



129,000 Pound Evaluation of SH-55 MP 36.10 to MP 42.88 (Case #201801SH-55)

Executive Summary

Handy Truck Line, Inc. submitted a request for 129,000 pound trucking approval on SH-55 between I-84 at milepost (MP) 36.10 and SH-44 at MP 42.88. The requestor will transport bulk sand from Emmett to facilities in Utah. This section of SH-55 is designated a “red route” requiring all trucks to adhere to 6.5-foot off-track and 115-foot overall vehicle length criteria. ITD Bridge Section evaluated the five bridges on the requested section of highway and confirms all are capable of supporting 129,000 pound vehicles. District 3 evaluation describes the route as asphalt pavement in good to fair condition with no deficient sections. The Office of Highway Safety analysis shows this section of SH-55 has eleven Non-Interstate High Accident Intersection Locations (HAL) in the top 100, including 10 of the top 25, and has six HAL clusters. Division of Motor Vehicles, Bridge Asset Management, Office of Highway Safety and District 3 all recommend proceeding with this request.

Detailed Analysis

Department of Motor Vehicles (DMV) Review

All Idaho Transportation Department routes are currently categorized by their ability to handle various extra-length vehicle combinations and their off-tracking allowances. The categories used when considering allowing vehicle combinations to carry increased axle weights above 105,500 pounds and up to 129,000 pounds are:

- Blue routes at 95 foot overall vehicle length and a 5.50-foot off-track
- Red routes at 115 foot overall vehicle length and a 6.50-foot off-track.

Off-tracking is the turning radius of the vehicle combination, which assists in keeping them safely in their lane of travel. Off-tracking occurs because the rear wheels of trailer trucks do not pivot, and therefore will not follow the same path as the front wheels. The greater the distance between the front wheels and the rear wheels of the vehicle, the greater the amount of off-track. The DMV confirms that the requested route falls under one of the above categories and meets all length and off-tracking requirements for that route. **More specifically, the requested section of SH-55 from milepost 36.10 to 42.88 is designated as a red route and as such all trucks must adhere to the 6.5-foot off-track and 115 foot overall vehicle length criteria.**

Bridge Section Review

Bridges on all publicly owned routes in Idaho, with the exception of those meeting specific criteria, are inspected every two years at a minimum to ensure they can safely accommodate vehicles. A variety of inspections may be performed including routine inspections, in-depth inspections, underwater inspections, and complex bridge inspections. All are done to track the current condition of a bridge and make repairs if needed.





When determining the truck-carrying capacity of a bridge, consideration is given to the types of vehicles that routinely use the bridge and the condition of the bridge. Load limits may be placed on a bridge if, through engineering analysis, it is determined the bridge cannot carry legal truck loads.

ITD Bridge Asset Management has reviewed the **five** bridges pertaining to this request and has determined they will safely support the 129,000-pound truck load, provided the truck's axle configuration conforms to legal requirements. To review load rating data for each of the bridges, see the Bridge Data chart below.

District 3 Evaluation

This segment has been evaluated and the District recommends approval.

District Three has evaluated the roadway characteristics, pavement condition, and traffic volumes on SH-55 between MP 36.10 – MP 42.88 in response to the request to make this segment a 129,000-pound trucking route.

The basis of this request is to reduce the number of loads of bulk sand hauled from the Unimin plant in Emmett to the final destination in Utah. Details of the evaluation are provided below.

Roadway Characteristics

State Highway 55 is a 6.8 mile long urban principal arterial connecting SH-44 in Eagle, US-20/26 and Interstate 84.

The roadway is four to six lanes with a center island, multiple left turn bays at intersections, multiple right turn bays and a few unprotected left / U-turn bays. This section of SH-55 consist of multiple use areas, several large shopping centers, several large residential developments, one middle school, one large hospital and a medical center.

The route is straight; there are 16 traffic signals and one at grade rail road crossing. There are a couple of short grades, being four lanes there are no defined passing lanes. The grades are not of sufficient length or slope to warrant runaway truck escape ramps. The speed limit varies between 45 and 55 miles per hour.

This section of SH-55 connects to I-84 at MP 36.10 (Interchange 46) allowing vehicles to travel east or west on I-84.

The roadway geometry is outlined in the table below.



Table 1. SH-55 Roadway Geometry

MILEPOSTS	THROUGH LANES	LEFT TURN LANE	SHOULDER	PARKING LANE
36.10 – 36.84	6 – 3 each direction	Yes	Yes	No
	12'	14'	-	-
36.84 – 38.60	3 lanes NB – 2 lanes SB	Yes	Yes	No
	12'	14'		-
38.60 – 42.88	4 - 2 each direction	Yes	Yes	No
	12'	14'		-

NB – Northbound
 SB – Southbound

Pavement Condition

The road is asphalt pavement and is in good to fair condition; it is not considered deficient in cracking, rutting or ride.

Table 2. 2018 TAMS Visual Survey Data

MILEPOSTS	PAVEMENT TYPE	DEFICIENT (YES/NO)	CONDITION STATE	CRACKING INDEX	ROUGHNESS INDEX	RUT AVERAGE (IN)
36.10 – 36.84	Flexible	No	Good	5.0	3.33	.24
36.84 – 37.94	Flexible	No	Fair	4.0	3.51	.26
37.94 – 39.00	Flexible	No	Fair	4.5	3.84	.28
39.00 – 41.40	Flexible	No	Fair	4.5	3.84	.28
41.40 – 42.88	Flexible	No	Good	4.5	3.56	.24

Traffic Volumes

The speed limit of the highway varies between 45 and 55 mph, there are sixteen traffic signals in this section. The traffic is made up of light vehicle and local commercial traffic.

Table 3. 2016 Traffic Volumes

MILEPOSTS	AADT	CAADT	% TRUCKS
36.10 – 36.84	44059	1060	2.4
36.84 – 37.94	49091	909	1.8
37.94 – 41.40	44638	880	1.9
41.40 – 42.88	39417	1628	4.1

Truck Ramps / Port of Entry (POE)

No runaway truck ramps exist. There are no provisions for a roving POE station.





Highway Safety Evaluation

This section of SH-55 has eleven Non-Interstate HALs in the top 100, including 10 of the top 25, and has six HAL clusters.

Analyses of the 5-year accident data (2012-2016) shows there were a total of 1,277 crashes involving 2,873 units (2 fatalities and 797 injuries) on SH-55 between MP 36.1 to MP 42.879 (I-84 to SH-44) of which 15 crashes involved a tractor-trailer combination. Of the crashes involving tractor trailers, the most prevalent contributing circumstances were following too close, inattention, improper lane change, and failure to yield. These crashes resulted in one fatality and four injuries. The fatality resulted from inattention by the passenger vehicle.

Table 4. Table of HAL Segments on SH-55

Route	Statewide Rank	Milepost Range	Length (miles)	County
SH 55	1	36.943	Intersection	Ada
SH 55	2.5	37.945	Intersection	Ada
SH 55	2.5	38.937	Intersection	Ada
SH 55	8	42.879	Intersection	Ada
SH 55	10	38.195	Intersection	Ada
SH 55	11	39.942	Intersection	Ada
SH 55	21	37.446	Intersection	Ada
SH 55	22	36.100	Intersection	Ada
SH 55	24	38.434	Intersection	Ada
SH 55	25	36.677	Intersection	Ada
SH 55	74	39.474	Intersection	Ada
SH 55	7	38.891-39.891	1.0	Ada
SH 55	66	36.936-37.934	0.998	Ada
SH 55	67.5	37.934-38.891	0.957	Ada
SH 55	70	36.429-36.582	0.153	Ada
SH 55	74	36.100-36.429	0.329	Ada
SH 55	76	36.582-36.936	0.354	Ada



Additional Data:

Bridge Data:

Route Number: SH-55
Department: Bridge Asset Management
Date: 7/23/2018

Route	From:	I-84 Junction
	Milepost:	36.10
	To:	Eagle, ID
	Milepost:	42.88

Highway Number	Milepost Marker	Bridge Key	121 Rating ^a (lbs)
55	36.32	26280	302,000
55	39.60	15171	434,000
55	41.78	15175	184,000
55	42.49	15177	528,000
55	42.54	15180	210,000

^a: The bridge is adequate if it has a rating value greater than 121,000 pounds or is designated as "OK EJ" (okay by engineering judgment).