

Re-recorded to correct language



ORDINANCE NO. 2017-2

ROAD SPEED LIMITS

SOUTH OF

AN ORDINANCE TO ESTABLISH A SPEED LIMIT ON A SECTION OF VALLEY DRIVE, NORTH OF THE EAST HELENA CITY LIMITS AND YORK ROAD, LEWIS AND CLARK COUNTY, MONTANA, AND TO PROVIDE PENALTIES FOR A VIOLATION THEREOF.

WHEREAS, the Lewis and Clark County Board of County Commissioners (County Commission) requested a review of the speed limit on Valley Drive, Lewis and Clark County; and

WHEREAS, the Lewis and Clark County Public Works Department requested that Abelin Traffic Services of Helena, Montana, perform a speed study on this road and determine if the posted speed limit is appropriate for the existing road conditions and travel patterns; and

WHEREAS, Section 61-8-310, MCA allows the Lewis and Clark County Commission to establish speed limits on any public highway as defined in 60-1-103, MCA; and

WHEREAS, Valley Drive, north of the East Helena City Limits, in Lewis and Clark County, Montana is a public road as defined in Section 60-1-103 MCA; and

NOW THEREFORE, BE IT ORDAINED BY THE COUNTY COMMISSION OF LEWIS AND CLARK COUNTY, STATE OF MONTANA:

SECTION 1. SPEED LIMIT ESTABLISHED.

The speed limit shall be reduced to 25 miles per hour from the East Helena City limits to the intersection of Prickly Pear Avenue. From Prickly Pear Avenue to York Road the speed limit will remain at the posted 35 miles per hour, pursuant to attached "Exhibit A – Abelin Valley Drive Speed Limit Study" and "Exhibit B- e mail dated May 24, 2017, referencing the Abelin Traffic study for the City of East Helena."

SECTION 2. SPEED LIMIT SIGNS.

Upon receiving notice of the regulatory speed limit established by this Ordinance, and after the passage of at least 30 days from the date this Ordinance is adopted, the signs giving drivers notice of the regulatory speed limit established by this Ordinance shall remain at 35 miles per hour.

SECTION 3. SEVERABILITY.

Should any court declare any part of this Ordinance unconstitutional or invalid, the Ordinance as a whole or any part thereof, other than the part so declared to be unconstitutional or invalid, shall remain in effect.

SECTION 5. EFFECTIVE DATE.

This Ordinance shall take effect thirty days after the date of the Second Reading and approval of this Ordinance by the County Commission.

SECTION 6. MODIFICATION.

This Ordinance may be modified by formal action by the County Commission in the same manner as required in the adoption of the Ordinance.




SECTION 7. DURATION.

This Ordinance shall remain in effect until repealed or suspended by other legislative or judicial action.

READ and adopted at first reading this 13 day of July, 2017 by the Lewis and Clark County Board of County Commissioners, State of Montana.

FOR LEWIS AND CLARK COUNTY
BOARD OF COUNTY COMMISSIONERS

BY


Susan Good Geise, Chair



Attest:

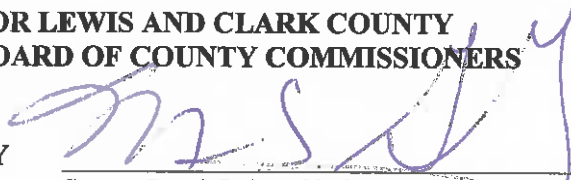


Paulette DeHart, Clerk of the Board

READ and adopted at the second and final reading this 22 day of August, 2017, by the Lewis and Clark County of Board of County Commissioners, State of Montana.

FOR LEWIS AND CLARK COUNTY
BOARD OF COUNTY COMMISSIONERS

BY


Susan Good Geise, Chair



(Seal)

Attest:



Paulette DeHart, Clerk of the Board

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December 6, 2016

Eric Griffin
Lewis & Clark County
3402 Cooney Drive
Helena, MT 59601

RE: Valley Drive Speed Limit Study

Dear Eric,

Per your request Abelin Traffic Services (ATS) has reviewed the existing speed limits on Valley Drive between the East Helena city limits and York Road. The posted speed limit on this road is currently 35 MPH. Lewis & Clark County requested that ATS perform a speed study to determine if the posted speed limits are appropriate for the existing road conditions and if the speed limits could be changed to create more uniform speeds for the route and provide more consistency with other routes in the area.

Existing Conditions

The study road segments begin at the north city limits of East Helena on Valley Drive (Intersection of Valley Drive and Lewis Street) and extends north to the intersection of Valley Drive and York Road. The road is straight and has a slight upward slope to the north. Valley Drive continues as a gravel road for 2.3 miles before terminating an intersection with Merritt Lane. The gravel section of Valley Drive was not studied for this report. The roadside environment consists of a mix of residential, light commercial, and open land areas. See **Figure 1** for a map of the study roadway.

Valley Drive is paved for most of the study area, with a .5-mile section of gravel road that runs from Howard Road to just south of Ayden Road. The gravel portion of the roadway has a width of 25 feet and the surface is in good condition. The paved portion of the roadway varies from 23 feet to 25 feet in width, which is narrower than the other north/south roads in this area (Wylie Drive and Lake Helena Drive). The study roadway has a right-of-way width that varies from 55 feet for the first 0.4 miles at the south end of the study area, 65 feet for the next 0.1 miles, and between 75 and 85 feet for the remaining length of the study roadway. The road surface is in moderate to good condition with some isolated patched areas. There are no formal road shoulders except near the intersection with Canyon Ferry Road. There are no passing zones within the study area. Visibility on the road is very good and the clear zones have few obstructions. The road currently has 24 public approaches and 74 private approaches.

Historic traffic data for Valley Drive was obtained from Lewis & Clark County. The historic Average Annual Daily Traffic (AADT) data for this location is presented in **Table 1**. The data indicates that traffic volumes along Valley Drive have increased steadily over the past ten years.

Table 1 – Historic Traffic Data

Valley Drive Location	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
South of Canyon Ferry Road	2,029	2043	1,836	2,963	2,066	2,494	2,062	1,976	na	2,266
North of Canyon Ferry Road	1,513	1656	1,423	878	1,652	1,891	1,722	1,427	na	1,713
North of Howard Road	410	401	386	709	na	310	516	na	na	423
South of York Road	330	371	345	684	491	384	496	na	na	464

Crash Data

ATS obtained vehicle crash data for the study roadway from the L&C County vehicle crash database. This data indicated that 15 vehicle crashes have occurred along Valley Drive over the past five years. Of these 15 crashes, seven were multi-vehicle accidents and six resulted in injuries. Three of the ten crashes occurred at the intersection with Canyon Ferry Road. Most of the crashes (67%) occurred in darkened conditions. The crash rate on Valley Drive is 1.0 crashes per million vehicle miles traveled, which is in line with the State average for collector roadways.

Speed Data

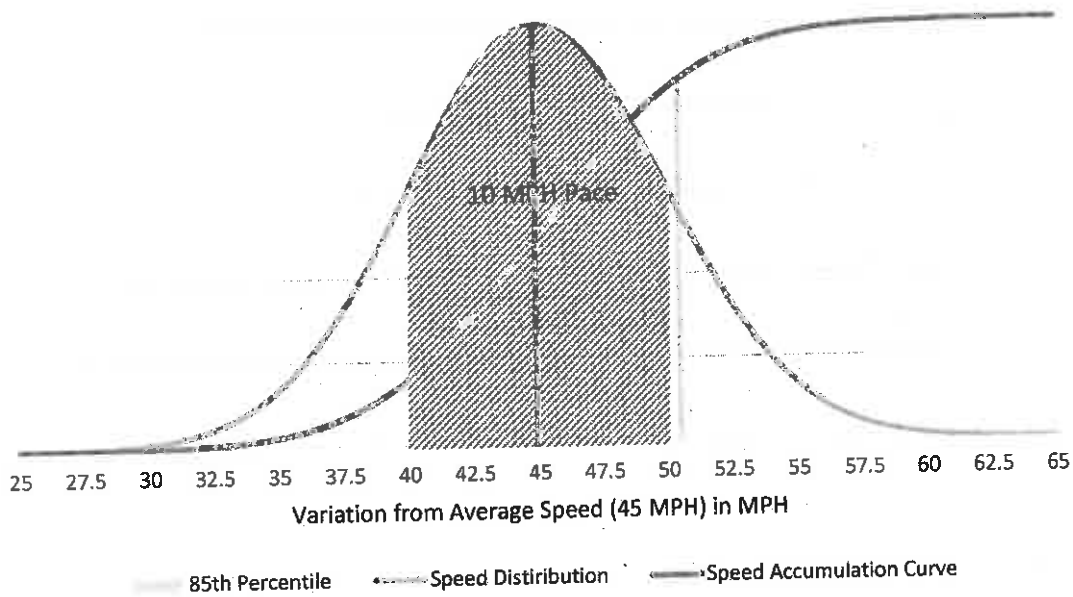
In order to analyze vehicle speed data engineers calculate a variety of operational characteristics based on vehicle speed distribution data. The significant data includes average vehicle speed, 85th percentile speed, and pace speeds. Figure 2 shows a standard vehicle speed distribution with a 45 MPH average speed (red line). The 85th percentile speed is speed at which 85% of traffic travels at or below on the cumulative speed distribution line (purple line). The pace is the 10 MPH increment that has the highest number of observed vehicle speeds.

Figure 1 - Vicinity Map



Figure 2 – Standard Speed Profile

Speed Distribution



Vehicle speed data was collected at four locations along Valley Drive from August 15th to 19th of 2016. The sites were located south of Canyon Ferry Road (Station 1), north of Canyon Ferry Road (Station 2), north of Howard Road (Station 3), and south of York Road (Station 4). The weather conditions during the traffic study were warm and dry with very good driving conditions throughout the data collection period. The data was collected continuously for 48 hour periods using Diamond Unicorn Limited traffic counters to record the individual speed data from every vehicle using the road. The results of the data collection are shown in Table 2. A detailed roadway characteristics and speed data table is included in the appendix.

TABLE 2 – Vehicle Speed Data

	Station 1	Station 2	Station 3	Station 4
Average Speed (MPH)	36.0	38.6	36.5	35.7
85% Percentile Speed (MPH)	40.3	44.4	43.4	42.3
10 MPH Pace Speeds (MPH)	30 – 40	35 – 45	30 – 40	30 – 40
Percent in Pace	78%	67%	56%	55%
Observed Daily Traffic (VPD)	2,910	2,266	1,713	464
Percent Trucks	2.5%	4.5%	13.4%	3.8%

The speed data indicates that the vehicle speeds along Valley Drive are fairly consistent. The most commonly used road operations characteristic for posting a speed limit is the 85th percentile speed.

However, it is reasonable to set a posted speed limit below the 85th percentile speeds if the road conditions and roadside environment are inconsistent with the observed vehicle speeds. The 85th percentile speeds at the four count locations varied from 40 to 44 MPH. The 10 MPH pace speeds (the 10 MPH range in which the most road users are driving) were 30 – 40 MPH for Stations 1, 3, and 4 while for Station 2 it was 35 – 45 MPH. In general it is desirable to have the majority of traffic on a roadway traveling within or around the 10 MPH pace. This decreases the variability in vehicle speeds and decreases vehicle conflicts. It is also notable that the percent of truck traffic on most of the road is low, except for the section north of Howard Road (Station 3) which experiences 13.4% truck traffic due to the adjacent gravel pit.

Based on the vehicle speed profiles for the roadway the posted speed limit on Valley Drive could range from 35 to 45 MPH. However, due to the approach density along the southern portion of the road, the narrow width of the road, the gravel section in the middle of the road segment, and the low pace speeds, it is appropriate to post a more restrictive speed limit.

Recommendations

Based on the current operational data for Valley Drive, the currently posted 35 MPH speed limit appears to be appropriate. It is recommended that the posted speed limit on Valley Drive remain at 35 MPH. The recommendation is based on the existing road conditions along Valley Drive and the existing vehicle speed profiles. The road is narrower and has a higher approach density than the other north/south roads in this area (Wylie Drive and Lake Helena Drive). The available data suggests that the existing 35 MPH speed limit is appropriate for the existing conditions. If you have any questions about these results please feel free to call me at 406-459-1443

Sincerely,



Bob Abelin, P.E.
Abelin Traffic Services, Inc.

Valley Drive

Section Number	Length	Start	End	Road	Condition	SB Lane	SB Lane	Road	Road	Speed Avg.		85% Speed	Pace	% in Pace	Road Width
										Limit	Speed				
1	0.7	0.0	0.7	Lewis St				Bandera Dr		35					24.6
2	0.7	0.7	1.4	Bandera Dr				Canal		35	40.3	30-40		78%	22.7
3	0.3	1.4	1.6	Canal				Byron Road (CFR)		35					Var.
4	0.6	1.6	2.2	Byron Road				Eichhoff Rd		35	44.4	35-45		67%	23.5
5	0.3	2.2	2.5	Eichhoff Rd				Howard Rd		35					23.5
6	0.5	2.5	3.0	Howard Rd				South of Ayden Dr		35	43.4	30-40		56%	25.0
7	0.5	3.0	3.5	South of Ayden				York Road		35	42.3	30-40		63%	25.3

Section Number	NB Lane	SB Lane	Road	Condition	Roadside Environment	Alignment	ROW			Total Approach Percent ADT		
							Width	App.	Density	Trucks	Volume	Trucks
1	12.3	11.0	Good	Residential/Open Land	Straight	55	29	40.8				2910
2	11.0	11.7	Moderate	East - Open Land	Straight	55	20	30.3	2.5%			2910
3	11.0	11.7	Good	Residential/Commercial	Straight	75	8	30.8				2266
4	11.2	12.3	Moderate	Residential/Commercial	Straight	75	14	25.5	4.5%			2266
5	11.2	12.3	Moderate	Residential/Commercial	Straight	120	6	18.2				1713
6	N/A	N/A	Gravel	Residential/Commercial	Straight	120	7	13.7	13.4%			1713
7	12.5	12.8	Good	Residential/Commercial	Straight	120	14	27.5	3.8%			464
							Avg.			26.7		

Helena Valley – Existing and Proposed Speed Limits

LOCATION	Existing Speed Limit	Proposed Speed Limit	Change
Wylie Drive			
East Helena Step-Down	25 to 45 MPH	25 to 45 MPH	No Change
East Helena Step-Down to Canyon Ferry Road	55 MPH	45 MPH	Decrease by 10 MPH
Canyon Ferry Road to York Road	55 MPH	45 MPH	Decrease by 10 MPH
Valley Drive			
East Helena to Canyon Ferry Road	35 MPH	35 MPH	No Change
Canyon Ferry Road to York Road	35 MPH	35 MPH	No Change
Lake Helena Drive			
East Helena to Canyon Ferry Road	45 MPH	45 MPH	No Change
Canyon Ferry Road to York Road	50 MPH	45 MPH	Decrease by 5 MPH
York Road to Deal Lane	40 MPH	45 MPH	Increase by 5 MPH
Deal Lane to Causeway	35 MPH	35 MPH	No Change

