129,000 Pound Evaluation of SH-46
M.P. 85.33 to M.P 100.15
(Case #201903SH46)

Executive Summary

Idaho Milk Transport submitted a request for 129,000 pound trucking approval on SH-46 between milepost (MP) 85.33 at the intersection with US30 in Buhl and MP 100.15 at the intersection with I84 at exit 157, for transportation of milk. Currently 872 trips are made annually at 105,500 pounds but if approved will reduce the number to 730. The requested section of SH-46 is designated as red routes and as such all trucks must adhere to the 6.5-foot off-track and 115 foot overall vehicle length criteria. ITD Bridge Section confirms the five bridge on the route will safely support 129,000 pound vehicles. District 4 analysis shows this section of road in good condition. The Office of Highway Safety analysis shows this section of SH46 doesn't have a Non-Interstate High Accident Intersection Locations (HAL) and doesn't have a HAL Cluster. Department of Motor Vehicles, Highway Safety, Bridge Asset Management and District 4 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 routes 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-46 from milepost 85.33 to milepost 100.15 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 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.

ITD District 4 Evaluation

This segment has been evaluated and the District recommends proceeding with requested route. Evaluation starting point extended to M.P. 85.248 to junction with U.S. 30.

District Four has evaluated the roadway characteristics, pavement condition, and traffic volumes on SH-46 M.P. 85.248 to 100.15 in response to the request to make this segment a 129,000-pound trucking route to service Idaho Milk Transport. The District has found no concerns with this action and recommends proceeding. Details of the evaluation are provided below.

Roadway Characteristics

This section of road is a rural major collector. The first mile in the south starts with approximately one mile within city of Buhl and terminates at Exit 157 at I-84 at the south end of Wendell. The section traverses through the Snake River canyon via the Clear Lake Grade. The roadway geometry is outlined in the table below.

Table 1. SH-37 Roadway Geometry

MILEPOSTS	THROUGH LANES	TWO-WAY LEFT TURN LANE (TWLTL)	SHOULDER	PARKING LANE
SH46 85.248 – 88.000	2 – 1 each direction	No	Yes	No
	12’	-	1’ - 2’	-
SH46 88.000 – 90.914	2 – 1 each direction	No	Yes	No
	12’	-	2’ - 3’	-
SH46 90.914 – 91.875	2 – 1 each direction*	No	Yes	No
	12’	-	1’ - 2’	-
SH46 91.875-92.902	2 – 1 each direction	No	Yes	No
	12’	-	1’ - 2’	-
SH46 92.902 – 95.362	2 – 1 each direction	No	Yes	No
	12’	-	1’ - 2’	-
SH46 95.362 – 98.000	2 – 1 each direction	No	Yes	No
	12’	-	1’ - 2’	-
SH46 98.000 – 100.000	2 – 1 each direction	No	Yes	No
	12’	-	1’ - 2’	-
SH46 100.000 – 100.228	4 – 2 each direction	No	Yes	No
	12’	(one-way left turn bays)	2’ - 3’	-

* Northbound 2 lanes on Clear Lake Grade M.P. 90.995 – 91.895.

Pavement Condition

The road is asphalt pavement and is in fair to good condition; it is not considered deficient in cracking, rutting or ride. Several projects have been completed in the last decade to improve roadway conditions

including reconstruction of M.P. 96.6 to 97.7 in 2009, , reconstructed the SH46/Bob Barton Road intersection in 2015, rebuilt two canal culverts at M.P. 93.4 and 99.3 in 2016, overlay of SH46 M.P. 90.8 to 100 in 2017 and M.P. 85.248 to 90.8 in 2018.

Spring breakup limits do not pertain to this section at this time.

Table 2. 2018 TAMS Visual Survey Data

Route	Milepost	Pavement Type	Deficient	Condition State	Cracking Index	Roughness Index	Rut Average
SH46	85.248-88.000	Flexible	No	Fair	3.00	2.76	No Data
SH46	88.000-90.914	Flexible	No	Fair	3.00	3.37	No Data
SH46	90.914-91.875	Flexible	No	Good	4.30	2.89	No Data
SH46	91.875-92.902	Flexible	No	Good	4.30	2.89	No Data
SH46	92.902-95.362	Flexible	No	Fair	3.00	2.55	No Data
SH46	95.362-98.000	Flexible	No	Fair	4.30	3.61	No Data
SH46	98.000-100.000	Flexible	No	Good	3.50	3.54	No Data
SH46	100.000-100.228	Flexible	No	Good	4.40	2.41	No Data

Traffic Volumes

The speed limit of the highway varies between 35 and 50 mph. There is one stop lights in this segment, at the intersection with US-30 at the south end of the route in Buhl. The traffic volumes are provided below.

Table 3. 2017 Traffic Volumes

MILEPOSTS	AADT	CAADT	% TRUCKS
SH46 85.248 – 88.000	3826	492	12.8
SH46 88.000 – 90.914	3449	557	16.1
SH46 90.914 – 91.875	3400	600	17.6
SH46 91.875-92.902	3400	600	17.6
SH46 92.902 – 95.362	3600	305	8.4
SH46 95.362 – 98.000	3315	258	7.7
SH46 98.000 – 100.000	3100	260	8.4
SH46 100.000 – 100.228	7820	404	5.1

Truck Ramps

This section is relatively flat with the exception of the Snake River canyon/Clear Lake Grade between M.P. 88.5 to 91.9. No runaway truck ramps exist, however the highway does have a northbound passing lane north of the Snake River. There are other passing opportunities in the section.

Port of Entry (POE)

The POE does not maintain any facilities in this section, but has a roving port location north of Wendell about two miles from this route.

Highway Safety Evaluation

This SH 46 segment has no Non-Interstate High Accident Intersection Locations (HALs) and no HAL Clusters. The locations are shown in the table below with their statewide ranking.

Analyses of the 5-year accident data (2014-2018) shows there were a total of 79 crashes involving 115 units (0 fatalities and 44 Injuries) on SH 46 between MP 41.5 and 48.3 of which 6 crashes involved tractor-trailer combinations. Two of the injuries were due to crashes with tractor trailers.

Additional Data:

Bridge Data:

Route Number:	SH 46
Department:	Bridge Asset Management
Date:	11/6/2019

Route		
	From:	Wendell, ID
	Milepost:	100.15
	To:	Buhl, ID
	Milepost:	85.33

Highway Number	Milepost Marker	Bridge Key	121 Rating[a] (lbs)
46	100.04	14320	244,000
46	99.30	34411	569,800
46	95.32	34406	892,000
46	93.37	34401	330,000
46	90.83	19355	156,000

[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).