the pandemic, at the junction with Snoqualmie Parkway.

Truck Percentage – Truck percentages are unavailable on the segment of SR 202 between Fall City and North Bend.

Roadway Characteristics

MP 25.42 to MP 26.19 – City Limits to Snoqualmie Parkway - 35 mph recommended Speed Limit

There is one eleven-foot lane in either direction in this section, with a 4-foot asphalt shoulder on either side. It cuts through a wooded hillside with guardrail on the downhill (east) side. The segment is a continuous no passing zone. Six (6) driveways serve parking lots and the Snoqualmie Falls facility. Left turn lanes to driveways in both directions are provided at MP 25.7; a right turn lane is provided in the increasing direction at the same location. A single-lane roundabout serves the intersection of Tokul Rd SE. A bridge passes over the Snoqualmie River from MP 26.00 to MP 26.08. The increasing direction continues as two lanes to Snoqualmie Parkway, which is signalized.

MP 26.19 to MP 26.57 – Snoqualmie Parkway to SE Northern St - 35 mph recommended Speed Limit

This segment begins at the signalized intersection of Snoqualmie Parkway, where there is a left turn lane in the decreasing direction. There are 11-foot lanes in each direction with 4-foot to 8-foot asphalt shoulders.

MP 26.57 to MP 27.07 – SE Northern St to SE Newton Street – 25 mph recommended Speed Limit

From this point on the area has a feel of a downtown area. There is curb and gutter on both sides, with the sidewalk continuing on the west side. There are bulb-outs on the east side to allow for on-street angle parking. There is parallel parking allowed on the west side of the street.

MP 27.07 to MP 27.95 – SE Newton St to Milepost 27.95 – 35 mph recommended Speed Limit

This segment has adjoining residential neighborhoods with local connectors intersecting SR 202. There are 11 foot lanes in each direction with 4 to 8-foot asphalt shoulders. There is a signalized intersection at Meadowbrook Way SE, which is one of the access points to Mt Si High School. Just southeast of the Meadowbrook Way SE intersection is Snoqualmie Middle School.

<u>Roadside Development and Lighting</u>

- The beginning of this segment (MP 25.42 to MP 25.62) of SR 202 is bordered by woodland development with no driveway access and no roadway illumination.

- At MP 25.62 commercial development for Salish Lodge and Snoqualmie falls begins and there are right and left turn bays, and multiple access points. A pedestrian walkway is built across the roadway at MP 25.70. Roadway illumination begins at MP 25.60 and is present on the west side for the rest of the length of the segment and is augmented with lighting on the other side from MP 26.15 to the end of the segment.

- There is some on-site illumination for adjacent commercial & residential developments.

<u>Parking, Pedestrians and bicyclists</u>

- Pedestrians have been observed crossing SR 202 at-grade between the driveways of the Snoqualmie Falls facilities even through a grade

separated walkway is available and access to the walkway is adjacent to the driveway.

- There is legal street parking available, including back-in angle parking, in downtown Snoqualmie on SR 202 from MP 26.72 to MP 27.07.

- A bike path begins to parallel the roadway on the west side just south of the Snoqualmie River and continues southward to where it changes to a concrete sidewalk at SE Fir St. at MP 26.65. Curb and gutter begins on both sides at MP 26.60 and continues to the end of the segment.

- On the east side of the roadway, a working historic Northern Pacific Railroad line parallels SR 202 from north of Snoqualmie Parkway southward. There is a renovated Victorian train depot, park and museum and on weekends regularly scheduled trains run April through October.

Engineering & Traffic Investigation – Speed Limit

RCW 46.61.400 establishes Washington State's basic speed law and the maximum speed limits for state highways. The statute also authorizes WSDOT to raise or lower the maximum speed limit when supported by an engineering and traffic investigation. Any speed limit revision must be approved by the State Traffic Engineer and supported by local ordinance.

Speed Limit Basics

Washington State's basic speed law recognizes that driving conditions and speeds may vary widely from time to time. No posted speed limit can adequately serve all driving conditions. Motorists must constantly adjust their driving behavior to fit the traffic & environmental conditions they meet. Speed limits encourage consistent travel speeds, fostering safety for the traveling public by reducing the speed differentials between motor vehicles.

Speed limits reflecting the speed most motorists naturally drive are selected in large part by determining the 85th percentile speed (the speed that 85 out of 100 vehicles travel at or below) and the 10 mph pace speed (the 10 mph range of speed that the most vehicles are traveling at; ideally greater than 70%). WSDOT's experience, supported by national experience, is that reasonable drivers will consider roadway and roadside conditions when selecting travel speeds.

Speed limits should be reevaluated along highway segments that have undergone a significant change in roadway characteristics or surrounding land use since the last review. WAC 468-95-045 provides guidance for this type of engineering evaluation. When setting speed limits (non-freeway), WSDOT traffic engineers consider other factors like:

- Roadway characteristics, shoulder condition, grade, alignment, and sight distance
- Roadside development and lighting
- Parking practices (if applicable), and pedestrian & bicycle activity
- Collision rates and traffic volume trends

The range of travel speeds is reduced when speed limits are set near the 85th percentile speed, within the middle to upper end of the 10 mph pace range, and adjusted for other influencing factors.