



# Evaluation of Idaho 16 (Milepost 97.90 to Milepost 100.00) and U.S. 20-26 (Milepost 34.27 to Milepost 52.81) (Cases: #201508SH16 and #201509US20)

## Executive Summary

Arlo G. Lott Trucking submitted a request for 129,000 pound trucking approval on State Highway 16 and US Highway 20/26 for transporting primarily lumber, steel, grain and fertilizer. The trucking company submitted two route requests; one for US-20/26 between mile post (M.P.) 34.27 and M.P. 52.81 and one for State Highway (SH)-16 between M.P. 97.90 and M.P. 100.00, which are combined in this evaluation. The request projects up to 1,750 loads annually. District 3, the Department of Motor Vehicles (DMV) and Bridge Asset Management all recommend proceeding with the request.

The route supports necessary off-track requirements up to 6.5-foot off-track and 115-foot overall vehicle length; and bridges will safely support 129,000 pound vehicles. The requested roadways are generally in fair to good condition with both Average Annual Daily Traffic (AADT) and Commercial Average Annual Daily Traffic (CAADT) rated as heavy. The SH-16 segment has no High Accident Locations (HAL) of record. The US-20/26 segment has two Non-Interstate HAL Intersections and three HAL Clusters. Analyses of the 5-year accident data shows there were a total of 1,442 crashes involving 3,098 units (823 injuries & 5 fatalities) on US-20/26 between Mile Post (MP) 34.27 and MP 52.81 of which only 33 crashes involved tractor-trailer combinations. Of the crashes involving tractor trailers, most were due to following too closely or intersection related accidents. There were two injuries and zero fatalities due to crashes with tractor trailers.

## 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 the requested routes fall under one of the above categories and meet all length and off-tracking requirements for that route.**

## Bridge Review

Bridges on all publicly owned routes in Idaho 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 **eleven** bridges pertaining to these requests and 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 3 Evaluation

These segments have been evaluated and the District recommends proceeding.

**General:** The requested SH-16 route is the portion of new expressway running from the junction of US-20/26 in the Meridian area to the junction of SH-44. The requested US-20/26 route is the portion of highway running from the junction of Idaho 16, then along Chinden to the junction I-184, then on the Downtown Connector to 13<sup>th</sup> Street, then on Front/Myrtle Streets (couplet) between 13<sup>th</sup> and Broadway, then along Broadway Avenue to the junction with I-84.

This request would add SH-16 and US-20/26 to the broad network of somewhat unconnected 129,000 pound highways in District 3, with the preclusion of I-84 due to current federal restrictions being the primary impediment to full connectivity.

The requested roadways are generally in fair to good condition, and feature 2 to 10 lanes total of 11' to 12' wide with 6' to 10' paved shoulders except where there is curb and gutter. Parking exists on portions US-20/26 where it follows Broadway Avenue in Boise. There are a couple small deficient pavement areas in intersections in Downtown Boise.

Both AADT and CAADT are rated as heavy. This route is posted at 35 to 55 mph with at least one school zones at 25 mph. The terrain is flat and there are no significant grades on any of the routes. Portions of US-20/26 between Meridian and Boise operate at or over capacity in peak hours, but 129,000 pound configurations are not expected to affect this condition. There are no geometric concerns on the highways.

The US-20/26 portion in Boise is District 3's first significant 129,000 pound request on a high-volume urban section of highway, but no special concerns are known with regard to the urban nature of the route. At present, there are no local 129,000 pound routes approved that connect to these segments, and they do not connect with any other approved 129,000 pound corridors except SH-44 via the proposed segment of SH-16.

TAMS data provided below shows pavement conditions and high accident locations.

**Operations field review:** The rural portions of the routes in this request are maintained by two ITD Maintenance Foremen in the summer and three ITD Maintenance Foremen in the winter. ACHD maintains a portion of US-20/26 where it is located on Chinden Blvd, on Front/Myrtle Streets, and on Broadway Avenue per agreement with ITD.

The requested routes are currently red routes on the Extra-Length Truck Map which allows extra length loads on annual permits up to 115 feet total and 6.5 feet of off tracking.

The Foremen expressed no particular concerns with the requested route other than the high volume of traffic, and the prior planning it takes to load/unload or turn-around along the route. All expressed that they expect most large loads to serve this area at night or during other low-traffic times.

**Safety:** The SH-16 segment has no High Accident Locations of record. The US-20/26 segment has two Non-Interstate High Accident Location (HAL) Intersections and three HAL Clusters which are shown in the table below and ranked both by State and District. These locations would take major investments to fix, and have been studied but not yet programmed due to funding limitations. The accidents at these locations are primarily volume-related.

Analyses of the 5-year accident data show there were a total of 1442 crashes involving 3098 units (823 injuries & 5 fatalities) on US-20/26 between MP 34.27 and MP 52.81 of which only 33 crashes involved tractor-trailer combinations. Of the crashes involving tractor trailers, most of them were due to following too closely or intersection related. Two injuries and zero fatalities are due to crashes with tractor trailers.

Based on this information, the addition of the 129,000 pound capacity tractor trailer combinations should not have a significant impact on safety.

Table of HAL Segments US-20/26:

Route	Statewide Rank	Milepost Range	Length (miles)	County
US-20/26	2	40.229	Intersection	Ada
US-20/26	11	37.258	Intersection	Ada
US-20/26	32	40.229-40.729	0.500	Ada
US-20/26	60	49.829-50.329	0.500	Ada
US-20/26	75	46.120-46.620	0.500	Ada

**Public Concerns:** District 3 will be meeting with local officials along the route in the near future to provide an explanation of the permitting process for the 129,000 loads, including the opportunity to present questions/concerns at a hearing to be scheduled in the future.

There are no local road segments in this request that fall within District 3.

**Truck Ramps:**

No runaway truck ramps exist on the District 3 portion of the route.



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### *Tams Pavement Condition Data:*

Year	Route	MP From	MP To	Length	Pavement	Deficient	Functional Class	Deficient	CI	RI	Ruts (in)	Condition	AADT	CAADT	Speed
2014	SH016	97.902	100.000	2.098	Rigid	No	Rural Principal Arterial	None	5	2.94	0.07	Fair	7600	600	65
2014	SH016	97.902	100.000	2.098	Rigid	No	Rural Principal Arterial	None	5	3.16	0.07	Good	7600	600	65

Year	Route	MP From	MP To	Length	Pavement	Deficient	Functional Class	Deficient	CI	RI	Ruts (in)	Condition	AADT	CAADT	Speed
2013	US020	33.400	40.116	6.716	Flexible	No	Urban Principal Arterial	None	3.3	2.97	0.27	Fair	16805	671	55
2013	US020	40.116	41.080	0.964	Flexible	No	Urban Principal Arterial	None	3.3	2.64	0.13	Fair	22500	600	55
2013	US020	41.080	42.587	1.507	Flexible	No	Urban Principal Arterial	None	4.8	3.15	0.17	Good	24139	589	55
2013	US020	42.587	44.170	1.583	Flexible	No	Urban Principal Arterial	None	4	3.17	0.17	Good	28520	561	45
2013	US020	44.170	44.380	0.210	Flexible	No	Urban Principal Arterial	None	4.8	3.06	0.19	Good	32000	710	35
2013	US020	44.380	45.800	1.420	Flexible	No	Urban Principal Arterial	None	4.5	2.93	0.21	Fair	31448	710	35
2013	US020	45.800	46.828	1.028	Flexible	No	Urban Principal Arterial	None	3.5	2.75	0.22	Fair	31210	715	35
2013	US020	46.828	47.250	0.422	Flexible	No	Urban Principal Arterial	None	3.5	3.03	0.21	Good	24230	915	35
2013	US020	47.250	48.131	0.881	Rigid	Yes	Urban Principal Arterial	RI	4.3	2.48	0.11	Poor	26454	1461	60
2013	US020	48.131	48.505	0.374	Rigid	No	Urban Principal Arterial	None	4.3	3.25	0.08	Good	31000	1000	45
2013	US020	48.505	49.681	1.176	Flexible	No	Urban Principal Arterial	None	5	2.71	0.13	Fair	28293	938	35
2013	US020	49.829	50.050	0.221	Flexible	Yes	Urban Principal Arterial	RI	2.7	1.25	0.29	Very Poor	25000	920	0
2013	US020	50.050	50.429	0.379	Flexible	No	Urban Principal Arterial	None	4.5	1.53	0.21	Good	24881	920	0
2013	US020	50.429	51.960	1.531	Flexible	No	Urban Principal Arterial	None	4	3.37	0.16	Good	24908	1102	35
2013	US020	52.120	52.812	0.692	Flexible	No	Urban Principal Arterial	None	4.8	2.71	0.07	Fair	35591	2744	45
2013	US020	52.120	52.812	0.692	Flexible	No	Urban Principal Arterial	None	4.8	2.85	0.10	Fair	35591	2744	45



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### **Bridge Data:**

**Route Number:** US 20  
**Department:** Bridge Asset Management  
**Date:** 6/24/2015  
**From:** Star, ID  
**Milepost:** 34.27  
**To:** Boise, ID  
**Milepost:** 52.81

Highway Number	Milepost Marker	Bridge Key	121 Rating <sup>a</sup> (lbs)
20	47.35	18998	280,000
20	47.57	12263	304,000
20	47.82	12264	200,000
20	48.28	12773	282,000
20	49.85	12267	OK EJ
20	49.94	12270	142,000
20	51.95	12275	328,000
20	52.54	12285	194,000

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).

**Route Number:** SH 16  
**Department:** Bridge Asset Management  
**Date:** 6/24/2015  
**From:** Star, ID  
**Milepost:** 97.90  
**To:** Star, ID  
**Milepost:** 100.00

Highway Number	Milepost Marker	Bridge Key	121 Rating <sup>a</sup> (lbs)
16	98.39	34010	414,000
16	98.42	34020	284,000
16	99.20	34015	238,000

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).