



129,000 Pound Evaluation of US-95 M.P. 371.69 to M.P 430.56 (Case #201623US95D1)

Executive Summary

Doug Andrus Distributing submitted a request for 129,000 pound trucking approval on US-95 between mile post (MP) 311.92 and MP 522.0 for transportation of road salt for the Idaho Transportation Department plus fertilizer and lumber. This request covers the District 1 portion of the request from MP 371.69 to MP 430.56. The southern portion of the request, from MP 311.92 to MP 371.69, is being evaluated under case #201623US95D2, and MP 430.56 to MP 522.0 is being evaluated under request 201622US95 submitted by Pocock Trucking. Doug Andrus Distributing projects up to 916 trips annually which is a 15-25% reduction from current operations. This section of US-95 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 30 bridges on the route will safely support 129,000 pound vehicles. The Department's Materials Section evaluation shows that 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. The Office of Highway Safety analysis shows this section of US-95 has five Non-Interstate High Accident Intersection Locations (HAL) and has twenty HAL Clusters with details provided below. Department of Motor Vehicles, Materials Section, Highway Safety and Bridge Asset Management 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 US-95 from milepost 371.69 to 430.56 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 **30 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.

Highway Safety Evaluation

This US-95 segment has five Non-Interstate High Accident Intersection Locations (HAL) and has twenty HAL Clusters. The locations are shown in the table below with their statewide ranking.

Analyses of the 5-year accident data (2011-2015) shows there were a total of 727 crashes involving 1,019 units (11 fatalities and 369 Injuries) on US-95 between MP 371.671 and MP 430.558 of which 30 crashes involved tractor-trailer combinations. Of the crashes involving tractor trailers, the most prevalent contributing circumstances were inattention, failure to maintain lane, animal(s) in roadway, and speed too fast for conditions. Ten injuries and none of the 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 95:

Route	Statewide Rank	Milepost Range	Length (miles)	County
US 95	95	430.318	Intersection	Kootenai
US 95	289	429.995	Intersection	Kootenai
US 95	299	430.181	Intersection	Kootenai
US 95	476	429.612	Intersection	Kootenai
US 95	512	429.869	Intersection	Kootenai
US 95	41	396.877-397.877	1	Benewah
US 95	120.5	398.055-399.055	1	Kootenai
US 95	190	392.720-393.720	1	Benewah
US 95	243.5	386.304-387.502	1.198	Benewah
US 95	276	430.318-430.558	0.240	Kootenai
US 95	315	401.670-401.962	0.292	Kootenai
US 95	316	382.450-386.304	3.854	Benewah
US 95	343.5	413.978-414.978	1	Kootenai
US 95	377	429.151-429.612	0.461	Kootenai
US 95	379	421.210-423.210	2	Kootenai
US 95	434	374.159-378.159	4.0	Benewah
US 95	442	417.769-419.769	2	Kootenai
US 95	555	371.736-374.159	2.423	Benewah
US 95	573.5	420.269-421.210	0.941	Kootenai
US 95	623	388.372-391.872	3.5	Benewah
US 95	633	416.969-417.769	0.8	Kootenai
US 95	692.5	412.728-413.978	1.25	Kootenai
US 95	747	379.751-381.041	1.29	Benewah
US 95	751	407.043-409.543	2.5	Kootenai
US 95	817.5	415.478-416.469	0.991	Kootenai

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

Route Number: US 95
Department: Bridge Asset Management
Date: 11/7/2016

Route	From:	D-1/2 Boundary
	Milepost:	371.69
	To:	I-90
	Milepost:	430.56

Highway Number	Milepost Marker	Bridge Key	121 Rating ^a (lbs)
95	373.19	18550	OK EJ
95	373.96	18555	OK EJ
95	375.07	18560	OK EJ
95	378.05	18565	1,008,000
95	378.67	18570	232,000
95	381.08	18575	262,000
95	381.64	18580	OK EJ
95	386.18	18585	314,000
95	388.59	18590	OK EJ
95	389.01	18595	OK EJ
95	393.35	18600	232,000
95	394.44	33480	1,114,000
95	395.05	33485	1,148,000
95	395.27	18604	334,000
95	396.20	33495	OK EJ
95	398.75	18605	438,000
95	404.11	18612	OK EJ
95	407.29	33500	260,000
95	409.37	33510	338,000
95	411.60	33550	298,000
95	415.50	33540	314,000
95	416.87	18646	322,000
95	417.36	18648	896,000
95	417.80	18649	894,000
95	420.73	18652	286,000
95	421.32	18665	258,000
95	426.49	18670	242,000
95	428.98	18675	230,000

Highway Number	Milepost Marker	Bridge Key	121 Rating^a (lbs)
95	429.40	18680	210,000
95	429.62	18685	292,000

^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).