

**US 191 – Gallatin Canyon**

In response to your request we have prepared the following evaluation of the 60 mph speed limit on US 191 located approximately from milepost 48 to milepost 70. This segment of roadway was last studied in 1999, in response to a request from Gallatin County officials. At that time the speed limit on US 191 was statutorily 70 mph.

**Travel Speeds**

Vehicular travel speeds were re-sampled at five locations in November, 2005. Automatic traffic counters were used to collect directional travel speeds. There were typically over 2,000 vehicles sampled in each direction to arrive at the following speed statistics.

Weather and roadway conditions were quite favorable for the season. There was some frost observed in the shaded areas in the AM. However, by mid morning and throughout the remainder of the daylight hours the roadway surface was bare and dry.

The following table lists the 85<sup>th</sup> percentile speeds and the pace of the traffic stream by milepost location, beginning with the northbound speed statistics first and the southbound statistics second.

<b>60 mph – Speed Limit 2005</b>		<b>70 mph – Speed Limit 1999</b>	
MP 52.0	59 mph (49 mph – 59 mph) 59% 54 mph (43 mph - 53 mph) 70%		
		MP 52.5	61 mph (49 mph – 59 mph) 58% 58 mph (46 mph – 56 mph) 56%
MP 55.0	65 mph (55 mph – 65 mph) 66% 64 mph (55 mph – 65 mph) 67%	MP 55.0	65 mph (55 mph – 65 mph) 59% 63 mph (55 mph – 65 mph) 67%
MP 59.0	52 mph (43 mph – 53 mph) 75% 54 mph (43 mph – 53 mph) 68%		57 mph (49 mph – 59 mph) 61% (southbound not available)
MP 64.0	64 mph (52 mph – 62 mph) 64% 62 mph (52 mph – 62 mph) 62%	MP 64.0	64 mph (55 mph – 65 mph) 64% 62 mph (52 mph – 62 mph) 62%
MP 70.0	67 mph (58 mph – 68 mph) 64% 66 mph (55 mph – 65 mph) 59%	MP 70.0	67 mph (58 mph – 68 mph) 57% 67 mph (55 mph – 65 mph) 52%

Our most recent investigation indicated that the 85<sup>th</sup> percentile speeds ranged between 54 mph and 67 mph, and the pace of the traffic stream ranged between (43 mph – 53 mph) to (58 mph – 68 mph). We attribute this variation in the travel speeds to the roadway’s horizontal alignment and its winding nature. There are numerous curvilinear segments intermixed with short tangent segments. Also, the proximity of the spot speed sample in relationship to a horizontal curve influences the speed profile. Today’s results are quite similar to those identified back in 1999, as indicated in the second portion of the table, where the 85<sup>th</sup> percentile speeds ranged between 57 mph to 67 mph.

We were able to directly compare the travel speeds at four locations (mileposts 55, 64 & 70) had virtu

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There was a 5-mph difference in the northbound 85<sup>th</sup> percentile speed and similar difference in the pace at milepost 59 northbound.

### Accident Experience

The accident history was reviewed for a three-year period from June 1, 2002 to May 31, 2005. During this period there were 156 accidents reported within the study area. The accident rate is 1.28 accidents per million vehicle miles traveled. The statewide average for rural NHS routes is 1.24 accidents per million vehicle miles traveled. Of the 156 accidents two of those resulted in fatalities. Both of these accidents were daytime single vehicle off-road accidents during favorable roadway and weather conditions. Drugs were listed as a contributing factor in one of the accidents.

In addition to reviewing the latest three-year period of accident history, we also checked the accident statistics for two other three-year periods having different speed limits in operation. A table of those results follows.

	AADT	Rate	# of Accd.	Fatal Accd.
<b>55 mph Speed Limit</b> <i>June 1991 to May 1994</i>	2834	1.77	121	5
<b>Basic Rule (no daytime limit)</b> <i>June 1996 to May 1999</i>	3514	1.76	149	4
<b>60 mph Speed Limit</b> <i>June 2002 to May 2005</i>	5052	1.28	156	2

### Conclusions and Recommendations

From the information gathered in this effort we do not recommend a reduction in the 60 mph speed limit. The travel speeds along this portion of US 191 look to be consistent with those previously identified when the roadway was operating with a 70 mph speed limit. We did not observe a reduction in the speed statistics to correspond with the 10 mph reduction in the speed limit. From our experience this was to be expected, as a speed limit alone is not a successful tool in changing driver behavior. We believe the desired travel speeds along this 22-mile segment are around 60 mph.

As for the accident experience, in general this roadway is functioning within the statewide average rate for rural NHS routes. We did not identify any trends in the accident rate associated with the speed limit. The most obvious change we observed was the increase in traffic volume. This maybe contributing to driver discomfort as more vehicles are interacting with one another. Other characteristics used in evaluating a speed limit and that can influence travel speeds (i.e. adjacent side culture and roadway features) have remained consistent or the same.

It is our conclusion that there is a serious potential to introduce additional conflicts within the traffic stream such as an increase in undesired passing activity that may outweigh possible safety gains by implementing a more restrictive speed limit.

In closing we would also like to share that the Department received mixed comments regarding the proposed 60 mph speed limit. At that time Gallatin County held two public meetings discussing the speed limit on US 191. Comments were received from folks wanting a 45 mph speed limit, a 55 mph speed limit and even some requested no speed limit. At that time county officials felt that with a higher speed limit motorists would be less inclined to pass and recommended a 65 mph speed limit. Ultimately the Montana Transportation Commission approved the Department's recommendation for a uniform 60 mph speed limit throughout the canyon with the exception of the area near the intersection with MT 64 and the Ophir School.