



129,000 Pound Evaluation of US-26 M.P. 276.53 to M.P 306.104 (Case #201616US26D5)

Executive Summary

Handy Truck Line, Inc. submitted a request for 129,000 pound trucking approval on US-26 between mile post (MP) 272.0 and MP 306.104 for transportation of cement which is divided between ITD Districts 5 and 6. This evaluation is for the District 5 segment covering MP 276.53 – MP 306.104. The request projects up to 20 trips annually which is a 15-25% reduction from current operations. This section of US-26 is coded a “Red Route,” where vehicles with 115-foot overall length and 6.5-foot off-track are authorized. ITD Bridge Section confirms the five bridges on the route will safely support 129,000 pound vehicles. District and Materials section evaluations determined this section of roadway capable of handling 129,000 pound vehicles with no long term concerns. The Office of Highway Safety analysis shows this section of US-26 has no Non-Interstate High Accident Location (HAL) Intersections and has two HAL Clusters. In addition, there are no local roads requests required with this application. Department of Motor Vehicles Services, Materials Section, Highway Safety, Bridge Asset Management and District 5 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 US-26 from MP 276.53 to MP 306.104 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.

Materials Section Review

The Idaho Transportation Department's 129,000 pound pilot project report to the Idaho State Legislature in 2013 states, "For pavements, axle weight is a more significant determinant of pavement damage than gross vehicle weight. Truck weight limits that allow a higher GVW distributed over more axles do not necessarily lead to higher pavement costs and can even produce savings." Based on the increased number of axles required for 129,000 pound vehicles to maintain legal axle weights, the equivalent single axle loads (ESAL) for 129,000 pound vehicles are lower than for 80,000 pound and 105,500 pound vehicles. The implementation of the 129,000 pound configuration also reduces the number of truck trips compared to performing the same work with 80,000 or 105,000 pound trucks. The reduction in truck traffic further reduces the pavement wear. Therefore, for this section of roadway, our assessment is the increased vehicle weight with a corresponding increased number of axles will reduce loads per axle compared to 80,000 or 105,500 pound vehicles and thereby produce lower loads on the road surface and subsurface resulting in equal or lesser damage.

ITD District Evaluation

This segment has been evaluated and District 5 recommends proceeding.

Districts 5 evaluated the roadway characteristics, pavement condition, and traffic volumes on US-26 between MP 276.53 and MP 306.104 in response to the request to make this segment a 129,000-pound trucking route to service Handy Truck Line, Inc. The District found no concerns with this action and recommends proceeding. Details of the evaluation are provided below.

Roadway Characteristics

This section of road is an undivided principle arterial with the roadway geometry is outlined in the table below.

Table 1. US-26 Roadway Geometry

	THROUGH LANES	TWO-WAY LEFT TURN LANE (TWLTL)	SHOULDER	PARKING LANE
272-303.68	2 – 1 each direction	No	Yes	No
	12'	-	4'	-
303.68- 306.104	4 – 2 each direction	Yes	Yes	No
	12'	14'	4'-6'	-

Pavement Condition

The road is asphalt pavement and is in good to fair condition and is not deficient in cracking, roughness, or ruts. The entire section had a seal coat in 2014. Another seal coat is scheduled for 2022. The Aberdeen Canal Bridge at MP 301.406 and the Peoples Canal Bridge at MP 300.70 are scheduled for replacement in 2018. These projects will involve minor approach paving.

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

Table 2. 2015 TAMS Visual Survey Data

MILEPOST	PAVEMENT TYPE	DEFICIENT (YES/NO)	CONDITION STATE
276.53 – 287.00	Flexible	No	Fair
287.00 – 300.712	Flexible	No	Good
300.712 – 303.70	Flexible	No	Fair
303.70 – 304.090	Flexible	No	Good
304.090 – 306.104	Flexible	No	Fair

Traffic Volumes

The speed limit of the highway varies from 40 - 65 mph with commercial vehicle volumes ranging from 190 daily near Atomic City to 620 daily in Blackfoot. This accounts for 13% - 20% of the routes daily traffic.

Truck Ramps

Due to the flat nature of this segment, no runaway truck ramps exist.

Port of Entry (POE)

The POE maintains a rover site on this section of highway and conducts regular checks of the traffic.

Highway Safety Evaluation

This US-26 segment has no Non-Interstate High Accident Location (HAL) Intersections but has two HAL Clusters which are shown in the table below and ranked both by State and District. Analyses of the 5-year accident data shows there were a total of 141 crashes with 2 fatalities and 88 injuries on US-26 between MP 276.53 and MP 306.14 of which only 9 crashes involved tractor-trailer combinations. Of the crashes involving tractor trailers, the most prevalent contributing circumstances were inattention, following too close and improper turn. Six injuries and zero fatalities are due to crashes with tractor trailers. Implementation of 129,000 pound trucking is projected to reduce truck traffic on this route.

Table of HAL Segments US-20/26:

Route	Statewide Rank	Milepost Range	Length (miles)	County
US-20/26	183.5	303.376-304.098	0.722	Bingham
US-20/26	707	304.098-305.090	0.992	Bingham

Additional Data:***Bridge Data:***

Route Number: US 26
Department: Bridge Asset Management
Date: 7/26/2016

Route	From:	US 26/US 20 Junction
	Milepost:	272.00
	To:	US 26/I-15 Junction
	Milepost:	306.104

Highway Number	Milepost Marker	Bridge Key	121 Rating^a (lbs)
26	300.72	13205	146,000
26	301.41	13210	132,000
26	303.38	13215	156,000
26	305.34	13220	478,000
26	305.80	13225	196,000

^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).