## (D) 129,000 Pound Pilot Project

## Idaho

Transportation Department

# 129,000 POUND PILOT PROJECT 

REPORT TO THE 62nd IDAHO STATE LEGISLATURE


JANUARY 2013

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## EXECUTIVE SUMMARY

In 2003, the Idaho Legislature passed House Bill 395, which created a pilot project to test the effect of increasing the legal truck weights on State Highways. Trucks configured to increase gross vehicle weight (GVW) from 105,500 pounds to 129,000 pounds were permitted on 16 specified routes. In 2005 and 2007, an additional 19 routes were included for a total of 35 specified routes. At the time the Idaho pilot project began, four states that border Idaho (Montana, Utah, Nevada and Wyoming) already permitted trucks with gross vehicles weights greater than 105,500 pounds.

The Idaho Transportation Department (ITD) was tasked with studying the impacts of the pilot project on roadway safety, bridges, and pavement, and reporting to the Legislature every three years. Previous reports were submitted to the Legislature in 2007 and 2010. This is the final report of ITD's observations over the 10 years of the pilot project.

Between fiscal years 2004 and 2012, there were 264,169 pilot project trips made by 1,359 trucks from 127 different shipping companies. The main commodities hauled were sugar beets, hazardous waste, aggregates, agricultural feed, coal, and hay.


ITD did not observe any significant effect of the 129,000 pound pilot project trucks on pavements, bridges, or roadway safety. Project participants have reported economic benefits associated with this pilot project. Amalgamated Sugar Company estimated that they saved over $\$ 2.5$ million during the pilot project. US Ecology, Inc. estimated that they had a $6 \%$ reduction in the number of trips per year amounting to an estimated total of 7,800 loads since 2004 using pilot project trucks. Their estimated savings from trip reductions has been $\$ 70,000-\$ 180,000$ per year.


## 129,000 POUND PILOT PROJECT

## BACKGROUND

For years, the trucking industry has requested that the Legislature increase the maximum allowable gross vehicle weight on State routes. They asserted that this weight increase would reduce the number of trips, therefore reducing costs.

House Bill 623 established the first 129,000 pound pilot project in 1998, allowing 129,000 pound gross vehicle weight trucks on two State routes. It ran from 1998-2001, but because of very limited participation, the results of industry savings or effect on pavements, bridges, or safety were inconclusive. The trucking industry reported that because of the limited routes and short project time frame, it was not economically feasible to purchase specialized vehicles or convert any of their current fleet.

In 2003, the Idaho Legislature reestablished the 129,000 pound pilot project program with the passing of House Bill 395. The bill established a new 10-year study similar to the one implemented in 1998, providing haulers the option to transport heavier loads (up to a GVW of 129,000 pounds) if they purchased a special permit from ITD and used trucks specifically configured to carry the extra weight (see Figure 1 for typical truck configuration). The bill also granted local public highway agencies the authority to allow or disallow the pilot project vehicles on roads in their jurisdiction. Additional routes were added in 2005 (House Bill 146) and 2007 (Senate Bills 1138 and 1180), for a total of 35 designated routes. Senate Bill 1390 in 2008 revised the descriptions of some of the routes for clarification.

House Bill 395 directed the Idaho Transportation Department to "report to the Legislature on the effect of the pilot project program. The Department shall report on the results of its monitoring and evaluation of all important impacts, including impacts to safety, bridges, and pavement on all the State pilot project routes designated." As required, previous reports were submitted to the Legislature in 2007 and 2010. This report is the final report including all observations over the past 10 years.

FIGURE 1


Typical truck configured for 105,500 pounds GVW. (8 axles)


Pilot project truck configured for 105,500 to 129,000 pounds GVW. (10 axles)

## NATIONAL RESEARCH

The National Cooperative Highway Research Program (NCHRP) developed a Directory of Significant Truck Size and Weight Research under NCHRP Project 20-07, Task 303 to provide a brief, well organized summary of significant research related to large truck size and weight for use by decision-makers. The Directory was published in October, 2011. This research generated some pertinent information on pavements, bridges, and safety summarized below.

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. Pavement damage typically varies by design/road classification; the same weight vehicle will do exponentially more damage to a rural road than an interstate highway.

For bridges, proposed increases to truck size and weight limits are consistently predicted to increase infrastructure costs. The number of axles on a truck has little impact on bridges; bridge stress is affected more by the total amount of load than by the number of axles. Bridge stress generally increases with axle group weight and, except on some continuous bridges with long
 spans, generally decreases with the separating distance.


Regarding safety, with some consistency, heavier trucks were associated with less crashes due to fewer trucks needed, but higher crash severity. Oversized, overweight trucks were observed to have slightly higher crash rates due to vehicle handling and stability characteristics. Overall, results relating to truck configuration are inconclusive.

At the time the Idaho pilot project began, four states that border Idaho already permitted trucks with gross vehicle weights greater than 105,500 pounds. Because none of these states have changed their weight policies in many years, it is an indication that they do not consider the heavier trucks to be detrimental. Montana, Utah and Nevada allow gross weights of 129,000 pounds or higher using Federal Bridge Formula B. Wyoming allows 117,000 pounds on Interstate highways and higher gross weights for noninterstate routes. Federal Bridge Formula B is used to determine maximum axle weights and groups of axle weights as well as gross weight. These weight calculations are determined by the number of axles and the axle spacing of the vehicle configuration.

## ECONOMIC IMPACT

House Bill 395, which established the 129,000 pound pilot project in 2003 contained the following in its Statement of Purpose:
"Idaho's sugar beet, potato, wheat and grain, milk and phosphate industries have identified a small number of state highways in southwest, south-central and southeastern Idaho that they would use if selected as test routes under the new pilot project that this bill creates. These industries calcu-
late that over the 10 year life of the new pilot project they will save millions of dollars in transportation costs because heavier trucks substantially reduce the total number of truck trips necessary to transport their commodities. Because the routes in the bill will be used by these industries, the data necessary to fully evaluate the use of 129,000 pound trucks can finally be obtained."

In order to determine how the pilot project has impacted industry, we looked at studies from other states and we received statements from the companies who have had the greatest participation in the pilot project.

According to the Directory of Significant Truck Size and Weight Research, increased truck size and weight limits consistently result in industry cost savings and the magnitude of industry cost savings varies by carrier type, the nature of transportation services offered, and typical commodities transported. Estimated industry cost savings - attributable to increased truck size and weight limits and subsequent use of alternative configurations - generally range from 1.4 to 11.4 percent of annual transport costs in the United States.

In a study titled Infrastructure and Economic Impacts of Changes in Truck Weight Regulations in Montana published by Montana State University in Transportation Research Record 1653, the authors note:
"The infrastructure costs ... are but one way in which truck weight limits affect the state's economy. The other economic effect, usually not addressed in truck size and weight studies, is the effect on economic productivity and its consequences."

The Montana study also states "An increase in maximum GVW has a positive impact on the state's economy."

In Idaho, US Ecology, Incorporated (USEI) reported a 3\% reduction in costs per year by reducing the number of trips and increasing the payload transported per load from 66,000 pounds to 78,000 pounds, while at the same time slightly reducing average axle weights. They estimate an approximate $6 \%$ reduction in the total number of trips per year amounting to an estimated total of 7,800 loads since 2004 using pilot project trucks. Their estimated savings from trip reductions has been $\$ 70,000-\$ 180,000$ per year. They also realized a large indirect benefit when the Mountain Home Highway District (MHHD) authorized pilot project trucks on roads under its jurisdiction in 2004. This provided an opportunity for USEI to partner with MHHD and the J.R. Simplot Company to pave Simco Road near their rail transfer facility in Elmore County. USEI was then able to bypass the city of Mountain Home and reduce truckmiles traveled, thereby reducing their costs. USEI has estimated their annual savings from paving Simco road to be $\$ 1 \mathrm{M}-\$ 2.1 \mathrm{M}$ per year depending on their yearly volume.

The Amalgamated Sugar Company, LLC uses Transystems, Inc. to haul their sugar beets. They reported a total three-year savings of $\$ 289,573$ for the first three years of the pilot project (2004-2006); a yearly savings between $\$ 250,000$ and $\$ 350,000$ for each year from 2007-2009; and a savings of over $\$ 450,000$ for each year from 2010-2012. They reported that tonnage hauled on pilot project routes has increased from roughly three-quarters of a million tons each year to over 1.3 million tons over the course of the ten years. In the 2011-2012 crop year they reported an estimated 6,212 round trips reduced and an estimated 54,855 gallons of diesel fuel saved through use of pilot project trucks.


Burns Concrete 11-axle bulk cement powder transfer truck for pilot program routes.


Burns Concrete 10-axle aggregate transfer truck and trailer for pilot program routes.


Burns Concrete 5-axle truck and 5-axle pup for pilot program routes.

Several of the industries noted in the Statement of Purpose for House Bill 395 have not been able to participate in the pilot project because the inability to use Interstate Highway routes has limited connectivity to important destinations for these industries. Without the connectivity, they cannot achieve sufficient cost savings to justify the cost of acquiring new trucks or converting existing trucks to be able to haul the additional weight.

## DATA COLLECTION

## Trips

As a condition of their permit, trucking companies were required to enter into a database the commodity, trip date, origin, destination, and routes traveled for each pilot project load hauled. They entered the information via an online data collection form within 30 days of the trip. Descriptive statistics on this data is presented in Appendix B. During the first three years of the pilot project, trucking companies were sent questionnaires aimed at determining strengths and weaknesses of the program.

## Safety

The Office of Highway Safety continuously compiles crash data in an effort to identify disproportionately dangerous road segments and to track improvements in safety. Crashes are separated into categories of
vehicle crashes and commercial vehicle crashes. Pilot program truck crashes were not able to be tracked separately from commercial vehicle crashes. Truck crash rates include all commercial motor vehicle crashes and not just those trucks over 105,500 pounds gross vehicle weight. Commercial motor vehicles are buses, truck tractors, tractor-trailer combinations, trucks with more than two axles, trucks with more than two tires per axle, or trucks exceeding 8,000 pounds gross vehicle weight.

Crashes are tracked on each roadway segment and measured in total number of crashes and crash rate per hundred million vehicle miles traveled. Truck crash rates fluctuate more dramatically than vehicle crash rates because the numbers involved are much smaller, and a small change in the number of crashes can result in a large change in the crash rate.

## Pavement

Pavement deterioration, over time, is caused by a variety of factors including but not limited to traffic volume and loading; moisture; allowable speed limit; terrain type; solar radiation; and temperature changes. Pavement data is collected annually by both a Pathways Profiler van that measures International Roughness Index and rutting depth, and by visual windshield survey for cracking on all state highways. This data is averaged over road segments to measure a cracking index, roughness index, and rutting depth.

Cracking Index: Repeated cycles of axle loads can cause progressive cracking which results in pavement deterioration. This cracking is due to both the axle weight of each vehicle and the accumulation of the incremental damage that occurs after each axle load passes.

A condition index (Cracking Index) between 0.0 and 5.0 is given to the pavement, based on size and location of cracks, percentage of the roadway surveyed that shows distress, and type of road surface. A 5.0 rating is good pavement with no visible distress and 0.0 is maximum distress. Additionally, the roadways are rated for 6 different types of cracking, and each of those cracking types is assessed for severity and extent (low, medium, and high).

Roughness Index: ITD uses a worldwide standard for measuring pavement smoothness called the International Roughness Index, or IRI. IRI was developed by the World Bank in the 1980's and is used in all of the states, as well as several countries. IRI is used to define a characteristic of the longitudinal profile of a traveled wheel track and constitutes a standardized roughness measurement. The commonly recommended units are meters per kilometer ( $\mathrm{m} / \mathrm{km}$ ) or millimeters per meter ( $\mathrm{mm} / \mathrm{m}$ ). IRI is gathered by the Profiler van.

The index measures pavement roughness in terms of the number of inches per mile that a laser, mounted on the

Profiler van, jumps as the van is driven along the roadway. Typically, the lower the IRI number, the smoother the ride; but IRI is not known as a direct measure of rider discomfort.

Idaho takes the measured IRI values for pavement and compresses them onto a 0.0-5.0 scale, similar to the Cracking Index scale, where 0.0 is very rough and 5.0 is very smooth. ITD calls this the pavement Roughness Index, or "RI". These numbers are collected and reported annually.

Rutting: Like cracking, rutting is dependent upon both the axle load and the number of passes of the axle load. However, because the characteristic (stiffness) of an asphalt pavement that helps it resist rutting can actually make the pavement more prone to cracking, rutting is measured independently to assure the pavement is providing the optimal service. Rutting is the average (in inches) of the rutting that occurs in the left and right wheel paths. This data is collected by the Pathways Profiler Van.

From 1995 to 2008 ITD used Pathway ${ }^{\circledR}$ Profiler van technology and its predecessors to gather the majority of the pavement data. In 2008 ITD purchased a new road profiler van that greatly enhances the quality and quantity of data that can be obtained and processed. The profiler van drives every mile of the state highway system annually and records its progress on video images of both the front view out of the van and the pavement surface. With the new van, the images are of much higher resolution and the rutting detection lasers have been vastly improved. Previous versions used five laser points to collect rutting data; the new van employs 1,280 points.

## Bridges

The Code of Federal Regulations requires every state transportation department to conduct bi-annual bridge inspections (pilot route bridges were inspected annually) of all bridges on State routes for the National Bridge Inventory (NBI). As part of the NBI inspection bridge inspectors assign a condition rating for the bridge deck, superstructure, and substructure.

Deck: The bridge deck is the element most susceptible to damage from heavy vehicles. It can exhibit all the same distresses of pavements including rutting, and cracking. The deck rating is on a scale of $0-9$ where a 9 represents a new deck and 0 represents a bridge that is closed to service due to a poor deck condition.

Superstructure: The bridge superstructure includes all structural members of the bridge. The superstructure should be less susceptible to damage from heavy vehicles but the damage may be less apparent and more likely to cause a catastrophic failure. The superstructure rating is on a scale of $0-9$ where a 9 represents a new superstructure and 0 represents a bridge that is closed to service due to a poor superstructure condition.

Substructure: The bridge substructure includes piers, abutments, piles, fenders, and footings. Deterioration of the substructure is typically due to environmental conditions such as water flow and channel migration rather than traffic. The substructure rating is on a scale of $0-9$ where a 9 represents a new substructure and 0 represents a bridge that is closed to service due to a poor substructure condition.

## DISCUSSION OF STUDY DATA

## Trips

Reported data indicates 127 trucking companies with 1,359 trucks configured to haul a maximum of 129,000 pounds made 264,169 trips on the 35 specified pilot project routes. Of those trucking companies, 12 companies hauled 1 load, 43 companies hauled less than 10 loads, 79 companies hauled less than 100 loads, and 110 companies hauled less than 1,000 loads. Transystems, US Ecology, Inc. and Burns Concrete hauled more than 10,000 loads each, accounting for nearly $80 \%$ ( 180,991 loads) of the total loads. Transystems accounted for more than half of the total loads with 126,999 total loads. The most heavily utilized routes were SH-24, SH-25, and SH-78.

There was a $110 \%$ increase in participation in the pilot project between FY 2007 and FY 2008 due to the addition of 18 routes by the Legislature. There were 94,160 total trips made on these additional routes through FY 2012. It allowed additional shipping companies to participate in the pilot program and provided enhanced efficiency for those companies already participating.

## Safety

For the purpose of analysis, a crash rate for all vehicles and trucks was calculated for individual pilot project routes, all project routes combined, the most utilized pilot project routes (SH-24, 25, 78) and all State Roads including the Interstate system. Crash rates were calculated for five time periods, one before the pilot project and four during the pilot project. For full results refer to Appendix C.

There was very little difference in the total vehicles crash rate between the pilot project routes, most utilized pilot project routes, and all routes. There was a slight increase (Table 1) in the crash rate for trucks on pilot routes compared to commercial crash rates on non-pilot routes. There was also an increase on the most utilized pilot project routes in comparison to the rest of the pilot routes and non-pilot routes.

Table 1: Commercial Vehicle Crash Rates per Hundred Million Vehicle Miles Traveled.

|  | FY 2001- <br> $\mathbf{2 0 0 3}$ | FY 2004- <br> $\mathbf{2 0 0 6}$ | FY 2007 | FY 2008- <br> $\mathbf{2 0 0 9}$ | FY 2010- <br> $\mathbf{2 0 1 2}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| All Pilot Routes | 103.94 | 118.93 | 127.67 | 115.69 | 64.00 |
| Pilot SH-24, 25, 78 | 227.78 | 301.45 | 209.46 | 141.92 | 152.63 |
| All State Routes | 86.74 | 90.31 | 87.99 | 85.62 | 36.30 |

None of the increases in crash rates observed are statistically significant. ITD was not able to track pilot project trucks separately from all trucks. ITD requested crash information from the two main haulers. US Ecology, Inc. reported that none of their pilot project trucks were involved in any crashes during the pilot project period. Transystems reported that pilot project trucks were involved in 17 total crashes during the pilot project of which one included an injury and one included a fatality.

## Pavement

For the purpose of the analysis, all State Highways in Districts 3, 4, 5, and 6 were separated into two groups:

- Non-pilot project routes which are routes that were never part of the pilot project, and
- Pilot project routes which were at some point involved in the pilot project.

A subset of the most utilized pilot project routes (SH-24, 25, and 78) was also analyzed. A weighted average for the rutting depth, roughness index, and cracking index was calculated for each year. All segments with incomplete data were removed from the analysis.

The weighted average for rutting, cracking index, and roughness index for each year were plotted, the results are included in Appendix D. The difference between the weighted average in 2003 prior to the pilot project, and 2012, after the pilot project, are presented below in Table 2. This number represents the deterioration that occurred over that time span, a positive number indicates an improvement.

Table 2: Change in Pavement Indices from 2003-2012.

|  | Rutting | Cracking Index | Roughness Index |
| :--- | :---: | :---: | :---: |
| Pilot | 0.015 | 0.434 | 0.074 |
| Pilot 24, 25, 78 | -0.011 | 0.227 | -0.594 |
| Non-Pilot | -0.005 | 0.412 | 0.098 |

For rutting depths, the pilot routes improved slightly while the non-pilot and most heavily traveled pilot routes deteriorated slightly.

The roughness index improved for both the pilot and non-pilot routes but it deteriorated on the most utilized routes. None of these differences were statistically significant.

The cracking index improved for all groups, improving most for the pilot routes and least for the most utilized pilot routes.

The improvement of rutting depth, roughness index and cracking index can be attributed to the pavement projects that were performed on these routes as part of the maintenance that our Districts perform to keep pavement serviceable to the public.

## Bridges

For the purpose of analysis, all bridges on State Highways were split into groups: Bridges on Pilot Project routes since 2003 ( 120 bridges), non-pilot project bridges since 2003 ( 1,180 bridges), and the most utilized pilot project routes SH-24, SH-25, and SH-78 (16 bridges). For the pilot project routes that were added to the study in 2008 ( 133 bridges,) the Inspector bridge ratings were compared before and after their inclusion in the project. Bridges that were built during this time period (2003-2011), and bridges that did not have ratings for the entire 10 year period were removed from the analysis.

Table 3: Change in Bridge Condition Indices from 2003-2012.

|  | Deck | Superstructure | Substructure |
| :--- | :---: | :---: | :---: |
| Pilot | -0.031 | -0.036 | -0.030 |
| Pilot SH-24, 25, 78 | -0.025 | -0.033 | -0.024 |
| Non-Pilot | -0.021 | -0.007 | 0.000 |

Deck, superstructure, and substructure ratings for all three groups deteriorated, with the pilot routes deteriorating the most followed by the most utilized pilot routes, then the non-pilot routes. These results are interesting in that one would expect that if the pilot trucks were causing the observed increase in damage
between the pilot and non-pilot routes, you would see an increase in the deterioration on the most utilized routes over all the pilot routes, which was not the case.

No significant differences were observed in the rate of deterioration on deck, superstructure, and substructure inspector ratings for pilot project bridges, the heaviest used pilot project bridges, and non-pilot project bridges. No significant differences were observed in the rate of deterioration on deck, superstructure, and substructure inspector ratings for the added bridges before and after inclusion in the pilot project. Please refer to Appendix E for the full results.

## ISSUES AFFECTING DATA ANALYSIS

There are several issues that have complicated the data analysis for the 129,000 pound pilot project:

- Small sample size
- Pilot project truck impacts vs. annual permit trucks and other truck impacts
- Pavement and bridge rehabilitation
- Route changes


## Small sample size

The number of trips made by the project trucks represents a small portion of the total truck traffic on the study routes, and an even smaller portion of the total vehicle volume on most of the routes. Even for those highways most heavily used by study participants (i.e. portions of SH-24, SH-25 and SH-78), the pilot project trucks generally make up less than two percent of the total truck volume. For example, the highest volume of pilot project trips occurred on SH-24 where 97,969 trips were recorded during the past 10 years. By comparison, the ten-year total truck volume for this route was nearly 1.7 million trucks and the 10 -year total traffic was 38.4 million vehicles.

## Pilot project truck impacts vs. annual permit trucks and other truck impacts

Pavement deterioration over time is caused by a variety of factors, such as traffic volume and loading, moisture, terrain type, allowable speed limit, and temperature changes. Repeated cycles of axle loads can cause progressive cracking which results in pavement deterioration. This cracking is due to both the axle weight of each vehicle and the accumulation of the incremental damage that occurs after each axle load passes. It is not possible to determine what portion of pavement cracking is attributable to pilot project trucks, what portion is due to all other trucks, and what portion is due to moisture and temperature changes.

Annual overweight permits are issued to companies to allow them to haul non-reducible loads in excess of legal weights on designated routes that include all of the pilot project routes. Each permit is issued for a specific truck, but the number and location of the trips made by these trucks is unknown, as they are only required to report the mileage that they travel. Due to the overall weights and the individual axle weights of the trucks allowed by these annual permits, they can exceed those allowed for pilot project trucks, and their effect on pavements and bridges may be considerable. The ratio of annual overweight permits issued compared to pilot project truck permits has been about 20:1.

Also, although the number of non-permitted (illegal) overweight trucks is not known, their impact can be quite significant. The weight carried by these trucks is often concentrated on a limited number of axles within a short wheelbase. This type of configuration is the most damaging to both pavements and bridges, and can also be a safety concern because the truck carries more weight than it was designed to handle.

## Pavement and bridge rehabilitation

Planned pavement preservation projects, such as seal coats and maintenance overlays, continue to occur on pilot project routes. Maintenance and preservation projects like sealcoats and thin overlays improve a crack indices by 0.3 points. Larger and deeper projects, such as mill and inlays, cold in place recycles, and partial depth reclamations return a pavement to its best condition at 5.0. It is not possible to establish if there is any long-term pavement deterioration caused by the pilot project in these areas.

Since 2003, bridge rehabilitation and replacement projects on the pilot project routes have continued as scheduled. Since bridge condition is positively influenced by this work, it poses a problem in evaluating the effect of the pilot project on bridges similar to that discussed for pavements.

## Route changes

A total of 16 pilot project routes were originally designated in House Bill 395 in 2003. In 2005, the Idaho Legislature passed House Bill 146 which corrected a segment of an originally designated route and resulted in a total of 17 designated routes. In 2007, Senate Bill 1138 was passed which corrected the descriptions of three routes and added 17 new routes for a total of 34 designated routes. Later in the same session. Senate Bill 1180 was passed and added one more route for a total of 35 designated routes.

The goal of adding new highway segments to the study was to increase participation. However, even though the addition of routes has resulted in a proportionate increase in permits, it also means that only half of the routes will have been monitored for the entire duration of the study.

## CONCLUSIONS

ITD did not observe any significant effect of the 129,000 pound pilot project trucks on pavements, bridges, or safety. The pilot project trucks comprise a small percentage of the overall truck traffic. The collected data has a high variability due to untracked annual permits, illegal loads, and continued pavement and bridge rehabilitation.

There is no basis in national research or current pavement stress models to expect that more weight spread over more axles would cause more damage to flexible asphalt pavements, and none was observed. National research has suggested that rigid concrete pavement may experience increased damage due to some axle combinations, but this relationship has had mixed results in research. This research did not include any pilot project routes on concrete pavement.

National research has suggested that bridges may be more susceptible to damage from vehicles with a higher gross vehicle weight regardless of the amount of axles but it was not observed in this study. A 129,000 pound load exceeds the inventory rating on many State bridges but not the operating rating. According to AASHTO Guidelines (The Manual for Bridge Evaluation) allowing unlimited numbers of vehicles to use the bridge at operating level may shorten the life of the bridge.

Project participants have reported economic benefits associated with this pilot project. Amalgamated Sugar Company estimated that they saved over $\$ 2.5$ million during the pilot project. US Ecology, Inc. estimated that they had a $6 \%$ reduction in the number of trips per year amounting to an estimated total of 7,800 loads since 2004 using pilot project trucks. Their estimated savings from trip reductions has been $\$ 70,000-\$ 180,000$ per year.

## APPENDIX A

## Route Information


Pilot Project Routes


| ROUTE | HIGHWAY | $\begin{gathered} \text { ITD } \\ \text { SEGMENT } \\ \text { CODE } \\ \hline \end{gathered}$ | BEGIN MILEPOST | END <br> MILEPOST | LENGTH | DESCRIPTION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| e | SH-19 | 002050 | 9.070 | 19.860 | 10.790 | Junction with US-95 (Wilder) to junction with 1-84B (Caldwell) |
|  | Total Length $=$ |  |  |  | 10.790 | Miles |
| f | SH-78 | 002190 | 0.000 | 76.004 | 76.004 | Junction with SH-55 (Marsing) to junction with SH-51 |
|  | SH-51 | 002170 | 69.918 | 76.582 | 6.664 | Junction with SH-78 to junction with SH-78 |
|  | SH-78 | 002190 | 82.680 | 98.640 | 15.960 | Junction with SH-51 to junction with 1-84B (Hammett) |
|  | Total Length = |  |  |  | 98.628 | Miles |
| g | SH-67 | 005320 | 0.000 | 2.735 | 2.735 | Junction with SH-78 (Grandview) to milepost 2.735 |
|  | SH-67 | 016410 | 2.735 | 3.123 | 0.388 | Milepost 2.735 to milepost 3.123 |
|  | SH-67 | 005320 | 3.230 | 16.319 | 13.089 | Milepost 3.230 to Grandview Road |
|  | SH-67 | 002180 | 1.471 | 8.948 | 7.477 | Grandview Road to junction with SH-51 (Mountain Home) |
|  | Total Length $=$ |  |  |  | 23.689 | Miles |
| h | SH-55 | 001990 | 0.000 | 10.614 | 10.614 | Junction with US-95 to junction with Farmway Road |
|  | Total Length $=$ |  |  |  | 10.614 | Miles |
| i | SH-25 | 002270 | 46.025 | 50.830 | 4.805 | Junction with SH-27 (Paul) to its junction with SH-24. |
|  | SH-25 | 025310 | 50.830 | 50.978 | 0.148 |  |
|  | Total Length $=$ |  |  |  | 4.953 | Miles |
| j | SH-25 | 002270 | 5.353 | 27.000 | 21.647 | Junction with US-93 to milepost 27 (Hazelton) |
|  | Total Length $=$ |  |  |  | 21.647 | Miles |
| k | SH-24 | 002280 | 3.549 | 3.735 | 0.186 | Junction with SH-25 to junction with old SH-25 |
|  | SH-24 | 002270 | 51.068 | 52.455 | 1.387 | Junction with SH-25 to junction with SH-25 |
|  | SH-24 | 002280 | 5.120 | 67.533 | 62.413 | Junction with SH-25 to junction with US-93 |
|  | Total Length $=$ |  |  |  | 63.986 | Miles |
| I | US-20 | 002240 | 256.073 | 272.000 | 15.927 | Junction with SH-22/33 to junction with US-26 |
|  | US-20 | 002070 | 263.770 | 303.512 | 39.742 | Junction with US-26 to Shelley New Sweden Road |
|  | Total Length $=$ |  |  |  | 55.669 | Miles |
| m | SH-34 | 002360 | 7.620 | 50.476 | 42.856 | Junction with US-91 to junction with US-30 |
|  | US-30 | 002040 | 386.450 | 387.020 | 0.570 | Junction with SH-34 to milepost 387.020 |
|  | US-30 | 002040 | 399.026 | 405.543 | 6.517 | Milepost 399.026 to junction with SH-34 |
|  | SH-34 | 002360 | 57.757 | 78.000 | 20.243 | Junction with US-30 to milepost 78 |
|  | Total Length $=$ |  |  |  | 70.186 | Miles |
| n | I-15B | 001380 | 4.526 | 5.250 | 0.724 | Yellowstone Avenue from junction with US-91 to Gallatin Road |
|  | Total Length $=$ |  |  |  | 0.724 | Miles |
| - | US-91 | 002350 | 120.561 | 122.866 | 2.305 | Junction with Canyon Road to junction with l-15B |
|  | US-91 | 001380 | 2.323 | 4.526 | 2.203 | Junction with l-15B to junction with US-26 (Sunnyside Road) |
|  | Total Length $=$ |  |  |  | 4.508 | Miles |
| p | SH-22 | 002470 | 24.670 | 68.606 | 43.936 | Junction with SH-33 to junction with I-15 NB ramps (Dubois) |
|  | Total Length $=43.936$ |  |  |  |  | Miles |


| ROUTE | HIGHWAY | $\begin{gathered} \text { ITD } \\ \text { SEGMENT } \\ \text { CODE } \end{gathered}$ | BEGIN MILEPOST | END MILEPOST | LENGTH | DESCRIPTION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| q | SH-45 | 002160 | 9.740 | 27.725 | 17.985 | Junction with SH-78 to intersection of 2nd Street South and 11th Avenue (Nampa) |
|  | SH-45 | 002161 | 27.580 | 27.650 | 0.070 | Intersection of 3rd Street S and 12th Avenue to intersection of 3rd Street S and 11th Ave. |
|  | 1-84B | 002040 | 57.935 | 58.665 | 0.730 | Junction with SH-55 to intersection of 11th Avenue S and 3rd Street S (eastbound) |
|  | I-84B | 002042 | 57.904 | 58.670 | 0.766 | Junction with SH-55 to intersection of 11th Avenue S and 2nd Street S (westbound) |
|  | SH-45 Conn | 015992 | 0.000 | 0.250 | 0.250 | Junction with SH-78 to junction with SH-45 |
|  | Total Length $=$ |  |  |  | 19.801 | Miles |
| r | SH-87 | 002520 | 0.000 | 9.133 | 9.133 | Montana border to junction with US-20 |
|  | Total Length $=$ |  |  |  | 9.133 | Miles |
| s | SH-33 Spur | 002460 | 99.335 | 100.000 | 0.665 | Junction with US-20 to junction with SH-33 |
|  | SH-33 | 002460 | 100.000 | 135.830 | 35.830 | Junction with SH-33 Spur to MP 135.83 |
|  | SH-33 | 002460 | 136.000 | 149.622 | 13.622 | MP 136.00 to junction with SH-31 (Victor). |
|  | Total Length $=$ |  |  |  | 50.117 | Miles |
| t | SH-28 | 002500 | 15.150 | 30.610 | 15.460 | Junction with SH-22 to junction with SH-33 |
|  | Total Length = |  |  |  | 15.460 | Miles |
| $u$ | SH-38 | 002320 | 0.689 | 1.318 | 0.629 | Milepost 0.689 to milepost 1.318 at Malad |
|  | Total Length = |  |  |  | 0.629 | Miles |
| v | SH-27 | 002290 | 0.000 | 21.807 | 21.807 | Milepost 0 (Oakley) to junction with 1-84B |
|  | 1-84B | 002290 | 21.807 | 24.106 | 2.299 | Junction with I-84B to I-84 WB on-ramp IC\#208 |
|  | SH-27 | 002290 | 24.106 | 26.561 | 2.455 | 1-84 WB on-ramp IC\#208 to junction with SH-25 (Paul) |
|  | Total Length $=\mathbf{2 6 . 5 6 1}$ |  |  |  |  | Miles |
| w | SH-81 | 002310 | 0.000 | 33.978 | 33.978 | Junction with SH-77 (Malta) to junction with US-30 (Burley) |
|  | Total Length $=$ |  |  |  | 33.978 | Miles |
| x | US-30 | 002040 | 223.505 | 257.481 | 33.976 | Junction with SH-50 at Kimberly to junction with SH-27 at Burley |
|  | 1-84B | 002040 | 257.481 | 258.723 | 1.242 | Junction with SH-27 at Burley to junction with SH-81 at Burley |
|  | Total Length $=$ |  |  |  | 35.218 | Miles |
| y | US-93 Spur | 002221 | 0.000 | 0.910 | 0.910 | Junction with US-30 to junction with US-93 at Twin Falls |
|  | Total Length $=$ |  |  |  | 0.910 | Miles |
| z | US-93 B | 002220 | 46.549 | 47.457 | 0.908 | Junction with US-30 to junction with US-93 spur at Twin Falls |
|  | Total Length $=$ |  |  |  | 0.908 | Miles |
| aa | US-30 | 002040 | 172.595 | 212.078 | 39.483 | Junction with 1-84B at Bliss to junction with US-93 east of Filer |
|  | US-93 B | 002040 | 212.078 | 216.899 | 4.821 | Junction with US-30 east of Filer to Washington Street at Twin Falls |
|  | US-30 | 002040 | 216.899 | 216.925 | 0.026 | Addison Avenue from Washington Street to MP 216.925 |
|  | US-30 | 002040 | 217.186 | 217.915 | 0.729 | MP 217.186 to junction with SH-74 (Shoshone Street) |
|  | US-93 B | 002043 | 217.199 | 217.282 | 0.083 | Addison Avenue from Washington Street to 2nd Avenue N |
|  | US-30 | 002043 | 217.282 | 217.931 | 0.649 | 2nd Avenue N from US-93 (Addison Avenue) to SH-74 (Shoshone Street) |
|  | Total Length $=45.791$ |  |  |  |  | Miles |


| ROUTE | HIGHWAY | ITD SEGMENT CODE | $\begin{gathered} \text { BEGIN } \\ \text { MILEPOST } \end{gathered}$ | END MILEPOST | LENGTH | DESCRIPTION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| bb | 1-848 | 002240 | 138.600 | 138.970 | 0.370 | Junction with US-30 (Bliss) to junction with I-84 WB on/off ramps IC\#141 |
|  | US-26 | 002240 | 138.970 | 165.928 | 26.958 | Junction with I-84 WB on/off ramps IC\#141 to junction with SH-75 (Shoshone) |
|  | Total Length $=$ |  |  |  | 27.328 | Miles |
| cc | SH-46 Spur | 002201 | 0.000 | 1.187 | 1.187 | Junction with I-84 EB on/off ramps IC\#155 to junction with SH-46 (Wendell)) |
|  | Total Length $=$ |  |  |  | 1.187 | Miles |
| dd | SH-46 | 002200 | 100.000 | 116.998 | 16.998 | Junction with I-84 EB on/off ramps IC\#157 (Wendell) to MP 116.998 |
|  | SH-46 | 002202 | 116.998 | 118.951 | 1.953 | Milepost 116.998 to milepost 118.951 |
|  | SH-46 | 002200 | 118.951 | 142.470 | 23.519 | MP 118.951 to junction with US-20 |
|  | Total Length $=$ |  |  |  | 42.470 | Miles |
| ee | 1-84B | 002170 | 93.538 | 95.308 | 1.770 | Junction with SH-51 to Milepast 95.308 |
|  | $1-84 \mathrm{~B}$ | 002070 | 95.308 | 95.467 | 0.159 | Milepost 95.308 to junction with US-20 |
|  | US-20 | 002070 | 95.467 | 105.940 | 10.473 | Junction 1-84B to Milepost 105.94 |
|  | US-20 | 002070 | 106.000 | 112.910 | 6.910 | Milepost 106.000 to Milepost 112.910 |
|  | US-20 | 002070 | 112.980 | 195.483 | 82.503 | Milepost 112.980 to Milepost 195.483 |
|  | US-20 | 002070 | 195.530 | 196.039 | 0.509 | Milepost 195.530 to junction with US-93 at Carey |
|  | SH-51 | 002170 | 90.785 | 92.240 | 1.455 | Junction with SH-67 to Jackson Street in Mountain Home |
|  | SH-51 | 001021 | 4.062 | 4.206 | 0.144 | Junction with I-84B to Jackson Street |
|  | SH-51 | 001020 | 4.116 | 4.309 | 0.193 | Junction with $1-84 \mathrm{~B}$ to end divided SH-51 |
|  | Total Length $=104.116$ |  |  |  |  | Miles |
| ff | SH-51 | 002170 | 76.582 | 90.785 | 14.203 | Junction with SH-78 to Junction with SH-67 |
|  | Total Length $=$ |  |  |  | 14.203 | Miles |
| gg | SH-44 | 002130 | 0.000 | 16.180 | 16.180 | Junction with 1-84 EB on/off ramps IC\#25 to begin Eagle Bypass (Eagle) |
|  | SH-44 | 015914 | 16.180 | 17.640 | 1.460 | Begin Eagle Bypass (Eagle) to Junction with SH-55 (Eagle) |
|  | Total Length $=17.640$ |  |  |  |  | Miles |
| hh | US-20 | 002070 | 9.647 | 22.129 | 14.203 | Junction with US-95 (Parma) to junction with I-84 WB on/off ramps IC\#26 |
|  | Total Length $=$ |  |  |  | 14.203 | Miles |
| ii | 1-158 | 001380 | 5.250 | 6.315 | 1.065 | Yellowstone Avenue from Gallatin Road to junction with US-20B (Broadway) |
|  | US-20B | 002240 | 333.044 | 334.374 | 1.330 | Yellowstone Avenue from Broadway Avenue to Holmes Avenue |
|  | US-20B | 002073 | 2.270 | 3.717 | 1.447 | Holmes Avenue from Yellowstone Avenue to Junction with US-20 |
|  | US-20 | 002070 | 309.883 | 338.927 | 29.044 | Junction with US-20B at Holmes Avenue in Idaho Falls to junction with SH-33at Sugar City |
|  | Total Length $=$ |  |  |  | 32.886 | Miles |

## PILOT PROJECT ROUTE DESCRIPTIONS

2003 House Bill 395: Designated 16 pilot project routes.
2005 House Bill 146: Changed description of route ( n ), added 1 route.
2007 Senate Bill 1138:
2007
2008
Senate Bill 1180:
Changed description of routes (a), (n), and (q), added 17 routes.
Added 1 route.
Senate Bill 1390:
Changed several route descriptions to clarify beginning and end.

## 2003 PILOT PROJECT ROUTES (HB 395)

(a) Ashton to Kimberly to Twin Falls to Nevada using US-20, US-30, SH-33, US-93, SH-25, SH-50 and SH-74.
(b) US-91 from its junction with SH-34 to the Utah border.
(c) US-30 from its junction with I-15 to the Wyoming border.
(d) US-95 south from Fruitland to junction with SH-55.
(e) SH-19 between Wilder and Caldwell.
(f) SH-78 between Marsing and Hammett.
(g) SH-67 from Mountain Home to junction with SH-78 at Grandview.
(h) SH-55 from intersection with Farmway Road to junction with US-95.
(i) SH-25 from the intersection of SH-24 to Paul.
(j) SH-25 from intersection with US-93 to Hazelton.
(k) SH-24 from intersection with US-93 to intersection with SH-25.
(l) US-20 from its intersection with New Sweden Road to its junction with SH-22/33.
(m) SH-34 from milepost 78 to the junction with US-91.
(n) US-26 from the intersection with 45th West to the junction with US-91; and US-91 from the intersection with Canyon Road to the junction with US-26.
(o) SH-22 from Dubois to the junction with SH-33.
(p) SH-45 from junction with SH-78 to intersection with I-84 business loop; I-84 business loop to intersection with SH-55; SH-55 to I-84 interchange no. 35.

## 2005 PILOT PROJECT ROUTES (HB 146)

(a) through (m) remained the same
(n) US-26 from the intersection with 45th West to the junction with US-91; and US-26 from its junction with US-91 north to its intersection with Gallatin/West 23rd Street.
(o) US-91 from the intersection with Canyon Road to the junction with US-26.
(p) SH-22 from Dubois to the junction with SH-33.
(q) SH-45 from junction with SH-78 to intersection with I-84 business loop; I-84 business loop to intersection with SH-55; SH-55 to I-84 interchange no. 35.

## 2007 PILOT PROJECT ROUTES (SB 1138)

(a) Montana border to Kimberly to Twin Falls to Nevada using US-20, US-30, SH-33, US-93, SH-25, SH-50 and SH-74.
(b) through ( m ) remained the same.
(n) US-26 from its junction with US-91 north to its intersection with Gallatin/West 23rd Street in Idaho Falls.
(o) and (p) remained the same.
(q) SH-45 from junction with SH-78 to intersection with I-84 business loop; I-84 business loop to intersection with Nampa Boulevard.
(r) SH-87 from Montana border to junction with US-20.
(s) SH-33 from Victor to junction with US-20.
(t) SH-28 from junction with SH-22 to junction with SH-33.
(u) SH-38 from milepost 0.689 to milepost 1.318 at Malad.
(v) SH-27 from junction with SH-25 at Paul to Oakley.
(w) SH-81 from Malta to junction with US-30 at Burley.
(x) US-30 from junction with SH-81 at Burley to junction with SH-50 at Kimberly.
(y) US-93 spur from junction with US-30 to junction with US-93 at Twin Falls.
(z) US-93 from junction with US-93 spur to junction with US-30 at Twin Falls.
(aa) US-30 from junction with SH-74 at Twin Falls to junction with I-84 business loop at Bliss.
(bb) US-26 from junction with SH-75 at Shoshone to eastbound exit of I-84 interchange no. 141 at Bliss; I-84 business loop from eastbound exit of I-84 to junction with US-30 at Bliss.
(cc) SH-46 spur from junction with SH-46 at Wendell to I-84 interchange no. 155.
(dd) SH-46 from junction with US-20 to I-84 interchange no. 157 at Wendell.
(ee) US-20 from junction with US-93 at Carey to junction with I-84 business loop at interchange 95; I-84 business loop from interchange 95 to junction with SH-51; SH-51 to junction with SH-67.
(ff) SH-51 from junction with SH-67 to junction with SH-78.
(gg) SH-44 from junction with SH-55 at Eagle to junction with I-84 interchange no. 25.
(hh) US-20/26 from junction with US-95 at Parma to junction with I-84 interchange no. 26.

## 2007 PILOT PROJECT ROUTES (SB 1180)

(a) through (hh) remained the same.
(ii) US-20 from junction with US-33 at Sugar City south to junction with US-20 business loop/Holmes Avenue; US-20 business loop/Holmes Avenue south to junction with US-26/Yellowstone; US-26 from intersection with US-20 business loop/Holmes Avenue south to Gallatin.

## 2008 PILOT PROJECT ROUTES (SB 1390)

(a) US-20 Montana border to its junction with SH-33; SH-33 to its junction with US-20; US-20 to its junction with US-93; US-93 to its junction with SH-25; SH-25 to its junction with SH-50; SH-50 to its junction with US-30; US-30 to its junction with SH-74; SH-74 to its junction with US-93; US-93 to the Nevada border.
(b) and (c) remained the same.
(d) US-95 south from milepost 66 (Fruitland) to its junction with SH-55.
(e) SH-19 from its junction with US-95 (Wilder) to its junction with I-84B (Caldwell).
(f) SH-78 from its junction with SH-55 (Marsing) to its junction with SH-51; SH-51 to its junction with SH-78; SH-78 to its junction with I-84B (Hammett).
(g) SH-67 from its junction with SH-51 (Mountain Home) to its junction with SH-78 (Grandview).
(h) remained the same.
(i) SH-25 from its junction with SH-24 to its junction with SH-27 (Paul).
(j) SH-25 from its junction with US-93 to milepost 27 (Hazelton).
(k) SH-24 from intersection with US-93 to its intersection with SH-25.
(l) through (o) remained the same.
(p) SH-22 from its junction with I-15 northbound ramps (Dubois) to its junction with SH-33.
(q) SH-45 from its junction with SH-78 to its junction with I-84 business loop; I-84 business loop to its junction with exit 35 (Nampa Boulevard/Northside Boulevard).
(r) remained the same.
(s) SH-33 from its junction with SH-31 (Victor) to its junction with SH-33 spur; SH-33 spur to its junction with US-20.
( t$) \quad$ and $(\mathrm{u})$ remained the same.
(v) SH-27 from its junction with SH-25 (Paul) to its junction with I-84B (Burley); I-84B to its junction with SH-27; SH-27 to milepost 0 (Oakley).
(w) SH-81 from its junction with SH-77 (Malta) to its junction with US-30 (Burley).
(x) through (aa) remained the same.
(bb) US-26 from its junction with SH-75 (Shoshone) to its junction with I-84 exit 141 westbound ramps (Bliss); I-84 business loop from its junction with I-84 exit 141 westbound ramps to its junction with US-30 (Bliss).
(cc) SH-46 spur from its junction with SH-46 (Wendell) to its junction with I-84 exit 155 eastbound ramps.
(dd) SH-46 from its junction with US-20 to its junction with I-84 exit 157 eastbound ramps (Wendell).
(ee) and (ff) remained the same
(gg) SH-44 from its junction with SH-55 (Eagle) to its junction with I-84 exit 25 eastbound ramps.
(hh) US-20/26 from its junction with US-95 (Parma) to its junction with I-84 exit 26 westbound ramps.
(ii) remained the same.

## APPENDIX B <br> Trip Information

## PILOT PROJECT TRIPS BY MONTH AND YEAR

| Pilot Project Trips by Month FY 2004 - FY 2012 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Month | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | FY 2012 |  |
| July | 44 | 81 | 974 | 3,016 | 1,235 | 978 | 1,003 | 2,114 | 1,359 | 10,804 |
| August | 199 | 25 | 856 | 971 | 1,299 | 792 | 1,038 | 2,218 | 1,427 | 8,825 |
| September | 244 | 1,188 | 1,013 | 1,178 | 2,532 | 1,873 | 2,777 | 2,556 | 2,978 | 16,339 |
| October | 269 | 2,837 | 5,982 | 2,956 | 1,579 | 5,323 | 5,740 | 2,177 | 5,399 | 32,262 |
| November | 2,043 | 5,103 | 5,960 | 3,099 | 2,080 | 6,314 | 6,269 | 1,203 | 7,760 | 39,831 |
| December | 1,868 | 5,200 | 3,478 | 2,748 | 945 | 3,880 | 7,317 | 967 | 8,587 | 34,990 |
| January | 4,340 | 3,956 | 2,321 | 4,412 | 6,278 | 5,915 | 735 | 6,495 | 7,811 | 42,263 |
| February | 3,031 | 2,344 | 2,621 | 3,369 | 5,670 | 2,013 | 840 | 5,233 | 7,395 | 32,516 |
| March | 293 | 945 | 595 | 1,520 | 4,407 | 995 | 923 | 5,336 | 4,912 | 19,926 |
| April | 104 | 580 | 404 | 998 | 1,277 | 1,037 | 1,155 | 1,169 | 1,836 | 8,560 |
| May | 43 | 875 | 457 | 905 | 1,249 | 761 | 1,513 | 1,380 | 1,419 | 8,602 |
| June | 41 | 1,181 | 448 | 1,015 | 1,084 | 869 | 2,076 | 1,264 | 1,273 | 9,251 |
|  | 12,519 | 24,315 | 25,109 | 26,187 | 29,635 | 30,750 | 31,386 | 32,112 | 52,156 |  |



## PILOT PROJECT TRIPS BY ROUTE FY 2004 - FY 2012



## PILOT PROJECT TRIPS BY COMMODITY

FY 2004 - FY 2012

TRAFFIC VOLUMES PER HIGHWAY


|  | 先 |  |  | $\begin{aligned} & \stackrel{\circ}{\sim} \\ & \underset{\circ}{\circ} \end{aligned}$ |  |  |  | $\begin{aligned} & 20 \\ & \\ & \\ & 0 \end{aligned}$ | 僉 |  | $\begin{aligned} & \circ \stackrel{\circ}{0} \\ & \stackrel{0}{0} \end{aligned}$ | $\mid$ |  | $\begin{aligned} & \stackrel{\rightharpoonup}{\circ} \\ & \text { مें } \end{aligned}$ |  |  |  | $\begin{aligned} & \text { ڭे } \\ & \text { Hín } \end{aligned}$ | $\stackrel{\circ}{\circ}$ |  |  |  |  |  |  |  | 우우ํ |  | $\begin{aligned} & \stackrel{\circ}{\circ} \\ & \stackrel{0}{0} \\ & \stackrel{0}{2} \end{aligned}$ |  | $\begin{aligned} & \text { oì } \\ & \text { ob } \end{aligned}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \stackrel{e}{m} \\ \underset{\sim}{m} \end{gathered}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \end{gathered}$ |  |  |  | $\begin{gathered} 1 \\ \underset{\sim}{2} \\ \underset{\sim}{2} \end{gathered}$ |  |  |  |  |  | $\begin{aligned} & \text { ö̀ } \\ & \text { సo } \end{aligned}$ |  |  |  | $\begin{aligned} & \stackrel{\text { Hin }}{\substack{n \\ \infty}} \end{aligned}$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{4} \\ \stackrel{n}{n} \\ 0 \end{array}\right\|$ |  | $\begin{gathered} \stackrel{\circ}{\circ} \\ \stackrel{\rightharpoonup}{\top} \end{gathered}$ |  |  |  |  |  |  | $\stackrel{\circ}{0}$ | $\begin{gathered} \stackrel{\rightharpoonup}{\circ} \\ \stackrel{m}{\circ} \end{gathered}$ |  | $\begin{aligned} & \text { oे̀ } \\ & \text { ob } \end{aligned}$ |  |  |  |  |
|  | $\left\lvert\, \begin{aligned} & \overline{\mathrm{y}} \\ & \stackrel{\circ}{\circ} \end{aligned}\right.$ | $$ |  | N |  | $\stackrel{\sim}{7} \times$ | $\infty$ | $\mid$ | $\begin{aligned} & \text { ※ } \\ & \stackrel{\circ}{0} \end{aligned}$ |  |  | $\stackrel{\sim}{m}$ |  | 足 | $\stackrel{\text { ® }}{ }$ | － |  |  | $\left\|\begin{array}{c} \tilde{\sim} \\ \underset{\sim}{n} \end{array}\right\|$ |  | $$ | $\underset{\substack{\circ \\ \underset{\sim}{2}}}{\substack{\infty \\ \hline}}$ | $\vec{\infty}$ |  | $\begin{aligned} & \overrightarrow{0} \\ & \underset{\sim}{\prime} \end{aligned}$ |  | $\cdots$ | sere | $\begin{gathered} \stackrel{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}$ |  | m |  | $\stackrel{\text { in }}{\substack{n \\ i n}}$ |  | 先 |
|  | $\begin{gathered} \underset{7}{7} \\ \\ \frac{1}{7} \end{gathered}$ | $\underset{\sim}{\underset{\sim}{\infty}}$ |  | $\stackrel{\text { N／}}{\substack{\text { \％}}}$ |  | 7 | $\checkmark \sim \sim$ | $1$ | $\begin{gathered} \stackrel{\sim}{\sim} \\ \sim \\ \sim \end{gathered}$ |  | 迺 | $\stackrel{\sim}{m}$ |  | $\underset{\sim}{\sim}$ | $\stackrel{9}{2}$ |  |  | $\begin{aligned} & \underset{\sim}{\underset{\sim}{N}} \\ & \underset{\sim}{*} \end{aligned}$ | $\left\|\begin{array}{l} \mathbf{\infty} \\ \hline \end{array}\right\|$ |  | $\begin{aligned} & \stackrel{\circ}{0} \\ & \underset{\sim}{n} \end{aligned}$ | $\underset{\sim}{9}$ | $\underset{6}{n}$ |  | $\begin{aligned} & \text { U } \\ & \text { N } \\ & \underset{\sim}{n} \end{aligned}$ |  | $\sim 1$ | $\underset{n}{n}$ | $\begin{gathered} \underset{\sim}{\alpha} \\ \underset{\sim}{2} \end{gathered}$ |  | m |  | $\underset{\sim}{\text { N }}$ |  | \％ |
| 咅 | $\mathfrak{l} \begin{aligned} & 9 \\ & \vdots \\ & \frac{1}{2} \end{aligned}$ | $\stackrel{\circ}{\underset{N}{n}}$ |  | N |  | $\sigma+$ | ， | $\underset{\sim}{7}$ | \％ |  | \％ | $\bigcirc$ |  | ন | ! | O |  | $\begin{aligned} & \text { n } \\ & \stackrel{\rightharpoonup}{\mathrm{O}} \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \stackrel{\infty}{\infty} \\ \underset{\sim}{i} \end{array}\right\|$ |  | $\stackrel{\text { 仡 }}{ }$ | \％ | m |  | $\stackrel{\square}{\square}$ |  | $\bigcirc$ | 筞 | \％ | \％ | $\bigcirc$ |  | 㪄 |  | च |
|  | $\left\|\begin{array}{c} 0 \\ 0 \\ \vdots \\ \vdots \\ \vdots \end{array}\right\|$ | ¢ |  | 出 |  |  | $\pm$ | ${ }^{\text {N }}$ | ¢ |  | － |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\left\lvert\, \begin{aligned} & \overline{\mathrm{y}} \\ & \stackrel{y}{\circ} \end{aligned}\right.$ |  |  | Nocce |  |  |  | $0 \begin{gathered} \infty \\ \infty \\ \infty \\ \\ \end{gathered}$ |  |  |  | N | $\begin{gathered} \substack{\underset{\sim}{n} \\ 0 \\ 0 \\ 0 \\ \hline} \end{gathered}$ |  |  |  | $\left\|\begin{array}{l} e_{n}^{e} \\ \underset{\sim}{2} \\ \hline 0 \end{array}\right\|$ |  | $\begin{aligned} & \hat{N} \\ & \underset{\sim}{2} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\square$ |  |  | $A_{i}^{A}$ |  |  |  |  |  |  |  |  |  |  |  |
|  | $\begin{array}{\|c} \overline{7} \\ \hline 0 \\ \bar{Z} \\ \hline \end{array}$ | or |  | Noid | O |  |  |  | $\left\lvert\, \begin{gathered} 0 \\ \hat{0} \\ \underset{\sim}{2} \\ \hline \end{gathered}\right.$ |  |  | － |  |  |  | － | $\underset{\sim}{\sim}$ |  | $\left\|\begin{array}{c} n \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | :ras | Bose |  |  |  | $\left\lvert\, \begin{gathered} \infty \\ \substack{\infty \\ \infty \\ \infty} \end{gathered}\right.$ | (on |  |  | 人̀ | $\mathfrak{s i c}$ |  | 요 | 응 | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \\ \tilde{A} \\ \mid \end{array}\right\|$ |  | $\begin{array}{\|c} \underset{\sim}{2} \\ \mathbf{N} \\ \mathbf{N} \\ \hline \end{array}$ | $\left\|\begin{array}{c} n \\ n \\ n \\ 0 \\ 0 \\ \hline \end{array}\right\|$ |  |  |  |  |  |  | $\mathfrak{c}$ |  |  | $\underset{\sim}{\sim}$ |  |  |  |  |  |
|  | $\left\|\begin{array}{l} i \\ \vdots \\ \vdots \\ \vdots \\ \vdots \end{array}\right\|$ |  |  |  |  | Cois |  | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \underset{\theta}{0} \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\left\lvert\, \begin{aligned} & \bar{\circ} \\ & \stackrel{\circ}{\circ} \end{aligned}\right.$ |  |  |  |  |  |  | $\begin{aligned} & \dot{\sim} \\ & \underset{\sim}{g} \\ & \underset{\sigma}{2} \end{aligned}$ |  |  |  | 等 |  |  | $\stackrel{0}{\infty} \underset{\infty}{ }$ | － |  |  | N |  |  |  |  |  |  |  |  | $\square$ |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Oig | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ \infty \end{array}\right\|$ |  |  | － |  |  | 역 |  |  |  |  | $\begin{gathered} 0 \\ \vdots \\ \vdots \\ 0 \\ \\ \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 寿 | $\begin{aligned} & \substack{9 \\ \vdots \\ \frac{1}{2} \\ \hline} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  | 先 |  |  | nin |  |  |  | $\left\|\begin{array}{c} \tilde{y} \\ \substack{0 \\ 0 \\ 0 \\ 0} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ \\ \\ \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\left\lvert\, \begin{gathered} 0 \\ \vdots \\ \vdots \\ \vdots \end{gathered}\right.$ |  |  |  |  |  |  |  | $\left.\begin{gathered} 2 \\ 2 \\ n \\ n \\ n \\ 0 \end{gathered} \right\rvert\,$ | （cols |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | O |  |  |  | \％ | $\stackrel{\sim}{\wedge}$ |  |  | $\stackrel{0}{\square}$ | Bob | By |  | O |  | \％ | $\left\|\begin{array}{c} \infty \\ \\ \underset{m}{n} \end{array}\right\|$ | $\left\|\begin{array}{c} \vec{g} \\ \stackrel{1}{n} \\ \dot{n} \end{array}\right\|$ |  | 웅 |  |  |  |  |  | － |  |  |  |  |  |  | － |
|  |  | Mr | Sic:c |  | $\mathfrak{c \| c}$ | Ron |  | 号 |  |  | $\begin{gathered} n \\ \\ \\ \hline \end{gathered}$ | \％ |  | So |  | － | ob | 盛 | $\mid$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \tilde{n} \\ \underset{\sim}{n} \end{array}\right\|$ |  | on |  | $\underset{\sim}{n}$ |  |  |  | － |  |  |  |  |  |  |  |
| 号 |  | $\mathfrak{c c}$ |  | $\qquad$ |  | on on ion in |  |  | Oion |  | OTO | $\bigcirc$ | $\mathfrak{B l}$ |  |  | ờ | $\left\|\begin{array}{c} 9 \\ \underset{\sim}{2} \\ \hline \end{array}\right\|$ |  | $\begin{gathered} \stackrel{\rightharpoonup}{\tilde{N}} \\ \text { O} \end{gathered}$ | $\left\|\begin{array}{c} \text { did } \\ \hline 0 \end{array}\right\|$ |  | 츶 |  | Sal |  |  |  | 家效 | oid |  |  |  |  | On | 20 |
| $\pm$ |  |  |  | $\qquad$ |  | $\underset{-}{2}$ |  | N |  |  |  | ¢ |  |  |  | $\stackrel{\sim}{\text { ָ }}$ | $\begin{aligned} & 0 \\ & \\ & \hline \end{aligned}$ | ¢ | 吕 |  | $\mathfrak{c}$ |  |  |  |  |  |  | － | $\begin{array}{\|c\|c} \substack{0 \\ \\ \\ \\ \\ \hline \\ \hline} \\ \hline \end{array}$ |  |  |  |  |  | （1） |
|  | 范 | － |  | E |  |  | － | － |  | $\sigma$ |  | － |  | $\sim$ |  |  |  | $>$ | 3 |  | $\times$ | $>$ | ～ |  | \％ |  | 용 |  | 꿍 | $\bigcirc$ |  |  | ๕ |  |  |



$$
\begin{aligned}
& \text { *SH-25b is in section a and j } \\
& \text { **US-20a is in section a and I } \\
& { }^{* * * U S-30 \text { i in in section a and aa }}
\end{aligned}
$$

## Pilot Trucks by Volume of Total Traffic and Truck Traffic

| Route | Vehicles | Trucks | P Trucks | \% Trucks | \% Vehicles |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SH-24 | $26,022,360$ | $1,099,901$ | 97,969 | $8.907 \%$ | $0.376 \%$ |
| SH-51 | $2,279,309$ | 187,519 | 11,153 | $5.948 \%$ | $0.489 \%$ |
| SH-78 | $2,103,067$ | 500,912 | 27,405 | $5.471 \%$ | $1.303 \%$ |
| SH-38 | $2,146,964$ | 97,028 | 5,228 | $5.388 \%$ | $0.244 \%$ |
| SH-67 | $3,768,597$ | 409,569 | 18,055 | $4.408 \%$ | $0.479 \%$ |
| SH-25 | $15,186,838$ | 913,510 | 34,826 | $3.812 \%$ | $0.229 \%$ |
| SH-45 | $22,203,581$ | 627,768 | 20,982 | $3.342 \%$ | $0.094 \%$ |



## APPENDIX C <br> Safety

## CRASHES AND CRASH RATES FOR ALL VEHICLES

|  | Total Crashes |  |  |  |  | Total Crash Rates |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Before | After |  |  |  | Before | After |  |  |  |  |
|  | $\begin{array}{\|l\|} \hline 7 / 1 / 2000- \\ 6 / 30 / 2003 \\ \hline \end{array}$ | $\begin{aligned} & 7 / 1 / 2003- \\ & 6 / 30 / 2006 \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2006- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2000- \\ 6 / 30 / 2003 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2003- \\ 6 / 30 / 2006 \\ \hline \end{array}$ | $\begin{aligned} & 7 / 1 / 2006- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | Ave Change in Rate |
| Route A | 914 | 918 | 288 | 757 | 951 | 113.1 | 110.3 | 100.6 | 109.6 | 93.3 | -4.3\% |
| Route B | 120 | 136 | 35 | 92 | 96 | 206.8 | 238.6 | 175.5 | 214.1 | 147.2 | -5.1\% |
| Route C | 292 | 314 | 89 | 146 | 219 | 69.9 | 80.5 | 86.4 | 69.7 | 72.4 | 1.7\% |
| Route D | 199 | 187 | 81 | 135 | 157 | 124.8 | 113.5 | 117.0 | 95.3 | 73.4 | -11.9\% |
| Route E | 46 | 47 | 32 | 58 | 74 | 75.7 | 74.9 | 111.4 | 99.8 | 91.8 | 7.3\% |
| Route F | 128 | 108 | 48 | 76 | 92 | 185.4 | 141.2 | 174.6 | 133.1 | 97.6 | -12.7\% |
| Route G | 87 | 61 | 21 | 57 | 31 | 83.2 | 53.5 | 55.0 | 93.1 | 36.0 | -6.2\% |
| Route H | 94 | 110 | 25 | 63 | 64 | 167.2 | 179.9 | 114.9 | 141.2 | 99.9 | -8.7\% |
| Route I | 31 | 26 | 6 | 21 | 29 | 124.7 | 99.6 | 65.0 | 131.2 | 112.9 | 8.3\% |
| Route J | 32 | 25 | 9 | 14 | 19 | 186.4 | 141.7 | 139.2 | 103.4 | 84.3 | -17.5\% |
| Route K | 114 | 98 | 40 | 49 | 66 | 162.8 | 143.2 | 176.8 | 115.4 | 102.1 | -8.7\% |
| Route L | 105 | 84 | 33 | 68 | 84 | 95.0 | 72.6 | 83.9 | 84.3 | 63.3 | -8.1\% |
| Route M | 232 | 176 | 63 | 111 | 170 | 119.3 | 94.2 | 144.7 | 127.3 | 132.4 | 6.1\% |
| Route N | 106 | 93 | 26 | 26 | 22 | 166.2 | 132.9 | 113.8 | 276.7 | 162.4 | 16.9\% |
| Route O | 16 | 29 | 6 | 64 | 64 | 94.2 | 156.4 | 90.4 | 190.7 | 131.6 | 25.9\% |
| Route P | 13 | 14 | 4 | 10 | 11 | 100.4 | 114.0 | 83.8 | 95.6 | 76.1 | -4.8\% |
| Route Q | 753 | 902 | 233 | 329 | 419 | 461.9 | 510.1 | 339.8 | 304.2 | 250.1 | -12.8\% |
| These routes didn't take effect until 7/1/2007 |  |  | Before | After |  |  |  | Before | After |  |  |
|  |  |  | $\begin{array}{\|l\|} \hline 7 / 1 / 2004- \\ 6 / 30 / 2007 \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2007- \\ 6 / 30 / 2009 \end{array}$ | $\begin{aligned} & \hline 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ |  |  | $\begin{aligned} & \hline 7 / 1 / 2004- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | Ave Change in Rate |
| Route R |  |  | 9 | 7 | 28 |  |  | 96.2 | 91.3 | 270.5 | 95.6\% |
| Route S |  |  | 303 | 181 | 157 |  |  | 182.9 | 140.9 | 86.7 | -30.7\% |
| Route T |  |  | 1 | 8 | 5 |  |  | 9.2 | 110.4 | 44.3 | 523.2\% |
| Route U |  |  | 4 | 2 | 4 |  |  | 480.3 | 367.1 | 451.0 | -0.4\% |
| Route V |  |  | 278 | 215 | 262 |  |  | 236.9 | 261.8 | 213.1 | -4.1\% |
| Route W |  |  | 75 | 57 | 71 |  |  | 159.9 | 163.7 | 139.5 | -6.2\% |
| Route X |  |  | 181 | 165 | 186 |  |  | 160.6 | 236.1 | 177.6 | 11.1\% |
| Route Y |  |  | 23 | 26 | 36 |  |  | 205.2 | 349.7 | 341.2 | 34.0\% |
| Route Z |  |  | 54 | 23 | 20 |  |  | 350.1 | 207.1 | 113.5 | -43.0\% |
| Route AA |  |  | 263 | 177 | 223 |  |  | 123.9 | 122.7 | 98.1 | -10.5\% |
| Route BB |  |  | 38 | 32 | 45 |  |  | 73.6 | 93.8 | 80.4 | 6.5\% |
| Route CC |  |  | 8 | 2 | 5 |  |  | 218.5 | 83.6 | 167.3 | 19.2\% |
| Route DD |  |  | 122 | 73 | 65 |  |  | 122.1 | 110.1 | 61.3 | -27.1\% |
| Route EE |  |  | 295 | 191 | 272 |  |  | 135.1 | 134.6 | 126.5 | -3.2\% |
| Route FF |  |  | 48 | 20 | 22 |  |  | 261.5 | 137.4 | 107.0 | -34.8\% |
| Route GG |  |  | 384 | 227 | 301 |  |  | 188.7 | 162.6 | 145.2 | -12.3\% |
| Route HH |  |  | 79 | 44 | 55 |  |  | 120.6 | 92.1 | 67.8 | -25.0\% |
| Route II |  |  | 512 | 356 | 406 |  |  | 87.4 | 88.7 | 67.3 | -11.3\% |
|  | Total Crashes |  |  |  |  | Total Crash Rates |  |  |  |  |  |
|  | $\begin{array}{\|l\|} \hline 7 / 1 / 2000- \\ 6 / 30 / 2003 \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2003- \\ 6 / 30 / 2006 \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2006- \\ 6 / 30 / 2007 \end{array}$ | $\begin{aligned} & \hline 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2000- \\ 6 / 30 / 2003 \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2003- \\ 6 / 30 / 2006 \\ \hline \end{array}$ | $\begin{aligned} & \hline 7 / 1 / 2006- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2009- \\ 6 / 30 / 2012 \end{array}$ | Ave Change in Rate |
| All Pilot Routes* | 3,192 | 3,257 | 1,018 | 3,986 | 4,731 | 137.8 | 137.6 | 124.3 | 130.8 | 103.4 | -7.9\% |
| All State Routes | 32,053 | 34,358 | 10,475 | 20,592 | 24,692 | 136.9 | 140.7 | 124.0 | 124.8 | 98.9 | -10.0\% |

*All Pilot Routes only include Routes A through Q through the time period ending June 30, 2007. All Pilot Routes for
time periods after July 1, 2007, include Route A through Route II.
The 2012 crash data and 2012 AVMT are preliminary and subject to change.

## CRASHES AND CRASH RATES FOR TRUCKS

|  | Truck Crashes |  |  |  |  | Truck Crash Rates |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Before | After |  |  |  | Before | After |  |  |  |  |
|  | $\begin{aligned} & \hline 7 / 1 / 2000- \\ & 6 / 30 / 2003 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2003- \\ & 6 / 30 / 2006 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2006- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2000- \\ & 6 / 30 / 2003 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2003- \\ & 6 / 30 / 2006 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2006- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | Ave Change in Rate |
| Route A | 110 | 123 | 49 | 136 | 98 | 88.6 | 93.0 | 108.5 | 115.9 | 57.5 | -5.5\% |
| Route B | 6 | 9 | 5 | 11 | 5 | 144.0 | 217.1 | 370.6 | 404.3 | 132.8 | 15.8\% |
| Route C | 76 | 95 | 27 | 34 | 48 | 61.5 | 80.6 | 85.5 | 56.8 | 60.6 | 2.6\% |
| Route D | 44 | 32 | 16 | 20 | 9 | 247.0 | 161.8 | 195.5 | 121.0 | 36.0 | -30.5\% |
| Route E | 7 | 11 | 5 | 10 | 5 | 117.8 | 173.0 | 155.1 | 174.6 | 71.1 | -2.6\% |
| Route F | 19 | 22 | 5 | 13 | 18 | 145.5 | 154.6 | 99.2 | 125.7 | 107.5 | -4.3\% |
| Route G | 9 | 8 | 2 | 3 | 3 | 197.6 | 165.2 | 121.8 | 91.2 | 61.8 | -25.0\% |
| Route H | 11 | 14 | 5 | 4 | 5 | 260.5 | 296.9 | 260.2 | 103.9 | 70.8 | -22.6\% |
| Route I | 4 | 5 | 1 | 2 | 5 | 325.0 | 409.6 | 236.4 | 172.2 | 261.2 | 2.1\% |
| Route J | 5 | 2 | 2 | 2 | 1 | 334.4 | 90.9 | 127.8 | 63.8 | 20.0 | -37.7\% |
| Route K | 14 | 24 | 8 | 7 | 8 | 212.8 | 340.1 | 292.8 | 127.9 | 89.2 | -10.2\% |
| Route L | 8 | 3 | 3 | 11 | 6 | 57.3 | 21.0 | 58.9 | 108.9 | 38.5 | 34.4\% |
| Route M | 28 | 14 | 5 | 16 | 9 | 78.9 | 42.1 | 78.7 | 132.1 | 52.5 | 12.0\% |
| Route N | 11 | 14 | 2 | 1 | 1 | 205.6 | 251.7 | 114.1 | 126.0 | 84.1 | -13.8\% |
| Route O | 1 | 2 | 2 | 9 | 2 | 166.8 | 251.1 | 699.2 | 404.0 | 59.4 | 25.4\% |
| Route P | 1 | 4 | 3 | 1 | 5 | 35.1 | 129.0 | 252.9 | 39.4 | 176.2 | 156.5\% |
| Route Q | 34 | 59 | 17 | 20 | 11 | 558.8 | 894.9 | 714.3 | 578.3 | 206.2 | -10.9\% |
|  |  |  | Before |  |  |  |  | Before |  |  |  |
| These routes didn't take effect until 7/1/2007 |  |  | $\begin{array}{\|l\|} \hline 7 / 1 / 2004- \\ 6 / 30 / 2007 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2007- \\ 6 / 30 / 2009 \\ \hline \end{array}$ | $\begin{aligned} & 7 / 1 / 2009- \\ & 6 / 30 / 2012 \\ & \hline \end{aligned}$ |  |  | $\begin{aligned} & 7 / 1 / 2004- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2007- \\ & 6 / 30 / 2009 \\ & \hline \end{aligned}$ | $\begin{aligned} & 7 / 1 / 2009- \\ & 6 / 30 / 2012 \\ & \hline \end{aligned}$ | Ave Change in Rate |
| Route R |  |  | 2 | 3 | 7 |  |  | 200.7 | 462.6 | 721.6 | 93.2\% |
| Route S |  |  | 22 | 20 | 5 |  |  | 156.7 | 212.8 | 43.6 | -21.9\% |
| Route T |  |  | 0 | 0 | 1 |  |  | 0.0 | 0.0 | 31.1 |  |
| Route U |  |  | 0 | 0 | 0 |  |  | 0.0 | 0.0 | 0.0 | 0.0\% |
| Route V |  |  | 21 | 18 | 16 |  |  | 240.0 | 304.0 | 175.2 | -7.9\% |
| Route W |  |  | 8 | 7 | 6 |  |  | 93.4 | 121.5 | 66.8 | -7.4\% |
| Route X |  |  | 33 | 28 | 14 |  |  | 213.3 | 241.1 | 85.6 | -25.7\% |
| Route Y |  |  | 0 | 1 | 2 |  |  | 0.0 | 250.5 | 334.5 | 66.8\% |
| Route Z |  |  | 6 | 0 | 3 |  |  | 827.4 | 0.0 | 427.4 |  |
| Route AA |  |  | 23 | 12 | 12 |  |  | 163.6 | 96.6 | 62.5 | -38.1\% |
| Route BB |  |  | 8 | 7 | 10 |  |  | 83.5 | 108.5 | 101.0 | 11.5\% |
| Route CC |  |  | 2 | 0 | 1 |  |  | 568.2 | 0.0 | 279.8 |  |
| Route DD |  |  | 17 | 3 | 3 |  |  | 137.8 | 37.2 | 25.8 | -51.9\% |
| Route EE |  |  | 35 | 16 | 18 |  |  | 144.0 | 99.0 | 75.5 | -27.5\% |
| Route FF |  |  | 4 | 3 | 2 |  |  | 258.9 | 267.6 | 114.8 | -26.9\% |
| Route GG |  |  | 33 | 21 | 9 |  |  | 387.5 | 374.4 | 103.2 | -37.9\% |
| Route HH |  |  | 13 | 1 | 4 |  |  | 279.7 | 32.2 | 75.6 | 23.0\% |
| Route II |  |  | 44 | 24 | 12 |  |  | 70.8 | 57.5 | 19.6 | -42.3\% |
|  |  |  | Truck Crashes |  |  |  |  | uck Crash Rat |  |  |  |
|  | $\begin{aligned} & \hline 7 / 1 / 2000- \\ & 6 / 30 / 2003 \end{aligned}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2003- \\ 6 / 30 / 2006 \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2006- \\ 6 / 30 / 2007 \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2007- \\ 6 / 30 / 2009 \end{array}$ | $\begin{aligned} & \hline 7 / 1 / 2009- \\ & 6 / 30 / 2012 \end{aligned}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2000- \\ 6 / 30 / 2003 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2003- \\ 6 / 30 / 2006 \\ \hline \end{array}$ | $\begin{aligned} & \hline 7 / 1 / 2006- \\ & 6 / 30 / 2007 \end{aligned}$ | $\begin{aligned} & \hline 7 / 1 / 2007- \\ & 6 / 30 / 2009 \end{aligned}$ | $\begin{array}{\|l\|} \hline 7 / 1 / 2009- \\ 6 / 30 / 2012 \end{array}$ | Ave Change in Rate |
| All Pilot Routes* | 371 | 432 | 153 | 453 | 364 | 103.9 | 118.9 | 127.7 | 115.7 | 64.0 | 4.1\% |
| All State Routes | 3,102 | 3,366 | 1,147 | 2,153 | 1,340 | 86.7 | 90.3 | 88.0 | 85.6 | 36.3 | -0.4\% |

*All Pilot Routes only include Routes A through Q through the time period ending June 30, 2007. All Pilot Routes for
time periods after July 1, 2007, include Route A through Route II.
The 2012 crash data and 2012 AVMT are preliminary and subject to change.

## SAFETY



## Truck Crash Rate



Pilot Project Routes
Pilot Project Routes SH-24, 25, 78
Non Pilot Project Routes

## APPENDIX D <br> Pavements

## PAVEMENT

## Pavement Condition

| Pilot | 855 Segments | 1288 Miles |
| :--- | :--- | :--- |
| Non-Pilot | 1778 Segments | 2865 Miles |

Rutting (Inches)


Roughness Index


Cracking Index


[^0]
## APPENDIX E <br> Bridges

National Bridge Inventory Ratings by Fiscal Year on State Bridges

|  | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | FY 2012 | Deterioration |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pilot 2003-2012 (120) |  |  |  |  |  |  |  |  |  |  |  |
| Deck | 6.42 | 6.41 | 6.44 | 6.41 | 6.39 | 6.37 | 6.24 | 6.18 | 6.14 | 6.14 | -0.031 |
| Super | 6.64 | 6.59 | 6.54 | 6.50 | 6.50 | 6.46 | 6.39 | 6.35 | 6.34 | 6.31 | -0.036 |
| Sub | 6.18 | 6.15 | 6.13 | 6.11 | 6.12 | 6.06 | 5.98 | 5.98 | 5.94 | 5.92 | -0.030 |
| Non-Pilot 2003-2012 (1180) |  |  |  |  |  |  |  |  |  |  |  |
| Deck | 7.00 | 6.28 | 6.24 | 6.22 | 6.20 | 6.15 | 6.11 | 6.11 | 6.09 | 6.11 | -0.099 |
| Super | 6.64 | 6.59 | 6.54 | 6.52 | 6.49 | 6.44 | 6.39 | 6.37 | 6.35 | 6.34 | -0.033 |
| Sub | 6.20 | 6.15 | 6.12 | 6.10 | 6.08 | 6.04 | 6.02 | 6.00 | 5.99 | 5.99 | -0.024 |
| SH-24, 25, 78 (16) |  |  |  |  |  |  |  |  |  |  |  |
| Deck | 6.44 | 6.38 | 6.38 | 6.38 | 6.38 | 6.38 | 6.38 | 6.31 | 6.25 | 6.25 | -0.021 |
| Super | 6.31 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | -0.007 |
| Sub | 6.00 | 5.94 | 5.94 | 5.94 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 0.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |  |
| Pilot 2008-2012 (133) |  |  |  |  |  |  |  |  |  |  |  |
| Deck | 6.00 | 6.37 | 6.35 | 6.29 | 6.28 |  |  |  |  |  | 0.070 |
| Super | 6.55 | 6.49 | 6.49 | 6.47 | 6.44 |  |  |  |  |  | -0.028 |
| Sub | 6.32 | 6.26 | 6.25 | 6.22 | 6.20 |  |  |  |  |  | -0.028 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Pilot 2008-2012 (133) |  |  |  |  |  |  |  |  |  |  |  |
| Deck |  |  |  |  |  | 6.19 | 6.17 | 6.12 | 6.13 | 6.12 | -0.017 |
| Super |  |  |  |  |  | 6.38 | 6.36 | 6.32 | 6.26 | 6.25 | -0.032 |
| Sub |  |  |  |  |  | 6.14 | 6.10 | 6.07 | 6.02 | 6.02 | -0.030 |

解 2. Bridges with no inspections in FY 2002 or FY 2003 were removed from consideration.
3. Increases in ratings are largely due to improvements on bridges or a change of the bridge inspector.
4. Bridges were added in FY 2008. These bridges have been analyzed separately they are not included in Pilot 2003-2012 or Non-Pilot 2003-2012 numbers. 5. Rate of deterioration for Pilot and Non-Pilot 2003-2012 was calculated by taking FY 2012 \# - FY 2003 \#/ 9 years 6. Rate of deterioration for the Pilot 2008-2012 group calculated based on years available

## BRIDGES

Charts comparing NBI Ratings on 120 Bridges participating in Pilot Project from FY 2003 - FY 2012 with 1180 bridges not part of Pilot Project from FY 2003 - FY 2012


## Superstructure



Substructure


Pilot Project Routes
Pilot Project Routes SH-24, 25, 78
Non Pilot Project Routes



|  |
| :---: |


Structure Type
Tee Beam
Tee Beam
Tee Beam
Tee Beam
Tee Beam
Tee Beam
Tee Beam
Tee Beam

Multiple Box Beam
Multiple Box Beam
Multiple Box Beam


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Idaho Transportation Department
Bridge Inspection $8 / 29 / 2012$
Pilot Project Structures








 Idaho Transportation Department
Bridge Inspection 8/29/2012
Pilot Project Structures



| $\begin{array}{ll}\stackrel{m}{\infty} & \stackrel{\rightharpoonup}{\infty} \\ \sum_{\infty}^{\infty} & \stackrel{\infty}{\infty} \\ \stackrel{\rightharpoonup}{w} & \stackrel{\rightharpoonup}{w}\end{array}$ |
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Concrete Continuous
Concrete Continuous
$\stackrel{\otimes}{\sim} \stackrel{\circ}{\sim}$ $\div \div$ $\sim \sim$
THREE MILE CREEK





Structure Type
Stringer/Girder

Stringer/Girder
Stringer/Girder
Stringer/Girder
Stringer/Girder
Stringer/Girder
Stringer/Girder
Stringer/Girder
Stringer/Girder
Stringer/Girder
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Stringer/Girder
Stringer/Girder

Slab

Stringer/Girder
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Stringer/Girder
Stringer/Girder

| Span Lgth | Sq.Ft. | Material Type |
| ---: | ---: | :--- |
| 64 | 6606 | Steel |
|  |  |  |
| 59 | 7868 | Steel Continuous |
| 64 | 29407 | Steel Continuous |
| 164 | 39143 | Steel Continuous |
| 212 | 34810 | Steel Continuous |
| 320 | 50266 | Steel Continuous |
| 59 | 7868 | Steel Continuous |
| 185 | 28395 | Steel Continuous |
| 150 | 13493 | Steel Continuous |
| 212 | 15960 | Steel Continuous |
| 125 | 10538 | Steel Continuous |
| 258 | 26006 | Steel Continuous |
| 105 | 13184 | Steel Continuous |
| 93 | 15758 | Steel Continuous |



| Features | \# Spans |
| :--- | ---: |
| I 84 EB-WB;PARMA IC | 4 |

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3
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S.FK.TETON RIVER
SNAKE RIVER(MARSING BR)
ROCK CREEK
HENRY'S FK. SNAKE RIVER
UPRR \& CANAL; TOPAZ OP
S.FK.TETON RIVER
SNAKE RIVER;HOMEDALE BR.
I 84 EB-WB;W.WENDELL IC
CANYON CREEK
HENRY'S FK. SNAKE RIVER
SNAKE RIVER;HANSEN BR.
SH 48;RIGBY GS
I 15 NB-SB;SAGE JCT IC

N. GOODING LATERAL 1465
N. GOODING LATERAL 1465
HENRY'S LAKE OUTLET
HENRY'S LAKE OUTLET
HENRY'S FK. SNAKE RIVER HENRY'S FK. SNAKE RIVER
BLACKFOOT RIVER
PORTNEUF RIVER PORTNEUF RIVER
DEER CROSSING TEXAS SLOUGH
 N.FK.TETON RIVER
SNAKE R.(WALTERS FERRY) TETON RIVER SNAKE RIVER DRY BED CNL PORTNEUF RIVER INDIAN CREEK


Structure Type




















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| Milepost | Features | \# Spans | Span Lgth | Sq.Ft. | Material Type |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 061.714 | 'M' CANAL | 1 | 46 | 1991 | Prestressed Concrete |
| 265.043 | BIG LOST RIVER | 1 | 58 | 2422 | Prestressed Concrete |
| 359.645 | PORTNEUF RIVER;MCCAMMON | 3 | 69 | 15726 | Prestressed Concrete |
| 325.020 | MENAN CANAL | 1 | 43 | 1916 | Prestressed Concrete |
| 387.030 | BUFFALO RIVER;PONDS BR. | 3 | 59 | 10818 | Prestressed Concrete |
| 326.201 | SNAKE RIVER;LORENZO BR. | 6 | 107 | 28654 | Prestressed Concrete |
| 060.815 | I 84 EB-WB;US 95 IC | 5 | 73 | 18557 | Prestressed Concrete |
| 323.575 | SNAKE RIVER DRY BED CNL | 1 | 71 | 3089 | Prestressed Concrete |
| 008.098 | LOW LINE CANAL | 2 | 35 | 3892 | Prestressed Concrete |
| 057.912 | UPRR;SODA'S 3RD E.ST OP | 1 | 77 | 6209 | Prestressed Concrete |
| 406.711 | UPRR; SODA SPRINGS OP | 1 | 111 | 5188 | Prestressed Concrete |
| 311.338 | STC 6708; ST LEON RD | 1 | 111 | 4806 | Prestressed Concrete |
| 004.700 | I 84 EB-WB;KIMBERLY IC | 3 | 50 | 15500 | Prestressed Concrete |
| 191.356 | SILVER CREEK | 1 | 61 | 2497 | Prestressed Concrete |
| 372.434 | DEER CROSSING | 1 | 75 | 4026 | Prestressed Concrete |
| 062.682 | 'R' CANAL | 1 | 54 | 2336 | Prestressed Concrete |
| 350.701 | S.FK.FALL RIVER CANAL | 2 | 37 | 8719 | Prestressed Concrete |
| 320.851 | BURGESS CANAL | 1 | 88 | 8224 | Prestressed Concrete |
| 313.448 | STC 6706; HITT RD | 1 | 116 | 5023 | Prestressed Concrete |
| 325.574 | MENAN-LORENZO RD. | 1 | 97 | 4488 | Prestressed Concrete |
| 001.846 | CUB RIVER | 1 | 72 | 5291 | Prestressed Concrete |
| 094.608 | SNAKE R.;INDIAN COVE BR. | 8 | 68 | 17642 | Prestressed Concrete |
| 000.263 | I 84;MALTA-YALE RD IC | 3 | 49 | 7223 | Prestressed Concrete |
| 325.019 | MENAN CANAL | 1 | 43 | 1916 | Prestressed Concrete |
| 354.049 | FALL RIVER | 2 | 55 | 4779 | Prestressed Concrete |
| 352.066 | FALL RIVER CANAL | 1 | 31 | 1410 | Prestressed Concrete |
| 236.417 | TWIN FALLS MAIN CANAL | 2 | 74 | 5426 | Prestressed Concrete |
| 369.047 | PORTNEUF RIVER | 2 | 105 | 14842 | Prestressed Concrete |
| 339.406 | N.FK.TETON RIVER | 1 | 99 | 4413 | Prestressed Concrete |
| 328.067 | TEXAS SLOUGH | 1 | 61 | 2796 | Prestressed Concrete |
| 315.226 | SH 43;WEST BELT BRIDGE | 4 | 63 | 10223 | Prestressed Concrete |
| 359.597 | UPRR;N.MCCAMMON OP | 3 | 67 | 14133 | Prestressed Concrete |
| 176.038 | BIG WOOD RIVER | 3 | 76 | 7772 | Prestressed Concrete |
| 016.369 | UPRR | 1 | 93 | 8630 | Prestressed Concrete |
| 325.572 | MENAN-LORENZO RD. | 1 | 97 | 4488 | Prestressed Concrete |
| 326.200 | SNAKE RIVER;LORENZO BR. | 6 | 107 | 28514 | Prestressed Concrete |
| 315.227 | SH 43;WEST BELT BRIDGE | 4 | 73 | 10289 | Prestressed Concrete |
| 016.588 | I 84;KARCHER IC | 2 | 104 | 16382 | Prestressed Concrete |
| 046.084 | BEAR RIVER;GRACE BRIDGE | 7 | 75 | 27868 | Prestressed Concrete |
| 313.447 | STC 6706; HITT RD | 1 | 116 | 5023 | Prestressed Concrete |


| BrKey | Structure No. | Route |
| :---: | :---: | :---: |
| 17600 | 09320B 61.70 | US 93 |
| 13200 | 02020F 265.04 | US 20 |
| 12015 | 03020N 359.65 | US 30 |
| 12485 | 02020K 325.04 | US 20 WBL |
| 12680 | 02020L 387.03 | US 20 |
| 12500 | 02020K 326.23 | US 20 WBL |
| 18095 | 09520A 60.82 | US 95 |
| 12470 | 02020K 323.60 | US 20 WBL |
| 14690 | 05510A 8.10 | SH 55 |
| 14035 | 03410C 57.91 | SH 34 |
| 13740 | 03020P 406.67 | US 30 |
| 12373 | 02020K 311.33 | US 20 EBL |
| 14525 | 05010A 4.68 | SH 50 |
| 15105 | 02010B 191.36 | US 20 |
| 13720 | 03020P 372.52 | US 30 |
| 17610 | 09320B 62.66 | US 93 |
| 12645 | 02020K 350.71 | US 20 WBL \& EBL |
| 12435 | 02020K 320.85 | US 20 |
| 12384 | 02020K 313.45 | US 20 WBL |
| 12489 | 02020K 325.58 | US 20 |
| 17456 | 09120A 1.86 | US 91 |
| 15300 | 07810B 94.61 | SH 78 |
| 16625 | 08112A 0.27 | SH 81B SPUR |
| 12480 | 02020K 325.03 | US 20 EBL |
| 12665 | 02020K 354.05 | US 20 |
| 12650 | 02020K 352.06 | US 20 WBL |
| 13656 | 03020L 236.42 | US 30 |
| 13711 | 03020N 369.05 | US 30 |
| 12590 | 02020K 339.42 | US 20 EBL |
| 12515 | 02020K 328.06 | US 20 EBL |
| 12400 | 02020K 315.23 | US 20 EBL |
| 12020 | 03020N 359.60 | US 30 |
| 15070 | 02010A 176.04 | US 20 |
| 14722 | 05510A 16.37 | SH 55 |
| 12487 | 02020K 325.57 | US 20 |
| 12495 | 02020K 326.22 | US 20 EBL |
| 12405 | 02020K 315.24 | US 20 WBL |
| 14729 | 05510A 16.59 | SH 55 |
| 14020 | 03410B 46.08 | SH 34 |
| 12383 | 02020K 313.44 | US 20 EBL |



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| BrKey | Structure No. | Route |
| :---: | :---: | :---: |
| 12414 | 02020K 317.89 | US 20 WBL |
| 19850 | 16710A 0.80 | SH 167 |
| 13646 | 03020L 230.13 | US 30 |
| 12374 | 02020K 311.34 | US 20 WBL |
| Count: 64 |  |  |
| 13000 | 02410B 7.99 | SH 24 |
| 17827 | 08710A 0.06 | SH 87 |
| 17829 | 08710A 1.14 | SH 87 |
| Count: 3 |  |  |
| 16611 | 08110A 25.08 | SH 81 |
| 18045 | 09520A 30.37 | US 95 |
| 15100 | 02010B 187.15 | US 20 |
| 13175 | 09320C 200.06 | US 93 |
| 12620 | 02020K 347.04 | US 20 EBL \& WBL |
| 14365 | 04610A 117.90 | SH 46 |
| 12625 | 02020K 347.35 | US 20 EBL \& WBL |
| 14030 | 03410B 47.26 | SH 34 |
| 19393 | 09320B 48.66 | US 93 |
| 16606 | 08110A 23.61 | SH 81 |
| 17566 | 09320A 25.08 | US 93 |
| 13190 | 09320C 204.55 | US 93 |
| 13185 | 09320C 204.38 | US 93 |
| 13180 | 09320C 200.90 | US 93 |
| 13165 | 09320C 198.27 | US 93 |
| 13155 | 09320C 177.63 | US 93 |
| 13170 | 09320C 199.28 | US 93 |
| Count: 17 |  |  |
| 12535 | 02020K 331.93 | US 20 WBL |
| 12550 | 02020K 333.41 | US 20 EBL |
| 12530 | 02020K 331.92 | US 20 EBL |
| 12555 | 02020K 333.42 | US 20 WBL |
| Count: |  |  |
| 14297 | 04410C 16.86 | SH 44 |
| Count: 1 |  |  |
| 12583 | 03310A 99.42 | SH 33 SPUR |


[^0]:    $\begin{array}{ll} & \text { Pilot Project Routes } \\ & \text { Project Routes SH-24, 25, } 78\end{array}$
    Non Pilot Project Routes

