

Fifteen Mile Road Engineering Study
January 10, 2011
Completed by Wade Wittkop,

Introduction:

This document serves as the engineering study which establishes a speed limit for the first four miles of the Fifteen Mile Road (BLM Road 1429). This segment of road is maintained by the Bureau of Land Management. Due to the proximity to Worland Wyoming and current uses, this segment of road receives a moderate amount of traffic. Based on the characteristics of the road, public safety concerns may be reduced through the establishment and implementation of a speed limit.

Manual of Uniform Traffic Control Devices (MUTCD) Guidance:

Section 2B.13 Speed Limit Sign Standards:

01 Speed zones: (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles.

A speed study of free flowing traffic was conducted on three occasions. The first was between 9:30 pm and 10:30 pm on June 12, 2010, the second was between 8:30 pm and 10:00 pm on July 10, 2010, the third was between 12:00 pm and 2:30 pm on July 11, 2011. This study utilized radar to track speeds. The road condition was dry and had recently been graded. The weather was clear with no moisture. There were 100 vehicles observed.

02 The Speed Limit Sign: shall display the limit established by law, ordinance, regulation, or as adopted by the authorized agency based on the engineering study. The speed limits displayed shall be in multiples of 5 mph.

Based on criteria determined by the MUTCD and information gathered related to the speed distribution of free flowing vehicles, it is the opinion of the engineer that a speed limit of 35 miles per hour is appropriate for this road segment.

03 Speed Limit Signs, indicating speed limits for which posting is required by law, shall be located at the points of change from one speed limit to another.

The first point of change will be from the intersection with the "Dump Road" where BLM Road 1429 begins. The second point of change will be for east bound traffic entering the 35 mile per hour zone four miles west of start of the Fifteen Mile Road.

04 At the downstream end of the section to which a speed limit applies, a Speed Limit sign showing the next speed limit shall be installed. Additional Speed Limit signs shall be installed beyond major intersections and at other locations where it is necessary to remind road users of the speed limit that is applicable.

Four miles west of the intersection with the “Dump Road” is the downstream end of the 35 mile per hour speed limit. The speed then reverts to uncontrolled for west bound traffic. A speed limit sign should be placed midway between the start of the 15 Mile Road and the end point of the 35 mile per hour speed zone.

06 In general, the maximum speed limits applicable to rural and urban roads are established:
A. Statutorily – a maximum speed limit applicable to a particular class of road, such as freeways or city streets, that is established by State law; or
B. As altered speed zones – based on engineering studies.

The speed limit on the Fifteen Mile Road is not established by state law. This speed limit would be based on an engineering study.

10 States and local agencies should conduct engineering studies to reevaluate non-statutory speed limits on segments of their roadways that have undergone significant changes since the last review, such as the addition or elimination of parking or driveways, changes in the number of travel lanes, changes in the configuration of bicycle lanes, changes in traffic control signal coordination, or significant changes in traffic volumes.

There has been a significant change in traffic volumes over recent years due to the creation and use of two motocross tracks. This volume is particularly noticeable during motocross events.

12 When a speed limit within a speed zone is posted, it should be within 5 mph of the 85th-percentile speed of free-flowing traffic.

The 85th percentile was determined to be 40 miles per hour.

16 Other factors that may be considered when establishing or reevaluating speed limits are the following:

A. Road characteristics, shoulder condition, grade, alignment, and sight distance;

Fifteen Mile Road is a crowned and ditched gravel road approximately 24 feet wide. The road has no shoulder outside said width. The grade of the road is negligible. The alignment of Fifteen Mile Road is West Northwest. There are no relevant intersections along the section of Fifteen Mile Road which will be posted; therefore intersection sight distance is unnecessary for this road. Given a design speed of 35 mph for Fifteen Mile Road the recommended stopping sight distance is 250 feet which is exceeded by existing conditions of the road. The surface of the road is sometimes washboarded and vehicle must drive slower due to this condition. Also, during the winter, the shoulders are filled

with snow. When the road is dry, dust presents a visual obstruction. In the afternoon, westbound traffic drives towards the setting sun. This presents safety concerns with oncoming traffic.

B. The pace;

The free flowing traffic pace on Fifteen Mile Road ranges from 18 to 58 mph.

C. Roadside development and environment;

There are approximately four roadside developments along the Fifteen Mile Road including a practice fire suppression structure, two motocross tracks and residence/storage area. The area is also available for livestock grazing and livestock are occasionally present. The area features rough broken terrain with patches of sagebrush/bunchgrass within larger communities of saline uplands and/or cactus/blue gramma. The project area receives approximately 5 to 9 inches of precipitation annually, and is considered to be high desert.

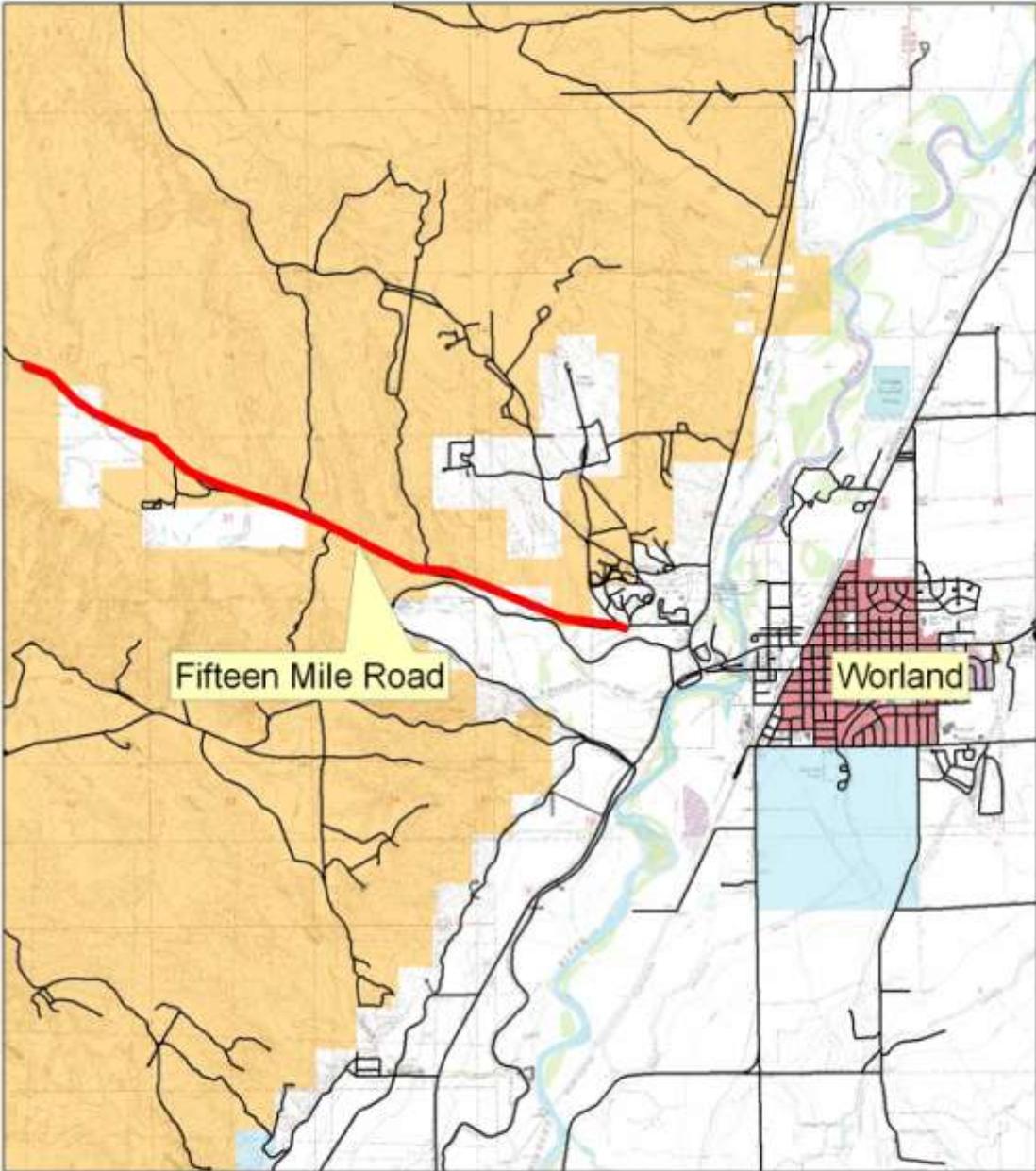
D. Parking practices and pedestrian activity; and

There are no developed parking areas immediately adjacent to the Fifteen Mile Road. Two motocross tracks are located approximately three miles out on Fifteen Mile Road which causes a moderately high traffic flow during motocross events.

E. Reported crash experience for at least a 12-month period.

There have been three incidents in the past twelve month period as recorded by the Washakie County Sheriff's Office. One was a roll over motor vehicle accident. The other two were motorist assists in which the vehicles had gone off of the road and became stuck.

Fifteen Mile Road, Speed Zone Segment



Red Line = Speed Limit Segment of
Fifteen Mile Road.

