

Operations Manual



Procedures and guidance for day-to-day activities associated with roadway, roadside, bridge, rest area, facility, equipment, winter operations and fuel management.



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Chapter 1

General

Department Mission

The mission of the Idaho Transportation Department (ITD) is to provide a high quality, cost-effective transportation system that enhances the safety, mobility, and economic opportunity of the state's citizens. Idaho's leaders and transportation officials understand the essential role transportation plays as a cornerstone for the state's economic and social health. The mission of ITD's Operation's staff is to provide the best possible resources and services to ITD, other agencies, and traveling public to keep Idaho's state highways and associated facilities safe, reliable, and efficient.

Operations Definition

Highway Operations encompasses all day to day activities associated with roadway, roadside, bridge, rest area, facility, equipment and winter operations as well as fuel management, and Intelligent Transportation System (ITS) management. Operations of the roadway systems is the primary way in which ITD carries out its goal of providing a safe, reliable, efficient transportation system on a year round basis. Highway operations includes maintaining the traveled lanes, the shoulders, minor drainage structures,, roadsides, signs, markings, lighting, bridges, safety hardware, and other appurtenances.

Purpose of this Manual

The purpose of this manual is to provide Operations personnel with guidance on how to conduct a wide variety of activities performed within the operations program. The focus is on the types of equipment, materials, techniques and other information needed to properly carry out basic operations activities such as patching a pothole or removing snow from the roadway.

Operations personnel accomplish their mission by a combination of preventative, routine and emergency maintenance. Although this guidance does not establish absolute standards in most cases, it helps to promote uniform operating procedures and performance guidelines. Highway operations is conducted in a dynamic environment where varying factors can lead to different solutions to operations related problems. Operations personnel need flexibility to match the appropriate solution to different conditions. This manual is one of many resources that are available for the operations personnel to utilize in applying their professional judgement to their daily work.

Maintenance of State Highways

The Idaho Transportation Department will maintain the roads, bridges, connections and approaches within the right of way boundaries of the State Highway System except:

- Local road surfaces and related drainage features crossing over or under State Highways will be maintained by the local jurisdictions; bridge structures will be maintained by the Department
- Interchanges will be maintained by the Department within the full access control area of the interchange.

Frontage roads will be maintained by the jurisdiction responsible for these roads. When a State Highway is located within an incorporated city on a widened urban section, the ITD will enter into a cooperative agreement with the local agency which reflects shared maintenance costs based on Idaho Code 40-502. Idaho Code 40-502 establishes that ITD is only responsible for maintaining the width of the traveled way required for the movement of through traffic.

Operations Facilities

Operations activities are conducted from the facilities at six district headquarters locations (including shops), Operations foreman area stations, and satellite stations.

Documentation

A Maintenance Diary (ITD-0579) or Standard Construction Diary (ITD-0025) along with TAMS and WARS entries provides the Department with a complete and accurate record of maintenance operations and helps to protect ITD from TORT claims and lawsuits.

Instructions for preparing the ITD-0025, Standard Construction Diary are included with the ITD-0025 in Form Finder. Instructions for preparing Maintenance Diaries are listed below:

- Complete the diary at the end of your work shift day. As work happens, it can be helpful to take notes for entry in your diary at a later time.
- Prepare diaries in ink or electronically (both are acceptable).
- Avoid the use of light blue ink colors, as they may not reproduce.
- Print legibly. Don not use longhand.
- Once submitted, diaries become a source document and are critical in defending the Department against TORT claims and lawsuits.

Items to track on your diary (ITD-0579) or (ITD-0025).

- Time your shift started.
- Time you left and returned to yard.
- Activities you performed during your shift (listing M-codes plus a description of events is preferred).
- Where you performed the activity (Highway, mile post/yard name and number/off right of way, road, address).
- If the activity changes during the day, what time the activity changed and why.
- Note any communications with State Comm., law enforcement, other foreman areas or the District office.
- Weather.
- Note any hazards removed, motorist assists, motorist interactions, damage to ITD devices (signs, guardrail, etc.).
- Note any roadway deficiencies (washouts, rocks in the road, pot holes).
- Note any occurrences that are out of the ordinary (accidents, fatalities, road closures, debris in the roadway, etc.).
- List all equipment you used, materials, quantities, location, etc. in TAMS.
- Include Work Order numbers from TAMS in your diary.

If you respond to an accident, find damage to state structures (guardrail, bridges, light poles, signs, buildings, etc.); take pictures of:

- Damaged structure/vehicle(s)
- The license plate
- The crash scene (if safe to do so; step back one skip line, five skip lines and ten skip lines and repeat this process in both directions)
- Any work signs that were in place at the time of the incident. (Once again try to take the picture from far enough back to show the layout)

Be aware of the impact posting accident scenes on social media can have on the families of those involved in accidents. Don't take or post pictures of those involved in any accident.

Public Relations

You represent the Idaho Transportation Department and shall treat the public with courtesy. When offering assistance or services, be sure that your actions will not place you or the state under liability for damage. Form ITD 1993, Emergency Assistance Release Form, shall be used releasing you or the state of any liability.

Disaster Assistance

Disaster procedures are established in Administrative Policy A0538. State law only authorizes department employees and equipment to work on State Systems. The Governor, however, can authorize assignments off State Systems by an Executive Order. In the case of a gubernatorial and/or Presidential declared disaster, ITD may be assigned emergency mitigation, preparedness, response, and recovery functions known as a mission assignment on or off State Systems.

When disasters or emergencies occur, ITD Operations personnel may become a key component of the emergency response team. ITD, through the Emergency Program Supervisor, have developed detailed protocols for how these incidents are managed and implemented. There are a number of manuals and guides to assist personnel in understanding all the responsibilities related to emergency response. Please see the following manuals/guides for more information on assistance and procedures:

- Disaster Assistance – A Guide to Recovery Programs
- ITD Emergency Program Operational Guide
- Idaho Traffic Incident Management Plan (TIM)
- ITD Hazardous Materials Coordination Handbook
- FHWA Emergency Relief Manual

Links to these manuals can be found on ITD's home page under "Emergency Program".

Operations Near Airports

Per IDAPA Rule 39.04.01, all proposed objects more than 200 feet above ground level or operations within twenty-thousand (20,000) feet of an airport or seaplane base, the Division of Aeronautics must be notified at least thirty (30) days before the work begins.

Chapter 2 Work Zone Traffic Control and Safety

General.

The Idaho Transportation Department is committed to provide our employees and those of our work partners with the safest workplace possible. To enable this goal we must identify situations where workers are exposed to uncontrolled hazards, develop strategies to reduce or eliminate the hazards and inform our workers of the control measures.

Recognition of Hazards.

All employees are required to conduct themselves in a manner which does not place themselves or others in an unsafe situation. Employees who find themselves in an unsafe situation shall take immediate action to eliminate the hazard or remove themselves and others in the area from the hazard. Employees are authorized to stop work they deem as immediately dangerous to life and health. Employees shall immediately inform their supervisor of the unsafe situation and discuss actions to eliminate or reduce the hazard to an acceptable level. Supervisors who are made aware of a hazard shall take immediate action to ensure hazards are reduced to acceptable levels.

Workplace injury or accident

Employees shall report any workplace injury or on-duty vehicle crash to their supervisor immediately. ITD form 1207 Report of Injury or Illness and/or Form 0556 Vehicle Incident Report and Supervisor's Investigation is required to be submitted to District Safety Officer. Incidents that result in property damage or near miss must be reported to the supervisor by the next day. The Supervisor will immediately notify the District Safety Officer of any workplace injury incident or on-duty crash that results in a fatality or hospitalization. Incidents that result in vehicle damage, facility damage, and potential tort claim or personnel injury requiring treatment greater than first aid must be reported to the District Safety Officer within 24 hours of the incident.

Any employee involved in a crash while operating a commercial vehicle will be post-accident drug/alcohol tested according to FMCSA procedures below:

Type of Accident Involved	Citation Issued to the Commercial Motor Vehicle Driver	Test Must Be Performed by Employer
Human Fatality	Yes	Yes
Human Fatality	No	Yes
Bodily Injury With Immediate Medical Treatment Away From the Scene	Yes	Yes
Bodily Injury With Immediate Medical Treatment Away From the Scene	No	No
Disabling Damage to Any Motor Vehicle Requiring Tow Away	Yes	Yes
Disabling Damage to Any Motor Vehicle Requiring Tow Away	No	No

Emergency Assistance and Abandoned Vehicles

If a vehicle is hindering emergency, or highway operations, you may offer emergency assistance. Use good judgment when making this decision. If you decide to lend assistance, have the motorist sign an "Emergency Assistance" form (ITD 1993) before moving the vehicle. Then move the vehicle so it no longer interferes with emergency or highway operations.

According to the state statute, 49-1301, the driver of any vehicle involved in an accident,.....resulting only in damage to a vehicle shall immediately stop (without obstructing traffic more than is necessary) the vehicle at scene. On divided, controlled access highways the statute requires driver to move the vehicle to safe refuge on the shoulder, emergency lane or median whenever such moving can be done safely and under vehicles own power.

In a non-injury accident, you or law enforcement may request the driver to move his/her vehicle to an area as to not obstruct traffic more than necessary.

Use the following procedures to remove abandoned vehicles from the highway:

1. Notify the State Communication Center (State Comm) upon discovery of any parked vehicle on state highway right-of-way, outside of the city limits, that ;
 - The vehicle poses an immediate threat to the life and safety of the traveling public,
 - If left in place, could cause a future traffic hazard,
 - Or does not impact traffic but has not been moved for more than 24 hours since discovery.
2. Make a diary record and submit the following information to State Comm:
 - The make, year, model, color, and license plate number of the vehicle.
 - The approximate location of the vehicle (by route, direction and milepost).

When requested in writing, you may assist law enforcement officials in removing abandoned vehicles.

Traffic Control

Any work activity on or immediately adjacent to the roadway shall not commence until proper warning signs are in place. The extent of signing shall be appropriate, considering type of work, alignment, visibility, duration and traffic volume. All signs must meet the specifications outlined in the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the state. Before work begins, an approved temporary traffic control plan (TCP) shall be made and must be present on site. In case of emergency, then document what was provided in the TCP as a diary entry. (Administrative Policy 5530.)

Fundamental Principles

Principles to enhance motorist and worker safety in maintenance work areas:

- Develop a comprehensive traffic control strategy that can be implemented at the work site. Evaluation of the work operation, site, and traffic conditions should determine the traffic control measures to be utilized.
- Maintain traffic flow as close to normal highway situations as possible.
- Do not surprise the motorist. Locate and place devices to maintain adequate sight distance for driver recognition and reaction on straight highway sections if possible.
- Prepare, understand, and implement a traffic control plan. Do not routinely rely on minimum standards. Evaluation of the work operation, site and traffic conditions should be determined to the appropriate level of traffic control measures.
- Avoid frequent and abrupt changes in alignment.
- Minimize worker exposure time to traffic.
- Provide adequate warning, delineation, and channelization.
- Remove inappropriate pavement markings on long term projects. (Work occupying a location three days or more)
- Provide flagging only when other methods of traffic control are inadequate.
- Inspect traffic set-up control measures prior to work.
- Monitor traffic control and modify where changing traffic conditions warrant.
- Remove, cover, or lay down control devices when not needed or in use.
- Channelize traffic with pavement markings, signing, cones, plastic barrels, water filled barriers, or lightweight devices.
- Sand bags may be used for sign ballast. Do not use heavy, solid weights for stabilizing portable sign supports
- Traffic control measures must be selected and implemented with drivers' perspective in mind. Credible messages must be sent to the driver to provide a reasonable expectation that the driver will comply
- Plan ahead for work operations and the associated traffic control. Do not rely completely on standard devices and procedures when more effective measures should be considered.
- Use traffic control devices (cones and barrels) to define the closed portion of the roadway that is the work zone. Even short-term operations can realize a safety benefit from placing cones in a manner that sends an obvious message to drivers that a portion of the road is closed and they must divert around the work zone.

If the activity is not completed at the end of the working day, temporary signs shall be removed or laid down a minimum of 15 feet outside the travel lane. Remove signs placed to warn traffic of hazards as soon as the hazard is eliminated.

Delay of Vehicles

Avoid traffic delays through a maintenance operation that exceed fifteen (15) minutes at any one time or where two or more interruptions total more than thirty (30) minutes. In areas with high traffic volumes (AADT exceeds 3,000 vehicles per day on a two-lane facility or 6,000 vehicles per day on facility of four lanes or more), the delay may have to be reduced if traffic backup becomes intolerable. For this reason, work in high traffic areas needs to be planned, to the extent possible, during lower traffic volume times. In some cases, detours should be planned for high volume roads and streets in order to minimize delays. If traffic has not been detoured from a four-lane facility, keep at least one lane in each direction open to traffic. Stopping of interstate traffic should be avoided unless no other feasible alternative exists.

Schedule traffic-delaying maintenance operations and contracted utility adjustments to avoid morning and evening rush hours on high traffic volume highways that carry commuter traffic in major urban areas.

Traffic Control Plan

The MUTCD is the legal document that must be satisfied with any traffic control used. If there are any questions on the use of signs, signals, traffic markings, or barricades, the MUTCD (as adopted by the state) will be the final authority, unless ITD has more restrictive standards. Part VI of the MUTCD covers construction and maintenance signs. It establishes principles to be observed in the design, installation, and maintenance of traffic control devices and prescribes standards where possible. However, due to the variety of conditions encountered no one standard sequence of signs or other control devices can be set up as an inflexible arrangement for all situations. Therefore, use the typical applications in the MUTCD as a basic guideline. The MUTCD sets minimum requirements and at no time should any traffic control setup use less than the minimum recommended standards for traffic control devices. Review each operation to determine the appropriate traffic control plan. Document the type of plan used by noting the plan designation number and all modifications used. The District Traffic Engineer can provide assistance or answer questions related to traffic control plans.

Responsibility

The supervisor in charge of a maintenance operation is directly responsible for inspection of traffic control devices. If the supervisor must be absent from the operation for more than two hours, a member of the crew who has been certified in traffic control will be responsible for surveillance. (Administrative Policy 5530.)

Work in ITD Right-of-Way by Others

Any environmental reclamation, towing recovery, utility company or any other entity shall acquire an approved permit to work upon the right-of-way. The permit shall include specific requirements and restrictions regarding environmental Best Management Practices (BMP) and a Traffic Control Plan. The Operations Team Leader, in whose area the work is to be done, or his/her designee will review the traffic control operation of the company as time and resources permit to ensure compliance with the terms of the permit.

Obscured Visibility

As per ITD Erosion and Sediment Controls (BMP), BMP 22 Fugitive Dust Control, any time maintenance operations have the potential to create dust and reduce visibility for motorists driving through work zones, appropriate dust abatement shall be used along with traffic control measures to avoid an accident potential.

All brooming operations shall require shadow vehicles as a minimum.

Reduced visibility due to blowing dust will require employment of traffic control devices, and flag persons. In worst case conditions a road closure will be activated. See Road Closure, in this manual.

Very Short Duration Operations (VSDO) Definition

An unplanned work activity, e.g. a worker on patrol discovers an object/hazard in the road and needs to remove/repair it.

It is important to recognize that many work operations may take only a few seconds or minutes to perform. These actions might be:

- Debris retrieval, locating drainage structures or other roadway features or components.
- Retrieval of lost cargo, work zone sign, or device installation and removal.
- Crash debris retrieval, a survey “shot,” monument or other reference check.
- Crossing or walking along the roadway, motorist assistance.
- Quick repairs intended as a partial or temporary response to damage or failure such as pot hole patching etc.

In many cases it is necessary and allowable for workers to walk on a roadway shoulder, cross traffic lanes, or momentarily step into a lane to access work locations or to perform work. These actions can only be accomplished if they are not in conflict with traffic or other hazards and it is safe to do so. See the applicable rules of this section for worker safety and protection. Very short duration operation is typified by the following:

- Generally these actions occur at isolated locations or the locations are spaced far enough apart that they would constitute separate work zones.
- Equipment is usually not required, other than the possibility of simple hand tools.
- Stop-gap measures to respond to damage or failures until a permanent repair can be made.

Key Elements of Very Short Duration Operation Zones

Because of the very short duration and nature of these actions, there is a possibility that adequate work zone measures may not be fully considered. Because of this ITD has adopted the following Risk Management flow chart to help Operations crews determine the viability of using a VSDO based on conditions on the roadway.

Decision Flowchart

After a crew arrives at the work site, a quick judgment on whether to proceed with the work as a VSDO should be made based on the situation at that moment. Follow the guidance in the VSDO flow chart, and described below, to determine whether VSDO is appropriate for the situation. In order to make a wise judgement, three questions must be answered successively. The answers will be reached by considering the important factors, such as traffic condition (A, B

or C), traffic speed, time of day, type of roadway, weather condition, location of work, and pavement surface condition. Details of those three questions are described below.

Question 1: Can the activity be performed in less than 15 minutes? VSDO's are usually performed within 15 minutes. If the task will take longer than 15 minutes to complete, then the crew should not proceed with the work as a VSDO. The workers should follow procedures described in Short Duration Operations (SDO) later in this chapter and follow MUTCD guidelines. If the answer to this question is "yes", then continue with the next question.

Question 2: Is the hazard of NOT executing the work as a VSDO greater than executing it? According to the definition of VSDO's, the hazard of not executing the work as a VSDO should be greater than executing it. If immediate execution of the work as a VSDO is hazardous to the operations worker, then the recommendations suggest that work as a VSDO not proceed. A better option would be to perform the work later in a safer condition or after adequate assistance is obtained. The following situations are considered good reasons for not performing the task as a VSDO.

- 1) **The current situation is not dangerous to motorist.** If temporarily leaving the situation as it is will not cause any danger to the traveling public, then the task could be suspended.
- 2) **The sight distance is inadequate for the worker.** For example, picking up a dead animal at a sharp curve on a low volume high speed rural highway is highly dangerous, because it is difficult for the worker to observe the oncoming traffic and for the motorists to react appropriately upon sighting the operations crew.
- 3) **The traffic volume or traffic speed is high.** If the traffic volume or speed is high, performing the task without enhanced safety equipment will be dangerous. Special devices or law enforcement involvement might be needed in this situation.
- 4) **Workers have no point of refuge.** Picking up debris on a narrow bridge is a good of this situation. Since the work location was on a narrow bridge, the worker was in a narrow space between the trucks and the bridge barrier.
- 5) **Weather condition is terrible for maintenance work.** Examples include snowy or icy weather or heavy fog.
- 6) **The light intensity is insufficient.** Poor visibility poses safety hazards to both operations workers and the traveling public and thus the guidelines recommend that the crew not perform the work.

Question 3: Do crew and traffic control devices meet minimum requirement? If the task can be completed within 15 minutes and the hazard of not executing it is greater than it, then the worker should determine whether the crew and the traffic control devices meet the minimum safety requirements. If crew and traffic control devices are insufficient for the task to be performed, then it is recommended that they do not proceed. Each scenario is different, so minimum requirements may differ based on the operation. Workers should therefore proceed with the appropriate VSDO response for the particular scenario.

If the answers to all three questions are "yes", then performing the task is comparatively safe with appropriate VSDO response. Otherwise, the work should not be as a VSDO. If assistance is

provided or the set of crew and equipment is modified or the safety condition changes, the worker(s) can go through the decision making process again.

Very Short Duration Work Zone Rules.

1. **Live traffic areas (lanes and intersections) in high speed and high volume work locations may not be good candidates for very short duration work zones.** Work zone condition “C” would apply to most of these types of locations and may be acceptable based on a positive site assessment and working only on the shoulder or adjacent lane as follows:
 - No unprotected work in interior lanes of multi-lane roads and no “island” work areas are allowed.
 - Lanes of multi-lane roads may only be accessed from the adjacent shoulder
 - Intersections may be accessed following the same manner and consideration should be given to incorporating the existing intersection control into the work zone traffic control . . . all red signal control or all way stop control may supplement the selected traffic control measures.
2. **VSDO flagging operations are not allowed.** All flagging requirements must be complied with and there currently is no exception for short duration work. Emergencies are the only exception to full flagging requirements. Flagging is defined by the MUTCD as stopping, directing or alerting road users.
3. **A determination of a safe work location must be made.** A basic determination can be made by observing traffic conditions (speed, volume, location, visibility, etc.) and assessing the following conditions:
 - Is the work location out of the traffic path?
 - Is there sufficient time for a worker to safely walk (not run) to and return from the work location?
 - Are there other hazards at the location that could affect worker safety?
 - Is there an effective contingency or escape plan?
 - Is there adequate sight distance from the work location to approaching traffic.

Very Short Duration Don'ts and Dos.

Don't –

- Take “short cuts” or hurry to accomplish work. Determination of all work zone hazards is a must.
- Run across or “dodge” traffic in live lanes.
- Work in a live lane under adverse traffic conditions or without proper traffic control in place . . . even if it is only for a few minutes or a few seconds.
- Assume that shoulder areas are automatically safe. Distracted, aggressive or impaired drivers may encroach. Also, oversize loads may present a hazard.
- Turn your back to oncoming traffic if possible.
- Put yourself in an unexpected location that may surprise a driver.

Do –

- Use the work vehicle as protection and warning whenever possible.
- Take advantage of any resources providing protection and warning without causing additional exposure. (TMAs, buffer/shadow vehicles, PCMSs, etc.)
- Plan ahead. Poor planning is not a valid excuse for lack of equipment, devices or awareness of traffic conditions.

- Find the safest available location to park or unload equipment.
- Avoid high traffic volume hours and locations. Plan ahead for better traffic conditions or consider alternate work operations.
- Work on the same side of the road as the work vehicle and warning beacon whenever possible



Very Short Duration Operations (VSDO)

Maintenance Operations Manual Section 300

THE DECISION PROCESS

Roadway workers often perform one-time duties of very short duration (under 15 minutes) in the travel lanes. This may involve exposure to moving traffic or a need to install temporary traffic control potentially taking longer than 15 minutes to set up.

The Decision Flowchart to the right describes the decision process for proceeding or not proceeding with a VSDO.

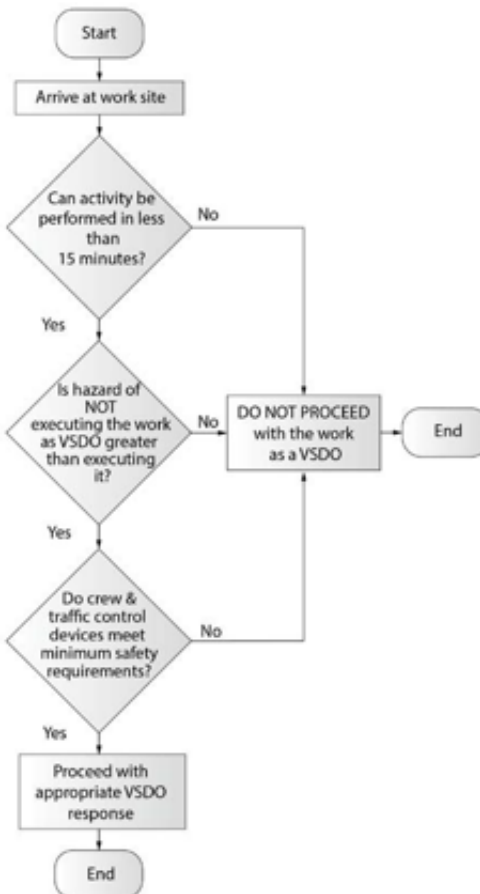
FOLLOWING THE PROCESS

QUESTION 1: CAN THE ACTIVITY BE PERFORMED IN LESS THAN 15 MINUTES? If the task will take longer than 15 minutes to complete, then the crew should not proceed with the work as a VSDO. If the answer to the question is "Yes," continue to the next question.

QUESTION 2: IS THE HAZARD OF NOT EXECUTING THE WORK AS A VSDO GREATER THAN EXECUTING IT? The hazard of not executing a VSDO should be greater than executing it. If immediate execution of the work as a VSDO is hazardous to the maintenance workers, recommendations suggest that work as a VSDO not proceed until further assistance is obtained. Good reasons for not performing the task as a VSDO follows:

- The current roadway situation is not dangerous to motorists.
- Sight distance is inadequate for the worker, such as on a curve or due to vegetation.
- The traffic volume or traffic speed is high.
- Workers have no escape routes, such as on a bridge with no shoulders.
- Weather conditions are too bad for maintenance work; examples include icy or foggy conditions.
- Poor visibility due to light conditions.

QUESTION 3: DO CREW AND TRAFFIC CONTROL DEVICES MEET MINIMUM REQUIREMENTS? If the crew and traffic control devices on hand are insufficient to perform the task at hand, the work should not be performed as a VSDO. In this case assistance such as law enforcement support or additional equipment should be requested; or reschedule the work. At a minimum the appropriate amount of personnel and equipment to do the job in less than 15 minutes, including reflective material on vehicles, amber light bars on vehicles and necessary communication devices, should be on hand. Depending on the type of work to be done, other devices such as truck mounted message boards, arrow boards or truck mounted attenuators may be necessary.



VSDO DEFINITION:

An unplanned or urgent activity, to be executed in 15 minutes or less by a crew of at least one worker and one truck, in which the hazard of not executing the work as a very short duration operation is greater than executing it.

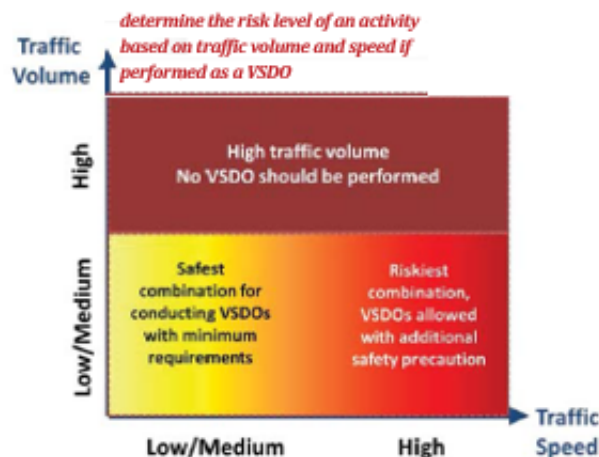
POSSIBLE OPERATIONS FOR VSDO CONSIDERATION

Could include but is not limited to pothole patching, debris removal, dead animal removal.

WHAT RISK FACTORS MUST BE CONSIDERED WHEN DECIDING TO PERFORM A VSDO?

- Traffic volume
- Traffic speed
- Time of day
- Type of road (two-lane undivided, multilane undivided, multilane divided)
- Weather conditions (clear, rain, fog, snow)
- Severity of risk (to the public and workers)
- Vision blocking objects (level of obstruction)
- Location of work (in the traveled way, on shoulder, beyond shoulder, in median)
- Roadway geometry (hills, curves, straight, flat, intersections)
- Type of work
- Surface condition (dry, wet, icy)
- Availability of refuge

The matrix below can help you





Very Short Duration Operations (VSDO)

Operations Manual Section 50

THE DECISION PROCESS

Roadway workers often perform one-time duties of very short duration (under 15 minutes) in the travel lanes. This may involve exposure to moving traffic or a need to install temporary traffic control potentially taking longer than 15 minutes to set up.

The Decision Flowchart to the right describes the decision process for proceeding or not proceeding with a VSDO.

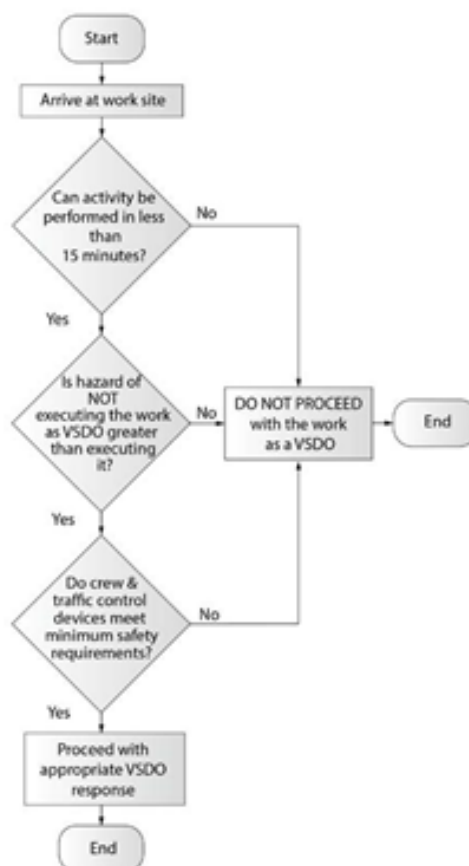
FOLLOWING THE PROCESS

QUESTION 1: CAN THE ACTIVITY BE PERFORMED IN LESS THAN 15 MINUTES? If the task will take longer than 15 minutes to complete, then the crew should not proceed with the work as a VSDO. If the answer to the question is "Yes," continue to the next question.

QUESTION 2: IS THE HAZARD OF NOT EXECUTING THE WORK AS A VSDO GREATER THAN EXECUTING IT? The hazard of not executing a VSDO should be greater than executing it. If immediate execution of the work as a VSDO is hazardous to the maintenance workers, recommendations suggest that work as a VSDO not proceed until further assistance is obtained. Good questions for determining the task as a VSDO follow:

- The current roadway situation is not dangerous to motorists.
- Sight distance is inadequate for the worker, such as on a curve or due to vegetation.
- The traffic volume or traffic speed is high.
- Workers have no escape routes, such as on a bridge with no shoulders.
- Weather conditions are too bad for maintenance work; examples include icy or foggy conditions.
- Poor visibility due to light conditions.

QUESTION 3: DO CREW AND TRAFFIC CONTROL DEVICES MEET MINIMUM REQUIREMENTS? If the crew and traffic control devices on hand are insufficient to perform the task at hand, the work should not be performed as a VSDO. In this case assistance such as law enforcement support or additional equipment should be requested; or reschedule the work. As a minimum the appropriate amount of personnel and equipment to do the job in less than 15 minutes, including reflective material on vehicles, amber light bars on vehicles and necessary communication devices, should be on hand. Depending on the type of work to be done, other devices such as truck mounted message boards, arrow boards or truck mounted attenuators may be necessary.



VSDO DEFINITION:

An unplanned or urgent activity, to be executed in 15 minutes or less by a crew of at least one worker and one truck, in which the hazard of not executing the work as a very short duration operation is greater than executing it.

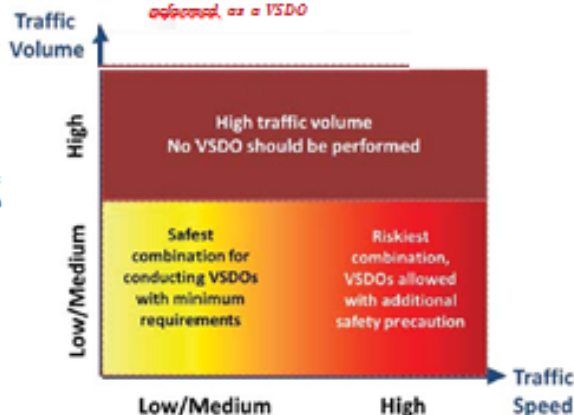
POSSIBLE OPERATIONS FOR VSDO CONSIDERATION

Could include but is not limited to pothole patching, debris removal, dead animal removal.

WHAT RISK FACTORS MUST BE CONSIDERED WHEN DECIDING TO PERFORM A VSDO?

- Traffic volume
- Traffic speed
- Time of day
- Type of road (two-lane undivided, multi-lane undivided, multi-lane divided)
- Weather conditions (clear, rain, fog, snow)
- Severity of risk (to the public and workers)
- Vision blocking objects (level of obstruction)
- Location of work (in the traveled way, on shoulder, beyond shoulder, in median)
- Roadway geometry (hills, curves, straight, flat, intersections)
- Type of work
- Surface condition (dry, wet, icy)
- Availability of refuge

The matrix below can help you determine the risk level of an activity based on traffic volume and speed if approved as a VSDO



YOUR Safety ••• YOUR Mobility ••• YOUR Economic Opportunity

Guidance for Utilizing Short Duration Traffic Control

The following guidance applies standards from the MUTCD to provide more specific direction for short duration work zones. It also provides a rationale to assist with selection of appropriate traffic control for a short duration and safety measures.

Short Duration Operations (SDO) Definition. Short duration operations (SDO) are defined as a planned work activity that exposes workers and highway users to temporary hazards and has a duration between 1 hour and 1 full day. An example could be of a crew performing an inlay patch to the roadway surface within the travel lane. This activity will take longer than an hour to complete and a temporary traffic control (TTC) plan will need to be developed and implemented to ensure the safety of the crew and highway users.

The included guidance, direction, rules, consideration and chart should lead to an informed choice. **Remember, there is no single solution that fits all work zones so consider your options before you begin operations.**

- Consider a rolling slowdown operation for work operations of a short duration in which traffic control measures would take more time to install than the actual work. Typically, rolling slowdowns are desirable for difficult access work zones, such as center lanes or closing all lanes at once on multi-lane highways.
- Consider stationary work zone measures with a full complement of signs and devices. Some work operations, traditionally classified as short duration, may be conducted as longer term stationary work by linking several work areas together under a lane or shoulder closure. Advantages of linking work operations may include reducing exposure of workers to traffic, efficiencies in completing tasks concurrently, reducing the number of lane closures in the same area, and overall reduction in impacts to traffic.
- Consider mobile operations. Other short duration operations may be conducted as mobile operations by progressing through several work areas and making intermittent stops. Advantages are shortened work operations to install traffic control devices and improved worker safety through use of mobile equipment (TMAs, PCMSs, mobile work vehicles, etc.).
- ***BEST PRACTICE***** Combine crews to accomplish work using mobile or stationary work zones, weekend or night closures, and at other identified work locations or on operations that may be difficult to accomplish with a small crew. Identify “red zones” where short duration work operations are not desirable due to poor traffic conditions (high volume, high speed, weaving areas, bridges, interchanges, etc.).

Work Zone Condition

Work zones can be categorized into three relative condition types. This helps establish a practical application level of traffic control and safety devices based on hazard, protection and warning levels related to work location and duration. The MUTCD allows for simplified traffic control procedures for short duration operations, but does not go into detail on what those procedures might be. The condition levels are:

A. Represents the lowest level of work zone impacts and is typified by:

- Low traffic speed and volume.
- Minimum levels of warning, protection and hazards. A work vehicle with warning beacon and personal protective equipment may be adequate.

B. Represents moderate work zone impacts and is typified by:

- Low or high traffic speed with low to moderate volumes.
- Moderate levels of warning and protection, such as a spotter, cones or PCMS added to condition “A” devices would be typical considerations.

C. Represents the highest impact level and is typified by:

- High traffic speed and volume.
- All applicable traffic control and safety devices should be considered, such as PCMS, TMA, and signs. The work zone condition level does not provide for a complete assessment, but is a valuable tool for balancing duration with other work zone elements. Worker safety cannot be ignored no matter how short the work duration.

A common example of this condition is in the interior lane of a high-speed, multilane road. Even though the work duration may be short, mobile or stationary lane closures must be used.

Consideration and Assessment of Traffic Volumes in Work Zones. Throughout the guidance in this document, various references are made to traffic volume. These references may be further described as low volume, moderate volume and high volume. Within the context of this document as well as the MUTCD, traffic volume is intended to be a relative term. For example, high volume traffic conditions during rush hour in Boise are much different than high volume traffic conditions in Lewiston, yet both can still be referred to as high volume, given delays and backups.

Your District Traffic Office can assist with recommendations for work hours in those areas where high volume traffic conditions could cause undesirable backups and delays.

Field crews may need to make on site judgments as to traffic volume conditions. This consideration is very important when performing short duration work, since fewer warning and protective devices may be used. Key information needed to make a judgment of traffic volumes and how work zones affect traffic includes the following.

Traffic Conditions

- Experience and knowledge of historical traffic conditions and operation on a given section of highway can provide as much value in determining a traffic volume condition as actual traffic volume counts.
- Observations of current traffic conditions can be used to determine the volume condition as follows:

Condition “A” low volume. Worker awareness of traffic is always essential. At this level vehicles approach the work zone somewhat randomly and generally present a minimal conflict potential. Typified by:

- Significant gaps in traffic flow.
- Few vehicles visible at any given time.
- Random platoons of vehicles.
- Free flow traffic at the posted speed limit.
- Near unrestricted access to the work area.
- Lane closures with minimal delay and backups.
- Safe walking pace conditions across a two-lane highway or intersection.
- Rough estimate of traffic volume at less than five vehicles per lane per minute.

Condition “B” moderate volume. The frequency of vehicles increases and more care and vigilance are required by workers to ensure safe work operations. Typified by:

- Gaps in traffic are present, but may be more inconsistent.
- Vehicles are generally present all the time.
- Traffic is constant but still flows freely.
- Generally free flow traffic at the posted speed limit.
- Lane closure and flagging operations cause delays and backups within acceptable limits.
- Good work area access but vehicles are usually present.
- Safe walking pace conditions across a two-lane highway or intersection exist, but may require waiting for a gap in traffic. A spotter may be used to warn workers of oncoming traffic.
- Rough estimate of traffic volume at 12 vehicles per lane per minute.

Condition “C” high volume. Constant awareness and protective measures for workers are required to ensure safe work operations. Vehicles are constantly present at this level. Traffic volumes may adversely impact work operations and higher levels of warning and protection will probably be needed. Typified by:

- Minimal gaps in traffic.
- Constantly present vehicles.
- Restricted or unstable traffic flow.
- Reduced traffic speeds, as volume starts to approach road capacity.
- Unacceptable backups and delays. Additional signing may be needed if traffic backs up past warning signs.
- Safe work area access is generally accompanied with protective devices (TMAs, buffer vehicles, etc.)
- A safe walking condition across a two-lane highway or intersection may not exist.
- A rough estimate of 20 vehicles per lane per minute.

Traffic conditions need to be monitored throughout the work operation to determine if adjustments are needed to address traffic impacts. A worst case scenario of stopping work and reopening the roadway to traffic may be avoided by planning for the traffic conditions in advance and selecting compatible hours of work.

Key Elements of Short Duration Temporary Traffic Control Zones. Because short duration operations projects are planned ahead of the work tasks, there is time to develop a TCP to meet the conditions of the highway type and traffic volume. Use SDO TTC Options Table and the SDO Temporary Traffic Control Plan Form (ITD 2636).

SDO Temporary Traffic Control Options Table.

SDO TTC Options Table				
	Two-Way Two-Lane	Divided/Multilane Highway	Bridge	Mobile Operation
Portable Changeable Message Sign	Should Use	Should Use	Should Use	Should Use
Truck Mounted Attenuator	Should Use	Should Use	Should Use	Shall Use
Arrow Board	N/A	Should Use	May Use	May Use
Buffer Space if Speed > 55 mph	Should Use	Should Use	Should Use	N/A
Flagger Control	Should Use	May Use	May Use	N/A
Shadow Vehicle	N/A	N/A	N/A	Should Use
Drums or Tapers Upstream	Should Use	Shall Use	Should Use	N/A
Advisory Speed Reduction	May Use	May Use	May Use	May Use
Regulatory Speed Reduction	May Use	May Use	May Use	May Use
Pilot Car	May Use	N/A	May Use	N/A
Flood Lights (Flagger Station)	May Use	May Use	May Use	N/A
Automated Flagger Asst. Device	May Use	N/A	May Use	N/A

Shall Use	Must Implement without Exception
Should Use	Should use unless there is strong justification to not use
May Use	To be used where applicable

For short duration operations, ITD has chosen to require, recommend, or opt to use temporary traffic control devices or methods on highways or for project types that are in excess of the requirements in the MUTCD. The SDO TTC Options Table shows temporary traffic control devices and methods applicable to highway or project types and the priority for their use. In the Table, each temporary traffic control device or method is categorized by shall use, should use, or may use for the highway or project types.

- **Shall Use:** These items are required.
- **Should Use:** These items are recommended unless there are valid reasons documented on the SDO TTC Plan Form for why they are not being used. For example, a buffer space is not being used because there is not enough physical space between the work space and a nearby intersection to include one.
- **May Use:** These items can be used depending on the work activity being performed, the highway project type, location, and time of day. These items should be part of the SDO TTC Plan, but no documentation is needed if the items are not used.

For Mobile Operations, the truck mounted attenuator shall be mounted to the shadow vehicle. The use of a two vehicles for these devices is not required.

SDO Temporary Traffic Control Plan Form. Use the SDO Temporary Traffic Control Plan form (ITD 2636), to document the project details necessary to develop a TTC plan for a given project. Include location, dates, schedule, MUTCD Typical Application used, and highway and Foreman area information. The form lists the traffic control devices and methods from the SDO TTC Options Table for documenting whether or not they are to be included with the TTC plan. If a traffic control device or method shown in the SDO TTC Option Table is shown with a “Should Use” classification for the highway or project type, document on the form the reason “why” the device or method is not included in the TTC plan.

The SDO Temporary Traffic Control Plan form can be filled out by employees who have completed the 10.16 Application of Traffic Control Plans training course. The SDO Temporary

Traffic Control Plan form should be approved by a certified Traffic Control Supervisor (TCS), Team Leader, or Engineer, but can be approved by an experienced TTO, who has completed course 10.16, authorized by their Team Leader.

Use the “Set Up Inspected By” section to document that the TTC plan has been set up per the SDO Temporary Traffic Control Plan form and MUTCD Typical Application, and has been verified by driving through the TTC zone. Complete the set up inspection before any work activity has begun within the TTC zone. The “Set Up Inspected By” section can be signed by employees that have completed the 10.07 Basic Traffic Control and 10.28 General Flagger Training courses. Use the SDO Temporary Traffic Control Plan form to document the number of drums, cones, sign stands and number and type of signs needed for the project. Use the Taper Table and Sign Spacing Table on the second page of the form to determine and document the correct lengths of tapers and distances between drums, cones, and signs depending on the traffic speed and highway type.

A complete TTC plan includes both pages of the SDO Temporary Traffic Control plan Form filled out with a copy of the MUTCD Typical Application attached. The approved SDO Temporary Traffic Control Plan should be kept on-site throughout the project. Document alterations made to the TTC plan on the SDO Temporary Traffic Control Plan form. Keep a copy of the approved SDO Temporary Traffic Control Plan, including alterations, in the project file per the retention policy.

The SDO Temporary Traffic Control Form (ITD 2636) is located on Form Finder.

Exceptions to Signing. In some cases, for short-duration of 60 minutes or less (MUTCD TA-3, Work On Shoulder) or mobile operations (MUTCD TA-1, Work Beyond Shoulder), all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.

Warning signs are sometimes impractical on patrol maintenance operations such as removing isolated boulders, straightening signs, etc.; however, every effort should be made to minimize the hazards to the public and ITD personnel in conducting these activities. Whenever possible, vehicles used in these operations should be parked clear of the travel way. See the VSDO guidance earlier in this chapter.

Emergency Median Crossovers (General Procedures). Emergency (maintenance) median crossovers on access controlled divided highways are designed for highway operations crews, POE and emergency vehicles as per administrative policy 5531, and can be quite safe if used properly.

Operations crews use median crossovers for a variety of reasons including; picking up debris, litter, roadkill removal, responding to accidents, traffic control, stranded motorists and snow plowing operations.

Median crossovers may be utilized at one or both ends of interchange facilities, depending on interchange type, for the purpose of snow removal and at other locations to facilitate maintenance operations.

Best Practices for Use

- Median crossovers are to be used by operations personnel if they are located further than 1500 feet from the end of a ramp or any structure.

- Median crossovers should only be used where above-minimum stopping sight distance is provided and preferably should not be used when the crossover is located within curves requiring super elevation.
- In rural areas, median crossovers may be the best option when the distance between interchanges is greater than 5 miles
- When working in urban areas it is preferable to use interchanges instead of median crossovers
- A best practice for use of median crossovers is to pull to the right shoulder of the highway and wait to enter the crossover when traffic allows. Slowing and entering a crossover from the far left (passing) lane should be avoided unless traffic volume and speed allows it to be done safely.

Low and Moderate Volume Traffic Crossover

- Signal your intention well in advance of the median crossover (turn on flashing lights at least a ½ mile prior to the crossover and turn signal at least 500 feet prior to the crossover).
- Pull to the right shoulder of the roadway and wait for a sufficiently sized gap that will allow you to pull into the median crossover in a safe manner.
- Turn into the median crossover and proceed to the other side.
- Only enter into the lane of traffic when traffic allows and it is safe to do so. If traffic volume warrants; wait for a sufficiently sized gap in traffic that will allow you to pull to the right shoulder of the roadway and enter into the lane of traffic when conditions allow.

High Volume Traffic Crossover

- Proceed to the next interchange and turn around. Do **NOT** attempt to use the median crossover; safety and the traveling public's safety could be at great risk.

For the procedure to determine traffic volumes consult "Traffic Conditions" earlier in this Chapter.

Hazardous Material/Incidents or Spills

Hazardous materials require special procedures, as outlined in the Emergency Response Guide Book and ITD's Hazardous Materials Coordinator's Handbook.

<https://www.phmsa.dot.gov/hazmat/erg/erg-2020>

Rocks and Debris

Rock falls or debris including slides and flood material that fall onto the road surface or roadside can create safety hazards to the traveling public, as well as environmental concerns. These situations need to be dealt with quickly, safely, and effectively.

When rock or debris is encountered during routine patrol or reported and an employee is dispatched for removal, every effort and precaution should be made to remove the obstacle(s) as quickly as possible. Removal, depending on the circumstances, can be accomplished using

equipment or by hand. Care should be taken so the obstacles are not disposed of or cast where they could interfere with or endanger public safety.

The following procedures are to be followed when performing rock/debris removal:

When plowing rocks from the roadway, the operator should slow the plow to as slow a speed as possible, considering traffic volumes, sight and stopping distances, and weather conditions.

Rock or debris should not be plowed or otherwise removed to any shoulder that is next to a steep downhill embankment, back or side slope, or any other area that overlooks lower terrain, roadways, or stream banks unless the area has been reviewed and deemed acceptable for disposal. Whenever possible, rock or debris should be plowed or removed in a safe manner into a ditch next to the uphill cut slope. Do not plug the ditch. The employee should ensure that the rock or debris is secure and not a hazard before leaving the area.

When rock or debris is encountered in the roadway that cannot be safely plowed or removed from the roadway into a ditch or approved location, appropriate traffic control measures should be taken to prevent accidents until the obstruction can be safely removed.

Operations equipment operators shall, at a minimum, activate the required emergency flashing lights while removing rock or debris from the travel lanes.

Disposal of the rock or debris should be at approved sites only. Disposal into wetlands or waters of the United States shall receive prior approval from the Corps of Engineers and the Idaho Department of Water Resources.

Emergency Response Procedures

There are many situations when Operations staff may be exposed to situations requiring emergency action. The most common emergency situations Operations staff may encounter are vehicle collisions and hazardous material spills. ITD offers training to Operations staff on Incident Response and Haz-Mat awareness that provide basic understanding of how to respond to these situations. When responding to or coming upon these incidents, staff need to follow detailed guidance provided in the Emergency Response Guidebook, ITD's Hazardous Materials Coordinator's Handbook, Idaho Traffic Incident Management Guidebook and the Idaho Traffic Incident Management Field Guide. A copy of these manuals should be in all ITD vehicles. Information included in this manual is intended as a basic summary of how to respond, but all Operations staff should be familiar with and follow guidance included in the above referenced manuals.

Traffic Incident Management in Idaho

The Idaho Transportation Department's Traffic Incident Management or TIM Program is dedicated to improving the on-scene safety of Idaho's Incident responders. By increasing outreach and awareness of TIM practices, the program can increase the reliability of Idaho roadways and the livability of our communities.

Benefits of Traffic Incident Management

SAVES LIVES



Crashes and "struck-by" incidents continue to be a leading cause of on-duty injuries and deaths for public safety responders and support teams responding to highway incidents.

SAVES TIME



Traffic incidents are a contributing factor to congestion in the U.S. For every minute a freeway lane is blocked due to an incident, it results in four minutes of travel delay.

SAVES MONEY



Less time spent in backups, fewer secondary crashes and fewer insurance claims means less financial loss due to highway incidents.

FREE TIM Training is Available

FREE training has been developed by the Federal Highway Administration (FHWA) and offered through the Idaho Transportation Department. The training curriculum is pilot-tested and based on the best TIM practices and advanced standards.

Who is Eligible For Training?

Multiple response agencies work together to respond to highway incidents, including:

- Law Enforcement
- Fire and Emergency Medical Services
- Transportation and Incident Response
- Towing
- Public Works
- Haz-Mat Disciplines

TIM training is customizable and can be delivered in its entirety or through select modules in almost any location.

If you or your organization is interested in having TIM training, please check the ITD website for scheduled events or contact us to come to you.

National TIM Responder Training Program

Traffic Incident Management consists of a planned and coordinated multi-disciplinary process to detect, respond to and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. TIM Responder Training brings together personnel across the responder spectrum to build a stronger, more coordinated corps at the local and national level.

ITD's TIM GOAL is to provide quarterly training based on geographic regions to all of Idaho in the coming years.



To date more than 335,000 TIM Responders across the U.S. have received the training. Since the program began in Idaho:

- 396 Incident Responders have been trained.
- 118 TIM Trainers have been certified.



CHECK OUT OUR WEBSITE:

www.itd.idaho.gov/ITD
Click on the "Traffic Incident Mgmt" tab

CONTACT US:

Neal Murphy, ITD	208-334-8414
Lance Johnson, FHWA	208-334-8414
Chris Loffer, StateComm	208-846-7626



DON'T USE LUCK AT AN INCIDENT

IDAHO LAW

Slow Down, Move Over

Give responders room to safely & quickly clear traffic incidents.

On July 1, 2019, Idaho's "Move Over" law expanded to include responders to roadside emergencies, such as highway workers and tow truck operators. The original law says that drivers must slow down and move over for law-enforcement vehicles with flashing lights. The new 2019 expanded law now forces drivers to move over for all emergency responders including tow trucks and workers from the Idaho Transportation Department.

FOR MORE INFORMATION:
Idaho Code Section 49-624

SEE THESE?

DO THIS.

MOVE OVER FOR EMERGENCY VEHICLES

#MOVEOVER

WEAG NHTSA

RESPONDERSAFETY

SAFE, EFFECTIVE TRAFFIC CONTROL IS EVERYONE'S RESPONSIBILITY

EMERGENCY RESPONDER CHECKLIST

***First 15" Initial Action Items**

- ☐ Position blocking vehicle
- ☐ Use high visibility apparel
- ☐ Estimate incident magnitude, expected duration, and vehicle space (backup) length
- ☐ Establish Incident Command/Unified Command Post
- ☐ Assign trained personnel to traffic control
- ☐ Establish TMA; reassess every 10 minutes and revise as needed
- ☐ Identify and request needed resources (HAZMAT, towing/recovery, DNR, DOT, medical examiner, crime investigation)

Personnel Must Do's

- ☐ All responders must wear department-based, identifiable, high visibility apparel or NFPA-compliant turnout gear
- ☐ Only trained personnel should conduct traffic control
- ☐ Never turn your back to traffic, minimize exposure to traffic, work in the shadow of the blocking vehicle, maintain situational awareness
- ☐ Use spotters to look out for moving vehicles

**COMMUNICATE
COORDINATE
COOPERATE**

Vehicles Must Do's

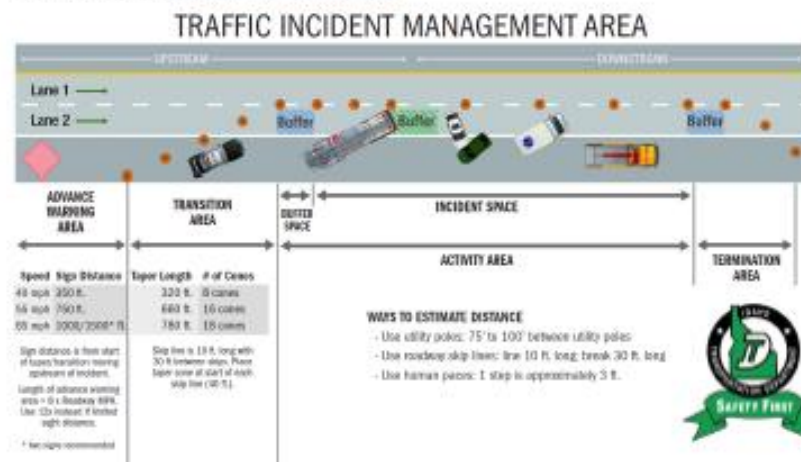
- ☐ Limit number of responding vehicles
- ☐ Stage vehicles not active in response off-roadway
- ☐ Park all vehicles on same side of roadway
- ☐ Position blocking apparatus to protect responders
- ☐ Activate emergency lighting appropriate to the conditions
- ☐ Minimize forward-facing white lights

Roadway Response Considerations

- ☐ Time of the incident
- ☐ Amount of congestion
- ☐ Can vehicles be moved from roadway
- ☐ How many (if any) lanes need to be closed
- ☐ Emergency vehicle access routes
- ☐ Increased volume on detour routes
- ☐ Minimizing time on scene to limit exposure
- ☐ How quickly lanes can be reopened
- ☐ How to avoid secondary incidents
- ☐ How you can make the scene safer
- ☐ Periodic updates to the TOC

Incident Magnitude	Duration	Traffic Control Measures
Minor	<30 minutes	<ul style="list-style-type: none"> Notify Traffic Operations Center (TOC) if roadway is one where a minor delay can significantly impact traffic Establish TMA Notify TOC
Intermediate	30 min - 2 hrs	<ul style="list-style-type: none"> Establish TMA Consider DOT response Notify TOC
Major	2+ hrs	<ul style="list-style-type: none"> Request DOT response early Establish full work zone (same as non-emergency)

Source: Information courtesy of Tyler Schuchman and Dan Beyer, International Transportation Technical Center (ITTC)



Hazardous materials are those substances which, when spilled, may make driving on the roadway unsafe, endanger the lives of people in the vicinity, or contaminate the environment. Materials that may be inherently dangerous include: explosives, flammables, corrosives, poisons and radioactive materials. Operations staff are required to attend Hazard Materials Module 1, which provides basic employee awareness on hazardous materials.

ITD employees at the scene of an accident or spill will take emergency actions only as required to protect human life and property until Idaho State Police (ISP) or local law enforcement takes control of the situation. Do the following:

- Resist rushing in
- Approach cautiously from upwind, uphill or upstream
 - Stay clear of Vapor, Fumes, Smoke and Spills
 - Keep vehicles at a safe distance from the scene
- Secure the scene
 - Isolate the area and protect yourself and others If possible to do safely,
- Identify the hazard using any of the following
 - Placards, container labels, shipping documents, Rail car and road trailer identification chart, Material Safety Data Sheets (MSDS), knowledge of person on scene
- Assess the situation
 - Is there a fire, a spill or a leak?
 - What is the weather conditions?
 - What is the terrain like?
 - Who/what is at risk: people, property or the environment?
 - What actions should be taken – evacuation, shelter in place, dike?
 - What can be done immediately?
- Obtain help
 - Advise State Communication Center and District Haz-mat Coordinator

ABOVE ALL: Do not assume gases or vapors are harmless because of a lack of a smell – odorless gases and vapors may be harmful. Use CAUTION when handling empty containers because they may still present hazards until they are cleaned and purged of all residues.

Road Closure

The authority for State highway closures is contained in Section 40-310, Idaho Code, and Administrative Policy 5012. The Chief Engineer or the District Engineer is responsible for closing or restricting the use of any state highway whenever such closing or restricting is deemed necessary for:

- The protection of the public
- The protection of the highway or any section thereof from damage.

Local Law enforcement personnel may, at their discretion, enforce temporary delays for safety reasons. The Idaho State Police (ISP) have the authority under Section 67-2901, Idaho Code, to close a state highway if deemed necessary. The District Engineer, his designee, or Team Leader, will communicate with law enforcement at the scene to determine the appropriate action.

In the event of any incident (natural or man-made) that impedes travel and the safe passage of vehicles, the District Engineer, his designee, or ISP will take action immediately to close the road if the roadway cannot be opened within two (2) hours. When it becomes apparent that a section of road will need to be closed, the closing agency (District or ISP) will take prompt action in the following order:

- Assess the damage
- Notify the State Communication Center (State Comm.) to initiate the TRAVELIQ 511 updates and the notification process as described in the Road Closure Section of the Dispatch Manual.
- Start emergency repairs to open the road, alternate route or bypass.
- Coordinate traffic control with State police and/or local law enforcement officials.
- Check the section to be closed to make sure it is cleared of all motorists.

Establish proper signing, barricades, detour instructions, and turnaround space, in accordance with the MUTCD. Although Type I barricades are allowed by MUTCD in emergency situations, Type III barricades, or permanent mounted road closure gates complying with Standard Details, dd-001, Road Closure Drop Gate, and dd-002, Road Closure Drop Gate and Lighting should be used for winter road closures wherever possible. Advance warning of the closure at the nearest major crossroad should be signed in order to give motorists adequate opportunity to turn back or use alternative available routes.

Appropriate barricades and signs, including permanent mount flip signs, should be readily available for routes that are frequently closed in winter. Reflectorized signs should be placed at the nearest town on both sides of frequently closed heavy snow routes to advise motorists whether the road is open or closed. Local and adjacent city, county, and state agencies should be notified of the closure.

State Comm will maintain a log of all road closures to document the section closed, time and date closed and opened, reasons for closing, and other pertinent data.

When a road is to be reopened (at the discretion of the District Engineer), remove all signs, barricades, and other instructional signs. Notify State Comm. to initiate the reopening notification process as described in the Road Closure Procedure Section in Chapter 11 of this manual.

Do not deviate from the above procedures when closing a road, except for short term blockage of less than 2 hours, the District should use their own discretion on the notification procedures.

The immediate actions of the District Engineers and their staff are very critical for responsible protection of the public traveler, commercial haulers, highway personnel, highway equipment,

roads, bridges, etc. The public image is affected by these immediate and proper actions or reactions to provide maximum service during any emergency.

The Headquarters staff shall assist the Districts during any emergency as follows:

- Maintenance Operations Section – Coordinate the technical team assignments.
 - Coordinate road equipment needs and movement of equipment from other Districts.
 - Initiate an information sharing system for management and staff.
- Bridge, Right-of-Way - Provide technical assistance as requested.
- Public Information Office – Coordinate all news releases.

Bridge Closure

In the event of emergency bridge repair due to floods, collision, or any other circumstance which materially affects the safe passage of vehicles, the District Engineer will temporarily close the structure. A permanent closure may result after the Bridge Engineer has evaluated the damage. If the serviceability of a structure is in doubt, temporarily close it.

As soon as the extent of damage and the method of repair have been determined, begin emergency repair immediately if the structure can be adequately repaired with State forces. In the event of major damage, which cannot be handled by State forces, negotiation shall begin for contract repair. Coordination between the District and Headquarters will be expedited to accomplish the repair with a minimum of delay and commensurate with good construction practices. Follow the Road Closure Procedures for closures estimated to last longer than 2 hours.

Railroad Closure

Take the following action when you find it necessary to stop a train because of an emergency condition existing at a railroad crossing on the State Highway System:

- Mark the obstruction so that it is visible to both railroad and highway traffic. Notify District Office or State Comm. (1-800-632-8000) so that they can relay the message to the railroad company(s). At all crossings there is an emergency number posted at the crossing on the blue Emergency Number System (ENS) sign. Call the emergency number to inform the railroad of the closure and provide the crossing number listed on the ENS sign, describe the situation and then the railroad will determine the appropriate action for slowing or stopping train traffic. Refer to Figure 2-1.
- Return to the emergency area and begin clearing the obstruction. Call for additional help if the situation is beyond your capabilities.
- Remove all warning devices after the obstruction or danger has been cleared or rectified.



Figure 2-1

Closure of Road to Extra-length Combinations, Mobile Homes, Modular Housing and Buildings

The District Engineer may restrict or prohibit the operation of the subject vehicles when road conditions become sufficiently hazardous. Hazardous conditions may be due to ice, snow or frost; visibility restricted by fog, dust, smoke, smog or other atmospheric condition; or extreme wind velocities.

When it is determined by the District Engineer or his designee that traffic, weather or other safety concerns make operation of the subject vehicles unsafe or inadvisable, the standard road closure notification and documentation procedures shall be followed as outlined in Road Closure in this Chapter. Additional notification shall be made to the Idaho State Police District Office and District POE Supervisor.

POE personnel will not initiate extra-length road closures but together with ISP they will be responsible for actually enforcing the vehicle restriction. If POE or other ITD personnel are aware of conditions which make operation of the subject vehicles and loads unsafe, the appropriate District Office should be notified immediately. Prompt notification when normal travel may be reestablished is also important. As usual, good communication of changing weather conditions will also be valuable.

Informative News Releases

The District Engineer shall immediately, or as soon as practical, notify the public, through District Public Information staff of all road closures. The news release shall give the time of the closure, expected length of closure, the plans to remove the impediment or correct the problem, what options are being considered, what problems are encountered, how and when we propose to resolve the problems, best possible bypass route and any other available detours.

Informative news releases shall be issued regularly by the District Public Information staff and to report the progress on the corrective actions.

Copies of each of the news releases shall be forwarded to the Maintenance Operations Manager, Director, Public Information Office, COO and Division Administrators.

In-House Use of Hazardous Materials

See ITD's Hazardous Materials Coordinator Handbook or contact the District Haz-Mat Coordinator or Alternate for information on proper use and safety precautions for using Hazardous Materials.

Safety Data Sheets (SDS)

The SDS is a comprehensive source of information. There may be information on the SDS that is not useful to you or not important to the safety and health in your particular operation. Concentrate on the information that is applicable to your situation. Generally, hazard information and protective measures should be the focus of concern.

Supervisors Responsibilities

Supervisors must ensure that each employee has a basic knowledge of how to find information on an SDS and how to properly make use of that information. Supervisors also must ensure the following:

- All employees shall attend the 4-hour Hazardous Material Training Session provided by ITD to become familiar with chemical identification, standard operating procedure, characteristics of chemicals, health hazards, and emergency procedures.
- If an employee receives, ships, or handles a hazardous material they are required to have training within 90 days of hire or being transferred to the position, and have continuing training every 3 years.
- Supervisors must have a copy of the manufacturer specific SDS for each hazardous chemical used in the workplace. This copy must be a printed sheet, not a digital copy on a computer or other device.
- SDS is made available during each work shift to employees when they are in their work areas.
- Employee's signature assures that the employee understands the hazards and handling procedures.
- When new and significant information becomes available concerning a product's hazards or ways to protect against the hazards.

Regarding requests for SDS of a product that is not a hazardous chemical you can use this statement. "This product is not considered to be or to contain hazardous chemicals based on evaluations made by our department under the OSHA Hazard Communication Standard, 29 CFR 1910.1200."

Employee Responsibility

All employees who use hazardous materials to perform their job duties should request a copy of the Safety Data Sheet (SDS) when the product is supplied to them. They must read the SDS, paying close attention to health hazard data, spill, or leak procedures and special protection information. Special procedures must be followed and suggested protective equipment used at all times. ITD will provide all needed safety equipment through normal supply procedures, on request.

Your Rights

Your workplace is required to have Safety Data Sheets available for every single hazardous chemical or substance you use or encounter as a part of your job. SDS must be readily available for employee review at all times you are in the work place! ***In other words, they cannot be locked in an office or filing cabinet to which you do not have access. If you do not know where the SDS for your area are kept, find out.***

If you request to see an SDS for a product you use at work, and your supervisor cannot show it to you, after one working day you may refuse to work with that product until you are shown the correct SDS.

If you request your own personal copy of a Safety Data Sheet, your supervisor has 15 working days to provide it.

Suggestions for organizing SDS

As part of your written hazard communication program, the standard requires you to prepare a list of all of the hazardous chemicals in the workplace. The list will eventually serve as an inventory of everything for which you must maintain an SDS.

Once you have compiled as complete a list as possible of the potentially hazardous chemicals in the workplace, the next step is to determine if you have received ***safety data sheets*** for all of them.

The standards state that you can discard any old outdated SDS. The question is not whether you can, but whether you would dare discard old SDS. In some cases, SDS may be a part of your OSHA-mandated "employee exposure records" and you would have to retain these for at least 30 years.

Suggestions on preparing a SDS booklet:

- Alphabetize SDS Book
- Arrange by common name
- Keep on hand only products that are being used
- Store in a separate book old SDS that are no longer being used for up to 30 years

In-House Emergency Spill Procedures

In case of an in-house spill, get all personnel a safe distance away from the area and immediately contact District Haz-Mat Coordinator or Alternate. Be familiar with guidance in the ITD Hazardous Materials Coordinator's Handbook and the Emergency Response Guidebook.

Personal Safety

Employees are responsible for their own safety and the safety of coworkers.

Safety Precautions

Even though all of the obvious safety precautions have been taken to protect employees on the job, be alert for unexpected and unforeseen threats to safety. Refer to ITD's on-line Safety Manual for specific guidance.

Drinking Water

Obtain drinking water only from approved sources; avoid the dangers of contamination. Furnish individual paper cups where possible. If disposable cups are unavailable, use individual drinking cups.

Overhead Utility Lines

Do not work where the possibility of contacting power lines exists. If work must be accomplished near a power source, request the power company de-energize the line.

A person shall not:

- Require any other person to perform any function or activity upon any land, building, highway, waterway, or other premises if at any time during the performance of such function or activity it is possible that the person or any part of any equipment, ladder, tool or material used by the person could move or be placed or brought closer to any high-voltage, overhead line than the following clearances:
- For lines nominally rated at 50 kilovolts or less, 10 feet of clearance.
- For lines nominally rated at over 50 kilovolts, 10 feet plus 0.4 inch for each kilovolt over 50 kilovolts.
- Use caution at night when sawing downed trees that might contain a down live power line.
- Operate any mechanical or hoisting equipment or any load of such equipment, any part of which is capable of vertical, lateral, or swinging motion closer to any high-voltage, overhead lines than the clearances specified above.

Underground Utilities.

Call DIGLINE at 811 to have underground utilities marked before any excavation in ITD Right of Way. Also notify ITD electrician for any underground lines ITD may have buried in the area. Give utilities at least two (2) business days' notice before starting work. State location and purpose for excavation and allow time for the company to locate its utility. Check encroachment permits for the type of utilities and placement.

An excavator shall use reasonable care to avoid damaging underground facilities. An excavator shall:

- Determine by hand digging or potholing, in the area 24 inches or less from the facilities, the precise, actual location of underground facilities which have been marked.
- Plan the excavation to avoid damage to, or minimize interference with, underground facilities in and near the excavation area.
- Provide such support for underground facilities in and near the construction area, including during backfill operations, as may be reasonably necessary for the protection of such facilities.

Poison Ivy, Oak, or Sumac

When working around poison ivy, oak, or sumac, be sure that all sleeves are rolled down and buttoned and that gloves are worn. After working in the vicinity of these poisonous weeds, wash yourself and your clothing thoroughly with strong soap and warm water. If infection occurs, follow first-aid measures and see a doctor.

Handling Explosives

Store explosives in a bulletproof and fire-resistant magazine in accordance with local, state and federal rules. All possible precautions must be taken in handling and storing explosives.

Place proper placards on all sides of vehicles transporting explosives. One person will be in charge with full knowledge of the state and local ordinances governing the transportation of explosives.

Do not transport blasting caps in the same vehicle carrying explosives or in a radio-equipped vehicle if the cap wires have been unfolded or extended. Caps can be detonated at a distance of 6 feet from the antenna.

Do not use transmitting equipment within 1,000 feet of any part of a blasting operation, including cell phones and pagers – turn off so calls are not received.

Only those possessing full knowledge of the use of explosives are authorized to use them. Take all precautions to see that workmen and the public are fully protected when explosives are being used.

Be sure that proper signing, as specified in the MUTCD manual adopted by the state, is in place before using explosives.

Drivers and Equipment Operators

All operators of ITD vehicles must complete an ITD form 1211 before being allowed to operate an ITD vehicle. Before accepting the assignment to operate a vehicle or unit of equipment for the day, perform a daily inspection of the unit utilizing the applicable form ITD 1423 (Driver's Daily Vehicle Inspection Report), or ITD 1424 (Driver's Daily Snowplow Inspection Report), or ITD 1425 (Operator's Daily Equipment Inspection Report) as a guide for the items to be checked. A pad of Form ITD 1423/1424/1425 is to be kept in every vehicle and/or piece of equipment unless otherwise specified by the Shop Superintendent or Equipment Manager. Complete the form each day the vehicle or equipment is utilized and note any deficiencies on the form. When deficiencies are found, the operator is required to notify the TOTL of the deficiencies and send/scan the white copy of the form to the District Shop Superintendent.

- Make sure all tires are properly inflated and in roadworthy condition. Check the oil, water, and fuel. Turn off cellular phones and other transmitting equipment when fueling vehicles.
- Check the brakes, lights, horn, windshield wipers, and rearview mirror to see that they are in operating condition. See that all glass is intact and clean.
- Check the safety equipment before taking the truck or vehicle out. Ensure backup alarms are working on all equipment with obstructed vision.
- Report shortages or defects of equipment to the TOTL at once.

Safe operating procedures:

- Wear seat belts at all times.
- Govern speed primarily by the stopping distance required, but never faster than the posted speed limit.
- Maintain brakes in good working order.

- Never pass another vehicle at intersections or railroad crossings. Never pass where vision is cut off by hills, curves, or obstructions.
- Always maintain a safe distance from the vehicle ahead of you.
- Do not allow anyone to ride on the running board of equipment or to get out of the vehicle until it has come to a complete stop.
- Make certain that your vehicle is loaded properly and that the load is secured before moving. Never leave the tailgate of a truck down unless it is necessary to accommodate the load. As soon as the load is removed, fasten the tailgate shut.
- Load the vehicle so that no debris or aggregates will fall. Do not overload. Many counties now require loads to be covered, when equipped with a tarp, employees are required to cover their loads. You are responsible for paying any fine imposed upon you if guilty of overloading.
- Do not leave motor vehicles unattended unless the ignition is turned off and the brakes are effectively set. If you must get out for a short time, take the vehicle out of gear and set the emergency brake. If the vehicle is left on an incline, turn the wheels into the curb or bank and block them.
- When parking or leaving equipment, move it off the roadway and park it where it presents the least possible traffic hazard. When leaving equipment along the roadway overnight, park it as far from the travel way as possible. Be cautious of parking equipment in tall dry grassy areas, because of fire danger.
- Do not make repairs or adjustments to or oil the equipment while it is in motion. Before any adjustment or repair is made, the equipment must be stopped and taken out of gear.
- When operating on the roadway surface or shoulders, carry on the operation so that the equipment moves in the same direction as the traffic whenever possible.

Take special precautions against placing your equipment too close to the edges of cuts or fills.

Night operations are especially dangerous. The traveling public does not usually expect to find work in progress at night. Therefore, take extra precautions to warn motorists that an operation is being conducted. Consult with the District Traffic Engineer on the extra precautions that should be used for night operations.

Unless absolutely necessary, operate equipment only on the right side of the road and only when traffic is controlled. Equipment must be properly lighted and moved slowly.

Do not permit lights to glare into the eyes of oncoming drivers. Turn off all auxiliary lights when other vehicles approach, allowing only the headlights, clearance lights, and warning lights to show.

When working or traveling in low-visibility conditions such as fog or blowing snow or dust, efforts should be taken to make your equipment or operation as visible as possible, such as through the use of flashing and auxiliary lights.

Lock the rear steering/articulation mechanism before transporting equipment with dual-type steering (such as rotary snow plows and articulated motor graders) under its own power.

Equipment Operator Training Program

Introduction: The Idaho Transportation Department's (ITD's) Equipment Operator Training Program (EOTP) is intended to assure qualified personnel are operating equipment in a safe and efficient manner. To that end, the program provides our operators with an ITD-standard initial training and certification on safe operation, basic user maintenance, and entry-level technical quality.

The dump trucks, snowplows, and bucket loaders program involves a two-week training course, pre-course on-the-job training, post-course on-the-job-training, and certification. Under this initial program rollout, relevant individuals are required to obtain certification for dump trucks, snowplows, and bucket loaders prior to operating the equipment independently. These equipment certifications are a condition of achieving Transportation Technician Operation Program (TTO) Step 1.

The backhoe, mini excavator and trench safety program involves a forty-hour training course, pre-course on-the-job training, written exam, practical exam, classroom curriculum, post course on-the-job-training, and certification. These equipment certifications are a condition of achieving Transportation Technician Operation Program (TTO) Step 2.

The road grader involves forty-hour training course, pre-course on-the-job training, written exam, practical exam, classroom curriculum, post-course on-the-job training, and certification. This is an option to complete Transportation Technician Operator Program (TTO) Step 3 or at the direction of the Districts to meet business needs.

As with all equipment, all individuals are required to obtain certification prior to operating the equipment independently.

EOTP documents are stored on the Training and Development Section's SharePoint site.

Trailerling

When utilizing ITD vehicles to tow trailers, the operator of the ITD vehicle is responsible for knowing the towing capabilities of the towing vehicle. ITD operators shall consult each individual vehicle's Operator's/Owner's Manual to determine the towing capacity of the vehicle in conjunction with the required towing equipment. Each TOTL shall inform their operators of the vehicle trailer ratings and required equipment to comply with those ratings. Each operator shall secure their load legally in accordance with the North American Cargo Securement Standard.

Truck Mounted Attenuators

When utilizing truck mounted attenuators (TMA), the operator of the ITD vehicle is responsible for knowing the safety and operational limits of the attenuator. ITD operators shall consult the TMA's operation manual prior to utilizing the TMA. All safety protocols listed in the manual shall be followed. Speed limits for deployed TMA's is limited to 20 MPH, regardless of manufacture's stated maximum allowable speed limits.

Accessing Top of Sanders

When filling sanders, care shall be taken to ensure that large rocks are not scooped up from the bottom of the stockpile and dumped into the sander. Sanders shall be filled so that the load is contained below the grates of the sander body and does not spill from the truck bed. Excess

material shall be removed from the grates and surfaces of the unit so that it does not spill onto the roadway. Extreme care should be taken when accessing the top of sanders to remove excess material. The use of stationary catwalk systems or rolling staircases are the preferred methods for accessing the tops of sanders. Consult the Employee Safety Manual Section 1.5.10 for the proper procedures for utilizing rolling staircases. In those areas without catwalks for rolling staircases, employees should be aware of the hazards associated with climbing on equipment and shall maintain three (3) points of contact at all times when climbing.

Safety Regulations – Field Equipment

Responsibilities regarding slow-moving and stationary equipment as well as other field equipment are given in the following sections.

Warnings and Flags

ITD-approved red flags, a minimum size of 12 inches x 12 inches, should be displayed at the extreme outer edge of all grader moldboards.

Slow-moving equipment can be as dangerous as stationary equipment. For the safety of the traveling public, use warning signs, flag persons, or a shadow vehicle with proper signing. Display a slow-moving vehicle emblem on all vehicles traveling less than 25 mph when equipment is operating within the highway right-of-way or on other adjacent roadways. Do not use pennant flags on maintenance trucks, pickups, panels, and sedans.

Lighting

Do not operate any vehicle between sundown and sunrise unless the vehicle is equipped with two headlamps, taillights, stop lamp, clearance lights, and reflectors, as prescribed by law.

Mount flashing amber lights on all maintenance vehicles so they are visible from the front and rear of the unit at all times. Flashing lights shall be mounted in accordance with “Equipment Attachments” Section in Chapter 9 of the Operations Manual.

Chains – Towing, Safety, and Tire

It is recommended that all engine-powered vehicles, carry a towing chain, tow strap, or cable in good condition and of sufficient capacity to pull the vehicle without breaking. Use towing chains only to remove a vehicle from a hazardous location when the vehicle is obstructing traffic or endangering the traveling public. Move it only far enough to be parked in a place that does not obstruct traffic.

If it is absolutely necessary for one ITD vehicle to tow another, use a solid hitch-and pintle hitch lock to prevent the towed vehicle from ramming the rear of the towing vehicle.

Use safety chains whenever any vehicle or trailer is transported from one location to another by an ITD vehicle.

Safety Equipment in Vehicles

All commercial vehicles are required to have three (3) emergency reflective triangles or three (3) portable electric warning lights. If needed, place the reflectors or lights 100 feet to the rear and front of the disabled vehicle and one immediately to the left.

Do not use flares if a hazardous or flammable material is present. Use triangles or chemical (fluorescent) light tubes.

Keep a first-aid kit in each vehicle. Inspect these kits monthly to ensure that the contents are in good condition. Kits are required to contain supplies appropriate to the work being done and/or needs of the crew. (No medicines are allowed.)

Keep a flashlight with every vehicle used at night. Flashlights and batteries can be acquired from district supply.

According to its use, each maintenance vehicle will be equipped with a shovel, and a fire extinguisher. These tools are for emergency use and are kept in the vehicle at all times. The operator is responsible for seeing that these items are in the unit and in safe operating condition. Report shortages of these items to the TOTL at once. Check the fire extinguisher each month for load and leakage. An annual inspection is also required; all inspections must be noted on an attached tag.

Transporting Equipment

When utilizing truck-trailer combination vehicles to transport equipment that exceeds the legal limits for width, length or weight, the transport vehicle is to be equipped with the necessary permits and safety equipment. Warning flags (18" x 18" in size and red in color) are required on all over width vehicles. The flags shall be fastened to each front and rear corner of the vehicle or load if it exceeds the legal width. "Oversize Load" signs shall be displayed on the front and rear of all loads exceeding legal width. The signs shall be 18 inches high by 5 feet wide. Letters shall be standard series C, black in color, and 10 inches tall with a stroke width of 1 5/8 inches on a yellow background. When transporting equipment, employees shall meet the load securement, signing, and flagging requirements listed in the North American Cargo Securement Standard.

Safety Regulations – Shop Equipment

See ITD's on-line Safety Manual for guidance on specific topics.

Chapter 3

Pavement Patching and Repair

General

The roadway is the paved or otherwise improved portion of the public highway ordinarily used for vehicular travel. The roadway surface is normally classified as rigid, (consisting of Portland Cement Concrete) or flexible (consisting of asphaltic materials).

A smooth surface with good skid resistance, free of alligator cracks, pumping, pushing, wheel rutting, raveling, frost heaving and pot holing is desirable for the safe travel by the public.

Maintenance of the state's roadways must include a program to preserve these characteristics. Ideally, the maintenance of pavement should be accomplished with minimum expense and with the least possible traffic disruption. Maintenance of the pavements is a necessary investment made to protect the pavement from costly renovation or reconstruction.

Preventive maintenance is much more cost effective than performing major repairs. Operations staff in each area should inspect each section of highway annually to detect and schedule deficiency repairs prior to them becoming a major problem.

It is advised that written recommendations for pavement repairs be submitted to the District Operations Engineer. The District Operations Engineer then shares the districtwide roadway surface maintenance program with the District Engineering Manager over design and construction. This allows better coordination between the maintenance and construction programs.

Pay special attention to the drainage of roadway sections when planning maintenance activities. Poor drainage can lead to premature aging of the roadway surface and sub-grade.

Work zone safety and traffic control are extremely important. Operations staff are required to know and closely follow the chapter in the manual on traffic control and safety.

Maintenance Project Road Reporting (511)

Each district is responsible for providing up to date information to ITD's Traveler Information System (511) for roadway maintenance projects. Up to date information on current projects is critical to both State Communication and the traveling public. Advanced information on commercial vehicle restrictions is required by Commercial Vehicle Services, and by the trucking community they support. ITD's Traveler Information System (511) should be updated during maintenance projects as follows:

- **As the project start date approaches and more complete information becomes available.**
- **When traffic impact or commercial vehicle restrictions change, as the project progresses.**
- **When starting or ending dates of the project change.** If the project is completed ahead of schedule or completion is delayed, update the system so the 511 event does not expire prematurely.

At a minimum, the information for each project should include:

- Location of the project, including beginning and ending mile points.
- Estimated start and completion dates.
- Contact information for State Communications, should questions regarding the project arise.

Maintenance of Flexible Pavements (General)

It is recommended that the District Operations Engineer and the appropriate district operations personnel who are well versed in surface treatments establish and review annually the flexible pavement maintenance needs for each section of roadway in the District. From this review a list of candidate projects can be established for both rehabilitation and maintenance type work. Pavement Management System (PMS) reports can provide useful information to assist in determining candidate projects.

Refer to Section 542.00, Pavement Preservation, of the Material Manual for information on the different rehabilitation/maintenance techniques and their uses.

Hand-Patch Potholes Potholes are breaks in the surface with the hole extending into or through the base. Repair these failures as soon as possible after their discovery using one of the methods of repair listed below.

There are three common pothole patching techniques:

- Throw-and-Roll
- Semi-Permanent
- Spray Injection

Each of these techniques has been shown to be effective under certain conditions. Depending on the particular conditions, one method will usually be more cost-effective than the other.

Throw-and-Roll This procedure consists of the following steps:

1. Place the material into a pothole (which may or may not be filled with water or debris).
2. Compact the patch using truck tires.
3. Verify that the compacted mix has some crown (between 1/8 inch and 1/4 inch).
4. Move to the next pothole.
5. Open the repair to traffic as soon as maintenance workers are clear.

The throw-and-roll method is very cost effective for winter patching operations. For the best results in winter patching operations always use a high quality winter patching mix.

Semi-Permanent This procedure is much more labor intensive than the throw-and-roll. However, this increased labor cost can sometimes be offset with increases in performance of the patches by improving the underlying and surrounding support provided for the patches. The semi-permanent repair method is considered one of the best for repairing potholes, short of full-depth removal and replacement. This procedure includes the following steps:

1. Remove water and debris from the pothole.
2. Square up the sides of the patch area until vertical sides exist in reasonably sound pavement.
3. Place the mix.
4. Compact with small vibratory equipment such as a single drum vibratory roller or vibratory plate compactor.

5. Open the repair to traffic as soon as maintenance workers and equipment are clear. This repair procedure provides a sound area for patches to be compacted against, and results in very tightly compacted patches. However, it requires more workers and equipment and has a lower productivity rate than either the throw-and-roll or the spray-injection procedure.

Spray Injection This procedure uses specialized equipment, generally known as spray injection pothole patcher. The spray-injection procedure consists of the following steps:

1. Blow water and debris from the pothole.
2. Spray a tack coat of binder on the sides and bottom of the pothole.
3. Blow asphalt and aggregate into the pothole.
4. Cover the patched area with a layer of aggregate (optional).
5. Open the repair to traffic as soon as maintenance workers and equipment are clear.

This procedure requires no compaction after the cover aggregate has been placed. This procedure has been shown to be one of the most cost-effective patching methods because of the high productivity and the durability of the patches. This method can be used when temperatures are below freezing by heating the CRS-2 emulsion that is typically used and using a torch to heat the pothole area.

Inlay Patch Repair Inlay patch repair consists of removal and replacement of areas of bituminous roadway surface, then placing premix to correct severe alligator cracking, upheavals, pothole clusters, and rutting. The recommended procedure is:

1. Break or mill out and remove unsuitable material, including contaminated base, at least one foot outside perimeter of the cracked area.
2. Square up the sides of the patch area until vertical sides exist in reasonably sound pavement.
3. Apply light and uniform tack coat of asphalt emulsion.
4. Place the mix in layers not exceeding 3 inches in depth.
5. Compact each layer with vibratory compactor equipment such as a single drum vibratory roller or vibratory plate compactor.
6. Open the repair to traffic as soon as maintenance workers and equipment are clear.

Asphalt Overlays

A maintenance overlay consists of reconditioning old surfaces, overlay patching, or shallow leveling with plant mix or cold mix to correct surface deficiencies. This activity includes overlays and leveling courses less than 0.15 feet average thickness regardless of length, overlays and leveling courses of greater in depth but less than 500 feet continuous length, and scrub coats of any continuous length. The general procedure is:

1. Mark area to be leveled.
2. Broom loose material from surface.
3. Apply light but uniform covering of asphalt emulsion tack material.
4. Spread mix using a grader or paving machine; mix should be spread in layers no greater than 0.15 feet in thickness.
5. Hand rake for uniformity and to feather edges where needed.
6. Roll each layer immediately.
7. Broom area to remove loose material from roadway surface.

Every effort should be made to achieve a smooth riding surface when applying maintenance overlays. Asphalt paving machines should be used whenever possible, as they achieve the most consistent results. Graders can be used on low volume highways and in emergency situations. The smoothness of the ride for maintenance overlays and patching is primarily dependent on the skill of the operator; therefore always use experienced operators when performing this operation.

Crack Sealing or Filling

Crack sealing of flexible pavements is a routine maintenance activity that basically involves cleaning and filling cracks with a liquid sealant. Crack sealing can prolong the life of flexible pavements by preventing or reducing intrusion of water and incompressible materials from entering the pavement and base.

To be cost-effective, crack sealing must be done at the proper time in a pavements life. Typically if a pavement has low to moderate density of cracks and the cracks show moderate to no deterioration at the edges, crack sealing is an appropriate maintenance procedure. However, if the cracks are very wide (greater than 1 inch) then an alternative maintenance strategy should be used, such as partial depth patching or spot patching.

Small to medium width cracks ($\frac{1}{4}$ to 1 inch) are the best candidates for crack sealing. Cracks smaller than $\frac{1}{4}$ inch may be better handled by some kind of surface treatment, such as a seal coat or slurry seal. Cracks larger than 1 inch and that are spalling may need to be repaired by patching.

Refer to Table 542.03.01 of the Material Manual.

Flexible Pavement Procedure

If needed, rout out the crack to the sealant manufacturer's specifications for width to depth ratio. Clean the crack using high-pressure air, sandblasting, wire brushing or hot air blasting. This is a key step to crack sealing. If the crack is not thoroughly cleaned the sealant will not adhere to the sides. Hot air blasting is the preferred method because it helps dry the crack and if the sealing operation closely follows the hot air drying, the heated crack surface helps the sealant adhere to the crack. After cleaning the crack, sealant should be applied from bottom to within $\frac{1}{8}$ inch of the top of the crack to prevent air bubbles from forming and creating a weak spot in the sealant. Fill the crack to no more than $\frac{1}{8}$ inch of the top. Over-banding, or over filling the cracks out onto the pavement surface has been shown through research to be ineffective, wasteful and reduces the friction values of the roadway, and is therefore not to be done.

Flexible Pavement Materials Refer to sealant manufacture's recommendations for the proper material to use based on climatic and temperature ranges in your area.

Fog Seal of Asphalt

A fog seal is a light application of 50/50 diluted asphalt emulsion shot at no more than 0.1 gal/sq. yd. without an aggregate cover. The emulsion is usually diluted with approximately equal amounts of water and emulsion and applied to the surface. Exact quantities depend on the

surface texture, degree of dryness and amount of cracking of the pavement being fog sealed. Fog seals are used to:

- Renew asphalt surfaces.
- Seal small cracks and surface voids.
- Address raveling of chips and open-graded surfaces on high-volume roads.
- Maintain and delineate shoulders in high-volume roads.

Over-application must be avoided as this may result in asphalt pick-up by vehicles or reduced pavement friction. If over-application occurs, it is desirable to reduce traffic speed and to apply a light sand coat.

Profile Grinding/Correction

This repair method is used to reduce rut depth, repair rough pavement and level roadway surface. Cut or roto-mill out designated area to the desired depth. Sweep or grade material to the shoulder, then haul to designated site. Fog seal area after roto-milling. This can be used in combination with inlay patch.

Sealing Materials Various types of sealing material are available. Improved products are constantly being placed on the market and recommendations should be sought from the Materials Section.

Environmental Protection

The following procedures are the best known management practice when asphalt cleaning is necessary, use of diesel for cleaning asphalt is prohibited.

Asphalt Equipment Preparation/Cleaning

Pre-treat all grader blades, truck beds, tires, asphalt distributors, or other equipment and tools with a bio-degradable natural solvent degreaser or vegetable oil as a release agent for asphalt. You can use hand sprayers to apply the release agent. This process should be done in an area where there is no chance of the solvent or asphalt material to migrate to pavement, ditch or water source. Preferred method is line a shallow depression with plastic to collect waste and then dispose of plastic in a suitable waste site.

Maintenance of Rigid Pavement Rigid pavements are generally referred to as Portland Cement Concrete Pavement (PCC). PCC pavements should be patched with Portland Cement Concrete or one of the ITD approved patching materials.

Sealing joints and cracks prevent surface water seepage through the pavement openings, excludes foreign matter, and preserves the original joint filler, if any, which tends to deteriorate and become inert if not protected. Incompressible foreign matter in joints and cracks may cause spalling during pavement expansion.

Joints and cracks in concrete pavement should be checked periodically to make sure they are sealed to prevent entry of water. Joint and crack sealing is most effective when the pavement is

cold and has contracted to open cracks. Joints and cracks should be cleaned and dried with compressed air prior to sealing. Foam backer rod can be used in larger cracks to keep sealant in the top 1 inch of the crack. Silicone and compression seals are preferred methods of sealing all concrete joints.

Refer to Table 542.03.18 in the Material Manual and Standard Drawing 409-1 for construction details.

Shallow Concrete Pavement Repair/Slab Replacement

The method for repairing spalling concrete depends upon the size of the restoration.

If the area to be restored is small, 2 to 3 feet in width and less than 100 square feet in size, a quick-set concrete mortar should be used to make the repair. First using a concrete saw, make a vertical cut just beyond the limits of the spall or delamination. The saw cut should be 1/2 to 3/4 inches in depth. This provides a smooth, vertical face for the edge of the patch. Break out the concrete in the area to be repaired with a pneumatic chipping gun (30 pound gun maximum). If reinforcing steel is present in the repair area, the concrete should be removed to 3/4 inches below the rebar. Sandblast the entire area, removing all loose concrete and cleaning the reinforcing steel of all oxidation.

Mix an approved quick-set mortar. Follow the manufacturer's recommendations closely. Pay particular attention to the water being added, as a very limited amount of water is necessary to hydrate all the cement in each bag. Too much water can result in premature failure of the patching material. Mixing should be done in a paddle wheel grout mixer for best results. Additional clean 3/8 inch pea gravel can be added to the mix (up to 50% by volume) to extend the patching material and give it strength and wearing resistance. Moisten the surface of the hole to be patched with water just prior to pouring patching material. The bottom and sides of the patch area should be moist, but with no standing water. Pour in the thoroughly mixed patching material and tamp vigorously into all areas of the void. Strike off the patching material to a level even or slightly higher than the adjacent roadway. Most quick-set patching materials are self-leveling. Shortly after hydration begins, the material may run slightly to the lower edge of the patch if repair is done on a roadway with a steep cross slope.

Minimal finishing is required with most pre-packaged patching materials. Smooth the patch with magnesium trowel or wood float. Let stand for required curing time, normally one to two hours, before allowing traffic over the patched areas.

All patches of this nature should be excavated and sandblasted prior to 2:00 p.m. to allow time for pouring, finishing, and curing of concrete during the same working day. This will prevent the need for nighttime traffic control. In areas with rush hour traffic, times should be adjusted to ensure opening prior to rush hour.

If the area is larger than 100 square feet in size, a normal transit mixed concrete should be used to patch spalled or delaminated concrete roadways. Recognize that transit mix concrete is substantially less expensive than the pre-packaged concrete repair materials, but it will require extended curing time (up to three days) before the patched area is opened to traffic.

Using a concrete saw, make a vertical cut around the entire area to be removed similar to the procedure outlined above. Remove all damaged, delaminated or spalled concrete within the patch area. If reinforcing steel or dowels are found inside the area to be patched, remove the concrete to 3/4 inches below the rebar.

When damage is at or near the full depth of the slab, a full depth repair may be required. In this case, stabilize the base material and compact any areas disturbed by the excavation of the repair. To assist in transfer of wheel loads from the existing slabs to the new repair, one of two methods must be performed:

- Option 1: Drill and install #3 x 17 inch rebar dowels at the mid-depth of the adjacent concrete slabs 24 inches on center around the entire patch. Dowels should be drilled and set to a depth of 8.5 inches into the existing slabs. Do not set dowels in areas where the edge of the patch is an expansion joint.
- Option 2: Excavate an area 8.5 inches in depth and 12 inches in width under the adjacent slabs. This is to provide for new concrete to flow under adjacent slabs and help in load transfer of traffic wheel pressures. Do not excavate the area along edges of the repair with expansion joints.

Transit mixed concrete should be ordered with Type III cement and an additive to provide for 6% ± 1% air entrainment. Several options of additional additives are available that can reduce the curing time of the concrete. Consult the District Materials Engineer for approved concrete mix designs and options.

Moisten all surfaces just prior to placing concrete in the patch area. Be sure there is no free standing water in the repair area. Pour and vigorously tamp or vibrate concrete into all areas of the repair. Strike concrete level or slightly higher than adjacent roadway slabs. If concrete contains heavy amounts of additives, it will appear sticky and be difficult to trowel. In these instances you may use a pre-packaged finishing aide to assist in the troweling operation. Sika, Degussa and Euclid Concrete Products have such finishing aid products.

Finishing shall consist of smoothing the entire patch surface with a bull float. Then use a heavy broom or tine rake to provide a friction surface with the tines running perpendicular to traffic. After finishing is complete, spray the entire patch with approved curing compound or lay wet burlap over the patch and keep wet through the concrete curing period.

If early opening for traffic is anticipated, concrete cylinders can be taken to determine adequate strength of the patch before removing traffic control. Minimum concrete strength should be 3000 psi before allowing traffic on patched areas.

Betterment or Rehabilitation Work

Betterments are those improvements, adjustments, or additions to a highway which change it from the original construction to a higher type roadway such as the following:

- Changing the typical section by widening paved surface;
- Widening the graded section;
- Placing a Bituminous Surface Treatment (BST) on gravel shoulders;

- Changing a gravel road to a BST;
- Paving machine laid overlay greater than or equal to a compacted thickness of 0.15' and exceeding 500' in length, with a total cost less than \$100,000. All overlay projects must contain curb ramps where there are curbs or other barriers to a pedestrian walkway as required by the Americans with Disabilities Act;
- All first seals, including first seals on betterments;
- Placing extra drainage structures or extension;
- Placing additional guardrail or guide posts.

Construction of new buildings and capital improvements to existing buildings and grounds are also considered betterment work.

Use of state forces for betterment projects on Idaho State highways and airports may be authorized under the following conditions:

- Projects are undertaken during the slack maintenance season and do not interfere with regular maintenance activities.
- State force work is restricted to those projects which do not normally attract contractor bidder interest.

Proposals for projects exceeding \$100,000 estimated cost shall be submitted to the Idaho Transportation Board for approval. These proposals shall contain a comparative analysis of state force costs to contractor costs, including project development and contract administration costs.

Maintenance Crossovers

Maintenance crossovers are provided at selected locations on divided highways for efficient movement of maintenance, traffic services, emergency and law enforcement vehicles in/around controlled access facilities and interchanges. The use of any maintenance crossover is restricted to those users.

FHWA has a responsibility to ensure that the overall safety and operation of the interstate are not adversely affected, including the addition, elimination, or modification of temporary or permanent maintenance crossovers. Each District should weigh the pros/cons of the maintenance crossovers to include operation and safety impacts as well as benefits to users. The design and/or modification of maintenance crossovers shall be in compliance with Standard Drawing A-7 for Median Crossovers. Before any upgrades, elimination, or relocation of existing and construction of new crossovers on the Interstate System can be completed, FHWA approval is required.

Chapter 4

Structures

Definitions

- Bridges:** All structures having an opening measured along the center of the roadway of more than 20 feet between abutments or spring lines of arches or extreme ends of openings for multiple boxes. It may also include multiple pipes where the distance between the openings is less than half the smallest pipe's opening.
- Short Spans:** All structures 20 feet or less, as defined under "Bridges" above. Structures with a clear span of less than 10 feet, measured normal to center line of features intersected are not included in the inspection program.
- Culverts:** Metal pipe, timber, concrete culverts and other structures with less than 10 feet of clear span measured normal to center line of feature intersected.
- Overpass:** A grade separation where the subject highway passes over the intersecting facility.
- Underpass:** A grade separation where the subject highway passes under the intersecting facility.
- Grade Separation:** A structure carrying traffic of one highway over another highway.
- Interchange:** A highway interchange is a road junction that utilizes grade separation, and one or more ramps, to permit traffic on one road to pass through the junction without crossing any other traffic stream.

Responsibilities of Headquarters Bridge

The Headquarters Bridge Engineer is responsible to ensure the following bridge activities are performed:

- All necessary routine, underwater, fracture-critical, and in-depth inspections required by federal law.
- Assist the Districts in identifying, justifying and estimating projects for contract repairs.
- Provide technical advice and perform designs on repair projects involving state forces and contract repairs.
- Coordinate with the Districts on all projects that involve specialty repairs to ensure the operations are planned and executed properly.
- Coordinate through Bridge Asset Management with districts to ensure bridges are properly posted, if required.
- Perform bridge capacity and load analysis.
- Develop and maintain a bridge management system that will coordinate all necessary repairs to the Districts and assist in prioritizing these repairs.

Responsibilities of the Districts

The District Engineer is responsible for all structures within their respective district.

The District Engineer will ensure the following bridge maintenance activities are performed:

- Initiate all projects for contract repairs.
- Request assistance and consultation from Headquarters Bridge on all projects involving technical or non-routine maintenance and repairs.
- Assist Headquarters Bridge on all projects that involve specialty repairs.
- Performing delamination studies, chloride tests, and half-cell studies on bridge decks, superstructures, and substructures.
- Provide all materials for bridge repairs by state forces.
- Ensure routine, visual inspections of all bridges are performed.
- Ensure restricted bridges are posted.

Bridge Maintenance Guidelines

Bridge maintenance activities are the responsibility of the district with assistance provided by the Bridge Engineer as necessary. The following guidelines are flexible and will vary depending on workloads, crew size, crew expertise, and equipment available. The district crews may perform all cleaning activities, including a yearly water flush of all decks, drains, bearings, joints, pier caps, abutment seats, concrete rails and parapets each spring. District crews may also be responsible for all preventive maintenance activities such as painting, coating and sealant applications and for routine, minor deck patching and railing repairs. District crews may also perform maintenance of the stream channel to include: debris removal, stabilizing banks and correcting erosion problems. The Districts will also coordinate all sign and utility repairs and handle emergencies as necessary.

The District crews should anticipate the need for technical and specialized repairs to include: jacking up the structures, crack repairs, epoxy injection, repairing or adjusting bearing systems, repair and sealing of expansion joints, repair or reinforcement of main structural members to include stringers, beams, piers, pier and pile cap, abutments and footings, underwater repairs, major deck repairs, and major applications of coatings and sealants.

The District, in coordination with the Bridge Engineer, should plan and budget for contracting all bridge maintenance activities too large for the district crew to accomplish.

The Headquarters Bridge Engineer is available to assist the district in planning, coordinating, and performing technical and specialized repairs described above. The Bridge Engineer will also provide assistance for emergency repairs involving the above components and activities.

Overlays on Bridges

The Headquarters Bridge Asset Management Engineer or Bridge Load Rating Engineer must be contacted early in the planning stages before any covering or overlay can be placed over an existing bridge, including buried structures. The placement of plant mix overlays on bridge decks is discouraged and will be allowed only under the following conditions:

- Asphalt overlays can be placed on concrete decks only if the bridge deck was designed for an overlay and has been verified by the Bridge Asset Management Engineer or Bridge Load Rating Engineer as structurally acceptable.
- Employ protective measures for expansion joints to ensure the filler material is not damaged and open joints are not contaminated with plant mix or emulsion.

- The overlay must include a waterproof membrane sealer between the deck and the asphalt.

Bituminous Chip Seal Coats shall not be placed on concrete bridge decks.

Routine Maintenance Inspection of Bridges

Routine maintenance inspection of bridges should be performed periodically by operations personnel during regular patrols. Maintenance inspections are different from the inspections performed by the Bridge Asset Management Section. Maintenance inspections should be at least once every six months or within 24 hours after any potentially harmful natural event such as an accident, major storm, flood, earthquake, etc. Appropriate Operations staff should perform a visual inspection of each structure and note this in their daily log. Any problems or questions should be referred to the District Operations Engineer and then to the Bridge Asset Management Engineer at the discretion of the District Engineer. During routine maintenance inspections, operations personnel should note any sags or deformities in the deck or rail, any erosion of fills, any scour of piers or footings, any problems with bearing systems and any damage resulting from accidents. Areas needing routine cleaning should also be noted and scheduled for action.

Damage to Bridge Structures

When any member of a bridge or other structure is damaged by collision or other undetermined origin, department employees shall take the following actions:

- Notify the District Engineer immediately. If a vehicle is involved, also notify the Department of Law Enforcement through State Communication Center.
- When damage is caused by a vehicle, obtain the names of the owner, operator, insurance company, any witnesses, and the name of the investigating officer. Pictures should be taken of the damaged structure (overall views as well as close-ups) and the vehicle. If possible, a picture should be obtained of the vehicle while it is still on the structure.
- District personnel shall assess the structure as soon as possible to determine the extent of the damage and advise the District Engineer, and the Bridge Asset Management Engineer. If there is any doubt of safety, the bridge shall be closed and traffic detoured (if possible) until an inspection can be made by the Bridge Asset Management Section. In appropriate cases, a structure may be posted for reduced loads, have one or more lanes barricaded, or both. The Office of Communications and the Over Legal Permit Section shall be advised of the closure or restrictions imposed.
- District personnel shall forward a Bridge Damage Assessment (ITD – 1762), photos showing damage to members of the structure and a photo of the complete structure to the Bridge Asset Management Engineer.
- When the damage is serious and/or the structure is closed to traffic, the District Engineer, District staff, and Headquarters Bridge personnel shall meet as soon as possible to formulate recommendations and apprise the Chief Operations Officer.
- The Legal Section shall be kept informed of the nature and extent of damage and the estimated and actual cost of repair as rapidly as this information is developed.

The District Engineer will decide if the bridge is to remain open while the Bridge Asset Management Engineer is evaluating the damage. If the bridge is an overpass over an ITD route and the safety of the traveling public is in question, the District Operations Engineer and the Bridge Asset Management Engineer shall be notified immediately. When damage is discovered to bridges owned by others (railroad, city, etc.), that agency will be notified immediately.

Bridge Superstructure Repair

The District Operations Engineer will coordinate all major repairs, reinforcements and replacements with the Bridge Engineer. This will include all actions on stringers, girders, beams, main truss members, etc., that are more than cosmetic in nature. When plans, detailed drawings or special procedures are needed, the Bridge Engineer will assign a staff member to prepare these. A structural engineer will review all plans, and procedures.

Welding on all main or critical steel members, if permitted will be performed by a certified welder.

Bridge Deck Repair

Temporary patches using plant mix pavement may be used by district forces to provide a smooth and safe ride for the traveling public until more permanent repairs can be made. The area to be patched should be clean and dry and all loose concrete removed by hand or power tools prior to placing the plant mix.

Once placed, the plant mix should be compacted to match the existing deck grade.

General concrete patching will be accomplished as follows:

- Sound or chain drag the area around the deteriorated area to determine the extent of the damage and mark all unsound areas to be removed.
- Saw cut the deteriorated area to an approximate rectangular form. Saw cut to a minimum depth of 1/4 inch. Avoid cutting the rebar or any acute angles on the patch edge. No feathered edges should be allowed anywhere on the patch.
- Remove the concrete within the cut area using hand or mechanical means that do not exceed 30 lb. force in rating. Removal should be to a depth below the rebar mat of twice the size of the largest stone in the patching material.
- Clean the area to be patched by sand or water blasting ensuring all rust is removed from the rebar and all scale is removed from the edges. Air blast the area to remove any sand or water.
- Mix, place and cure the patching material according to manufactures recommendations. Ensure the patch surface matches the existing surface grade.

Only appropriate patching materials designed for the purpose intended will be used when possible. All approved patching materials will not have exceeded their storage life. Materials that have low shrinkage, high modulus, high bond, low permeability, and thermal coefficients of expansion similar to concrete will be used when possible. If elastomeric concrete is used, it should not be placed around reinforcing steel unless absolutely necessary. For any deck patching materials recommendations, contact the Bridge Engineer.

Bridge Joint Repair

Bridge joint repairs will include all activities necessary to provide functional expansion joints that prevent water leakage onto the bearings and substructure and include: rebuilding or patching the joint edges, installation of modular or strip seal systems, installation of joint filler/sealer material, installation of drainage troughs, and adjustments or securement of the joint components.

Rebuilding or replacement of joint edges will be performed using modified, durable, impact resistant concrete and/or properly secured steel armor for the joint edge material. Decks with plant mix overlays will utilize an elastomeric concrete header a minimum of 8 inches in width and the full depth of the asphalt overlay as a paving dam to retain the plant mix on the deck. For product recommendations of joint materials or joint edge repair materials, contact the Bridge Engineer.

Bridge Substructure Repairs

Substructure repairs will consist of all repairs on pier caps, piers, bents, piles, abutments, wing walls, and footings. Work will be performed under the same guidelines outlined for superstructure repairs. Concrete patching will be performed as outlined in the Deck Repair Subsection and may utilize a patching material more suitable for vertical applications. For product recommendations, contact the Bridge Engineer.

Cracks in concrete are a major problem in many substructure components. Cracks equal to or larger than 1/32 inches in width should be filled and sealed with a high grade, 100% solids epoxy following the manufactures recommendations. For cracks smaller than 1/32 inches see Sealing below.

Bridge Bearing System Repair or Adjustment

This activity will consist of all repair and adjustment work involving the bridge bearing units or systems to include: rockers, rollers, pots, elastomeric pads, etc. Work will be performed under the same guidelines as outlined for superstructure repairs.

Bridge Painting/Coating/Sealing

This activity will consist of all protective and preventative maintenance activities designed to prevent deterioration of structure components.

All components made of non-weathering steel will be painted with an approved zinc or alkyl base paint at a frequency necessary to protect the steel from rust and corrosion. Bridges painted prior to 1975 probably used lead, chromium, or cadmium based paint which if removed must be removed according to strict EPA and OSHA guidelines and disposed of as a hazardous waste. As an alternative to removal, some toxic based paint may be in a condition that will permit an overcoating of paint which will effectively contain the toxic material and protect the steel. Prior to any major painting application, the existing paint must be sampled and the Headquarters Central Labs Section consulted for an appropriate paint system.

Spot painting can be performed by operations forces using the following guidelines:

- If the paint has not been proven to be lead/chromium/cadmium free, treat it as if it were hazardous and brief personnel accordingly (refer to OSHA pamphlet 3142 “Lead in Construction”).
- Personnel removing the paint should wear coveralls, gloves, goggles, and a certified, properly fitting respirator for protection.
- Ensure a containment system is arranged to catch and retain all the paint removed.
- Apply an approved chemical paint remover on the desired area and allow it to stand.
- Remove the paint with hand tools or scrapers that do not cause the paint particles to become airborne.
- Dispose of hazardous paint at the nearest district headquarters yard at the hazardous waste site in the area marked for toxic paint. Inform district personnel.
- Prepare and clean the now paint-free surface and repaint the area with an approved paint.
- Ensure that personnel do not eat, drink or smoke until they are finished and have washed and properly disposed of all contaminated tools and clothing.

Cracks in any bridge component should be evaluated and corrective action taken. A crack in any steel component must be promptly reported to the Bridge Engineer and corrected per his/her recommendation. Cracks in wood or concrete should be evaluated first and then cleaned and sealed with an appropriate crack sealant. Larger cracks in concrete should be sealed with polymer or epoxy based sealants. Small shrinkage cracks and all concrete surfaces where the concrete is not a specialized or high density concrete such as latex modified or silica fume concrete should be treated with a silane-based sealant.

Bridge Curb, Railing and Accessory Repair

Activities performed under this category will include repair, replacement or modifications of bridge curbs, medians, parapets, railing, approaches, drainage systems, catwalks, sidewalks, cathodic protection devices, ice detection and anti-icing devices, retaining walls, slope paving, fill material, fill stabilization systems and all other items damaged by accidents, deterioration or vandalism to ensure a safe condition for motorist and pedestrians. Channel features which will be addressed under Maintenance Activity Code M251 – Channel Repair.

The bridge approach must provide a smooth transition to the deck to avoid impact damage. Bituminous ramps can be placed to adjust the grade higher or milling can be used to lower it.

Drainage systems must be directed away from all structural components and modified to prevent erosion. Erosion causes must be identified and corrected. All erosion channels must be filled and compacted with a suitable fill material.

This activity will also be used to address repairs or modifications to utility features such as water, sewer, telephone, cable television, or electrical lines that may be associated with the bridge. Except for emergency, temporary, repairs, work on these features will be performed by the appropriate utility under the supervision of a qualified state inspector. Any modifications other than to restore the utility to its original condition must be approved by the Bridge Engineer in advance.

Specialized features such as cathodic protection devices, ice detection and anti-icing devices, and specialized geotextile systems should be repaired or modified by a qualified technician or in accordance with manufactures recommendations.

Major changes to or deletions of any of these features should be reviewed and approved by the Bridge Engineer prior to taking action.

Bridge Cleaning

This work will consist of cleaning all bridge components that are susceptible to dirt, debris, bird dropping and deicing salts.

Drainage systems and components subject to dirt or bird droppings accumulation will be cleaned regularly as needed by hand tools, air blasting or preferably water flushing. Dust or any material that could be inhaled should be avoided by the use of a proper respirator.

Other components such as bare concrete decks, pier caps, abutment seats, bearing systems, non-sealed or open expansion joints, joint drainage troughs, head walls, wing walls, select beam flanges, truss joints etc. should receive a thorough water flush every spring (after applications of deicing salts have ceased) as a bare minimum. Whenever possible, a silicone sealant should be applied to all porous surfaces after cleaning.

Personnel should become familiar with various types of bearing devices. Mechanical bearing devices should be lubricated after cleaning to prevent rusting and assist in their movement.

Clearing of weeds, float debris, brush and overhanging limbs from the vicinity of the bridge will be performed under Maintenance Activity M251 - Channel Repair.

Vertical Clearance on State Highways It is the intent of the ITD to maintain horizontal and vertical clearances on all structures at distances not less than shown on the as constructed plans or as required by agreements with the railroads on underpasses.

Current design standards for vertical clearances on Idaho routes call for 17 ft. minimum. Any clearance less than 16 feet must be posted (See Traffic Manual for guidance).

It is critical that any changes in horizontal or vertical clearances be coordinated well in advance with the Over Legal Permits Unit.

Vertical clearance for all structures, signs, railroads, rocks, and traffic signals on all the state highways (SH, US & I) is required by the Over Legal Permit Section to provide routing information. Detailed vertical clearance information allows the permit writers to accurately identify and safely route loads within and through the state, minimizing detours.

Vertical clearances shall be re-measured and validated on a bi-annual timeframe or within 30 days from completion of construction/maintenance projects that may change or alter the vertical clearance. The Over Legal Permits Section shall be notified immediately if a vertical restriction is added or removed.

Vertical clearance information shall be provided on a picture with the locations measured and the clearance displayed along with the Route, milepost and location or cross road of the vertical clearance restriction. A separate spread sheet with the segment code, milepost and name

identifying the vertical clearance restriction shall also be submitted. See Figure 4-2 for examples.

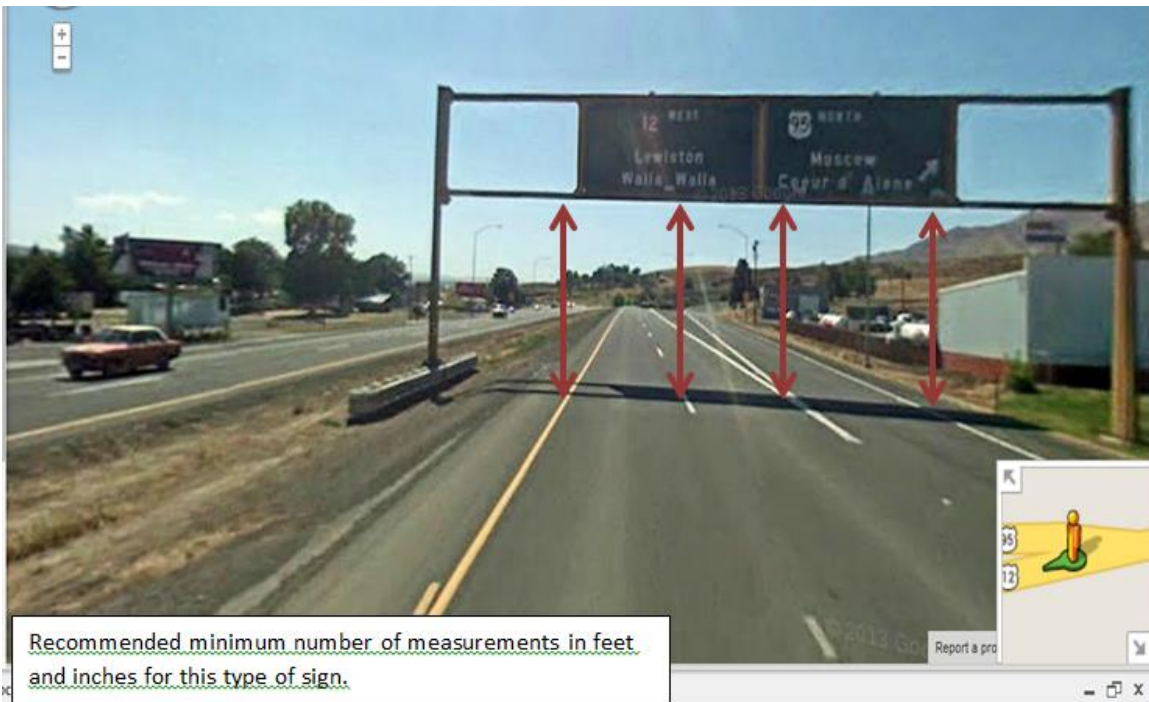
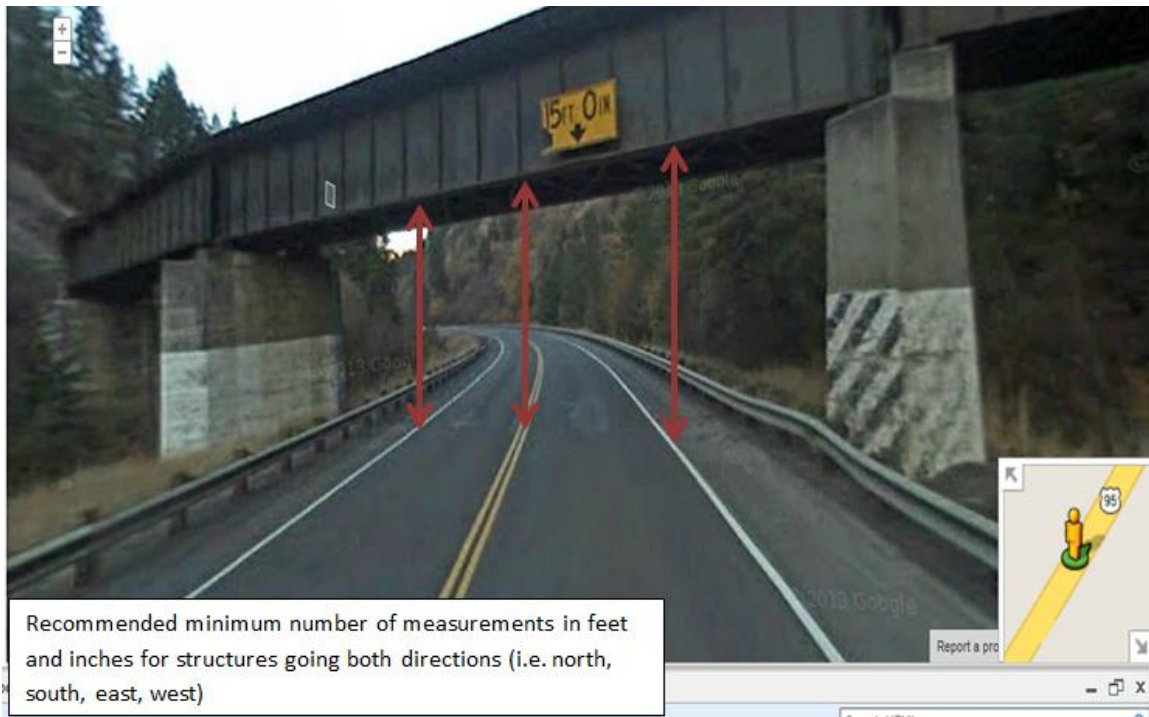
For all structures, measure the vertical clearance from each left yellow edge line, center broken white and yellow lines, right solid white line, and any other solid lines in both directions. For overhead sign structures, the same measurements apply plus any measurements in which the vertical clearance is less than those taken at stripe line. For signals, document the vertical clearance at each signal head.

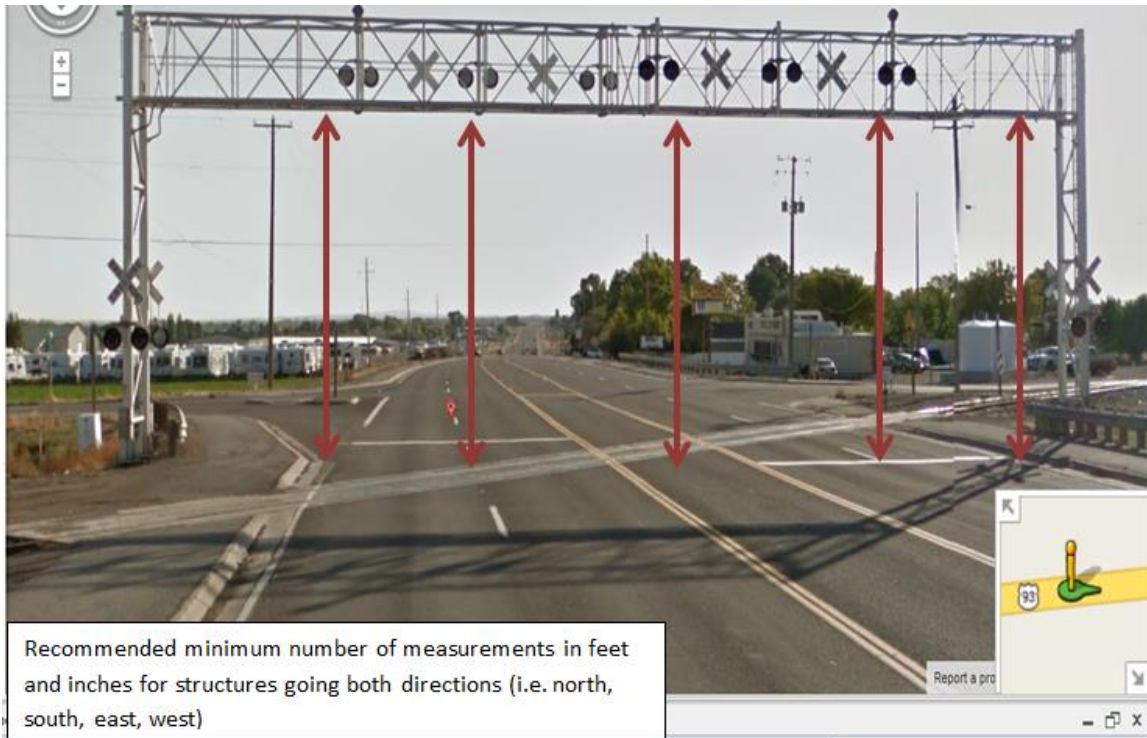
The permitted height for all vertical restrictions will be the lowest measured height minus three (3) inches unless extenuating circumstances require more than the three (3) inch standard. All structures with a permitted height of sixteen (16) feet or less, will be posted with the permitted height.

Figure 4-2: Vertical Clearance Measurement Examples











Chapter 5

Roadside Management

Environment

The Idaho Transportation Department (ITD) is charged with a clear mandate to preserve and protect the environment. ITD recognizes that these environmental concerns shall be addressed within our roadside construction and maintenance activities. It is ITD's intent to be responsible land managers and to conduct responsible stewardship on all state roadsides, roadways, and properties under ITD ownership and jurisdiction.

Roadside maintenance activities and associated impacts are creating an increasing public awareness in the maintenance and operation of the state highway system. Roadside environmental issues or concerns can be directly related to construction and maintenance activities that adversely affect roadsides.

Federal, state, and local laws and ITD policies and practices have been enacted, which are aimed primarily at protecting or improving air and water quality, preserving wetlands, minimizing adverse roadside visual impacts, preserving protected biological species, preserving archaeological and historical sites, and managing noxious and undesirable invasive weeds and hazardous waste.

Operations personnel should be aware of the impact roadside maintenance activities have on the roadside environment, and every effort should be made to minimize adverse impacts. When maintenance activities adversely impact a roadside area, it shall be the district operations staff's responsibility to take positive action and repair the disruption as soon as possible.

Operations personnel should become familiar with ITD's Best Management Practices Manual (BMP). The BMP Manual should be referred to whenever disturbed roadside areas are in need of repairs, when corrective measures need to be made, or when preventative measures need to be installed due to pending roadside maintenance.

Cost effective BMP's should be used to revegetate disturbed or bare areas. Established vegetation can help prevent erosion by stabilizing the soil and surface area as well as act as a bio-filtration buffer for road surface and roadside runoff.

Water Quality

Roadways can have an impact on the quality of the region's water resources. Water quality and other surface water issues must be addressed including storm water discharge, work on shorelines or in flood plains, interference with stream flows, use of herbicides, and maintenance activities in flood plains, water, or critical areas. An increase in the amount of impervious surface within a watershed contributes to higher volumes of storm water runoff and increases peak flows. This raises the potential for soil erosion and transportation of a variety of pollutants to receiving water bodies. Federal, state, local and department policies require managing runoff from state highway systems to reduce adverse impacts associated with storm water pollution. Federal law also prohibits disturbance or damage of waters of the United States through routine maintenance. ITD is legally bound to comply with these federal laws (National Environmental Policy Act, Fish and Wildlife Coordination Act, and Clean Water Act) and with associated state and local laws that are in effect.

Before any wetland, water of the United States, or area suspected to be wetland is filled or dredged due to ditch, yard, material source, or roadside work, proper permits must be obtained. Contact the District Environmental Planner for assistance in the proper procedure to follow. In emergency and life-threatening situations, at the discretion of the Team Leader, clearance and permitting is not necessary until after the emergency or threat has been corrected.

When working on the roadsides, yards, and other ITD properties, operations staff are responsible for implementation of erosion and sediment control measures to assure that water discharge from the area is as clean as practicable of any sediment or pollutants (see Erosion and Sediment Control below).

Air Quality

Fugitive dust is particulate matter generated by natural or human activities that is suspended in the air by wind. Projects that require earthwork or otherwise have the potential to create fugitive dust are required to utilize best management practices (BMPs) to control dust at ITD project sites. Dust raising through routine maintenance activities is to be avoided or kept to an absolute minimum. ITD, as a responsible land manager, is committed to clean air standards by not contributing to air pollution. This commitment requires a concerted effort on the part of all operations staff to find methods and management practices that prevent contamination of the air. The Idaho Department of Environmental Quality (IDEQ) monitors air quality and promotes activities in protecting air quality in Idaho.

Burning

Open burning can produce hazardous contaminants, unreasonable smoky conditions, additional fire hazards, and unsafe driving conditions. The burning of slash and brush debris adds to the pollution of our atmosphere. For that reason, open burning should be avoided whenever possible on ITD rights of way. Every attempt should be made to remove and dispose of flammable materials in approved locations such as landfills. Brush and small trees can be chipped and blown back on the right-of-way or hauled away and stored for later use as erosion control mulch. Brush mowing may be another alternative to consider, if practicable. If burning is necessary it should only be done when fire hazard in the surrounding area is low and air quality is good.

Erosion and Sediment Control

All roadside activities have the potential to cause soil erosion and negatively impact water quality. Therefore, erosion and sediment control is a critical maintenance activity and shall be considered on any roadside land-disturbing activity, including on previous land-disturbing activities such as road construction or maintenance activities, culvert replacement, roadside clearing, slope repair, slides or flood emergencies. Erosion prevention and sediment controls are components of any project that disturbs vegetation or soil horizons. Federal, state, and local water quality regulations prohibit the discharge of turbidity from construction and maintenance activities into adjacent water bodies and require ITD to use approved prevention and control measures. ITD is committed to complying with federal and state requirements to reduce or eliminate sediment discharge into wetlands and the waters of the United States. Erosion prevention should be the primary approach and include measures taken to reduce the need to

implement costly sediment control BMP's. Sediment control measures should be considered a last line of defense to reduce the risk of environmental damage.

There are a sufficient number of best management practices available to District Operations to effectively treat most ITD yards, facilities, and roadside erosion and sediment generating activities. The operations staff should become familiar with the Qualified Products List (QPL) and the new category for biodegradable Erosion & Sediment Control (ESC) products, <https://apps.itd.idaho.gov/Apps/Materials/QPL.aspx>. Biodegradable materials decompose under ambient soil conditions into carbon dioxide, water, and other naturally occurring materials within a time period relevant to the products expected service life. ITD uses this definition in our Standard Specs for Highway Construction. See Section 101.04 – Definitions of our 2021 Supplementals. It is highly recommended to use biodegradable products whenever possible and can be used in most erosion control situations.

In addition, the Best Management Practices Manual (BMP) [offers guidance](#) and the application of individual BMPs. BMP measures, depending on the situation, are available for perimeter, surface, slope, ditch, channel, and inlet and outlet protection, to name a few. Protective buffer zones should be provided to protect natural and created wetlands. All erosion and sediment control BMPs require regular maintenance including periodic inspection, particularly after storm events and snow melt to ensure BMP's are working. Biodegradable ESC materials may start to decompose during a construction project while still doing their job. Assess maintenance needs based on functionality, not appearance (ex: cotton netting on a wattle rips in places, but compost filling is still acting to slow and filter runoff). Unless specifically designed for long-term (permanent) install (ex: geotextile under riprap, TRM), any ESC product with synthetic materials is considered temporary and is to be removed at the completion of the project and landfilled. ESC products meeting the EPA CGP or ITD Std. Spec definition of "biodegradable" may be left in place upon completion of the project. See NPDES & IDPES CGPs Part 8.2

Vegetation is the single most important element in preventing and controlling erosion from wind and water. Maintaining existing vegetation to the maximum extent possible and reestablishing vegetation on disturbed slopes and/or bare areas is the key component to long-term erosion and sediment control and should be used in most instances. To restore disturbed areas to continuous vegetative cover, consider the following recommendations, leave the soil surface rough and loose after soil preparation and final grading, facilitate binding the topsoil with the subsoil by ripping the subsoil prior to placing the topsoil, incorporate the topsoil several inches deeper than the topsoil layer, hydraulically applying mulch, straw or bonded fiber matrixes and using a variety of native trees, shrubs, forbs, and grasses to reduce erosion.

Rock Armor and Rock Mulch are also identified in the BMP manual as acceptable methods to erosion control. The use of these practices can be used in highly erodible areas with the potential for high surface runoff or sloughing, and fine grained soils (sandy, silty soils), and on slopes that are greater than 50 feet tall. See Section PC-30 of the BMP Manual for additional information.

The District Environmental Planner, Vegetation Technician, or the Roadside Program Manager in the Maintenance Operations Section should be consulted for more detail or if problems arise or

persist. Refer to Appendix E in the Roadway Design Manual or BMP Manual for more information on successful revegetation.

Snow and Ice Removal Operations (Water Quality)

De-icing chemicals and sand used for anti-skid can create problems associated with runoff of these materials to the roadside environment. Application of chemicals such as magnesium chloride, salt brine and sanding material next to receptor spawning streams, or those streams, rivers, lakes, or wetlands inhabiting protected aquatic species, is of major concern and should be minimized to the extent possible.

Of secondary concern is the potential damage to groundwater and vegetation growing on the roadside where runoff or chemically (primarily salt) treated snow/ice is cast onto the roadside from snow plowing operations. Damage to vegetation can occur either through chemicals in the soil or where it is deposited on the foliage. Soils containing large amounts of salt frequently develop poor drainage. Salt affects plants as it is absorbed through roots and leaves or needles and can accumulate to toxic levels. Toxic build-up results in marginal scorch (death of leaf margins). Symptoms of salt injury are similar to those caused by drought or root damage including stunted yellow foliage; premature autumn leaf coloration, scorch, and limb die back. Excess salt can cause conifer (pine) foliage to turn yellow or brown in the early spring and may even cause new needles to die. While some vegetation can compensate for the damage, other vegetation will brown up and die. Plants can also lose their cold tolerance making them more vulnerable to cold environments. Salt reduces plant vigor, therefore causing the plants to become more susceptible to attack by insects and diseases. Physical removal of the brown or dead vegetation may be required to avoid adverse public reaction.

Salt applications are most detrimental in early spring (after March 1st) when plants are awakening from their dormant period and beginning to actively absorb nutrients and water from the soil. Crews should avoid piling salt and snow around plants or in places where melting water will drain into them. It may be appropriate to treat roadside soil with gypsum, as gypsum has proven to be successful in correcting soils with poor drainage due to excessive salt content. Creating adequate drainage systems for highways, curbs and gutters is essential. Road runoff should be directed into storm sewers, ditches and culverts and these systems must be inspected, cleaned and maintained on a regular schedule. Runoff should be diverted away from roadsides. Planting salt resistant vegetation along roadsides is also beneficial since plant vigor is necessary to survive intolerable weather conditions.

Sanding material and de-icing chemicals should be applied with discrimination, consistent with the environmental, climatic, meteorological, and traffic conditions. It may be necessary to eliminate or minimize to the greatest extent possible the applications of winter operations chemicals and/or sanding material where the potential to drain directly into a receiving stream, lake, pond, or wetland. Continued use of chemicals for ice and snow control measures in some sensitive areas may require water quality monitoring and sampling and may have to be altered, curtailed, or even stopped. The same measures apply to vegetation that may be "burned" or killed due to casting chemically treated ice or snow onto vegetation, resulting in a "brown out." This may require removing the vegetation or branches of trees prior to snow removal or in the

spring when symptoms of burning or dieback occurs. Snowplow operators should take the necessary precautions to control the trajectory of plowed snow in areas with heavy forestation.

Storage of anti-skid material and de-icing chemicals shall be done in a manner to prevent contamination of surface and groundwater. Effective methods shall be used to prevent or contain runoff from storage tanks or uncovered stockpiles.

Cultural Resources

Federal and state laws prohibit destruction or damage of an archaeological or historical site through routine maintenance. Cultural resource sites are considered as any prehistoric or historic archaeological site, historical site, historical architectural site, paleontological site, or Native American Traditional Cultural Property. To be in compliance with these laws, maintenance activities off the pavement in cut or fill slopes, in existing or new sources, or material sites shall be cleared with the District Environmental Planner or the Archaeologist in the Environmental Section in headquarters.

Biological Resources

Sensitive areas such as sites with endangered plant and animal species, and designated lands such as local historic sites, national forests or wildlife refuges, state lands, and national parks, require special consideration during construction and maintenance activities. Some activities may require special regulations or compliance including those activities which can cause disturbance of native vegetation, installing additional storm water treatments to a stream or wetland, removing existing vegetation on steep slopes, or unloading fill material in a wetland or flood plain.

Federal law prohibits destruction or damage of any threatened and endangered (T&E) and some candidate species (plant or animal) through routine maintenance. In addition, there are state statutes that must be complied with. There are major criminal consequences for handling, disturbing, or killing T&E species, including large fines and possible jail sentences. All operations staff are responsible to ITD to ensure that no T&E species in your maintenance area are injured or destroyed or their habitat impacted without proper permits.

Special care shall be given to minimize impacts and coordinate maintenance activities in sensitive areas such as avoiding clearing or removing vegetation in sensitive areas or on steep slopes, avoiding mowing during upland bird or migratory fowl nesting season, or spraying herbicides in or adjacent to sensitive plant habitats and waterways without direction from the District Environmental Planner. Be sure all preliminary field inspections have been completed and receive authority to proceed before you conduct any roadside or source work outside of previously cleared areas for T&E species.

At the discretion of the TOTL, if there is a genuine life-threatening emergency, clearance is not necessary until after the emergency or threat has been corrected.

Wetlands

For purposes of ITD projects, wetlands are classified into two categories: jurisdictional and non-jurisdictional. Jurisdictional wetlands are those surface waters containing hydrology, soils, or vegetation that conform to U. S. Army Corps of Engineers (COE) specifications for classification

as a wetland, that empty into Waters of the United States and are under the jurisdiction of the COE. Non-jurisdictional wetlands do not empty into waters of the United States, are not under the jurisdiction of the COE but are protected under Executive Order 11990 (see 1120.02.03) and subject FHWA impact review (see 1150.01). Wetlands are highly protected by federal, state, and local laws and ITD policies and practices. ITD policy is to avoid to the fullest extent practicable any activities that would adversely affect wetlands during maintenance of the state transportation system. These laws and policies require ITD to operate with a "no net loss" of wetland function or acreage. Any addition of fill material or disturbance of existing soils in areas where water moves through or over the soil has the potential to either impact or disturb existing wetlands or create new ones.

Special care shall be taken in all phases of roadside management to ensure proper stewardship of existing wetlands and their buffers. Identification or delineation of wetlands, wetland boundaries, categories and types, assessment of functions and evaluation of impacts require the involvement, participation, and expertise of trained professionals. Special care shall be given to minimize impacts and coordinate maintenance activities in wetlands such as increasing the area or distance between wetland buffers and clear zones, minimizing soil compaction by minimizing the amount of time equipment is on site, wetland filling or displacement, wetland draining due to channel straightening, deepening, or widening; installing a temporary boundary or fence around wetland, flagging existing wetlands that are not to be disturbed, protecting adjacent desirable vegetation, and avoiding spraying herbicides in or adjacent to sensitive plant habitats and waterways without direction from the District Environmental Planner.

Hazardous Waste

Hazardous waste on the roadsides poses a serious threat to the traveling public and adjacent property owners, and also constitutes a direct threat to operations staff. Hazardous waste can create life-threatening situations that need to be handled with extreme care. For details on how to handle hazardous waste incidents, refer to Chapter 2 of this manual and the ITD Emergency Operation Guide.

Roadside Safety

When performing roadside maintenance activities, operations staff should give consideration to vegetation-related roadside issues that affect traveler safety, such as clear or recovery zones, sight distance, road shading and living snow fences.

Clear Zone

The clear zone is the total roadside area starting at the edge of the traveled way that is available for safe recovery of errant vehicles. This area may consist of the shoulder, fore slope, or a recoverable slope or clear run-out area. The clear zone may extend beyond the boundary of the right-of-way and should not exceed slopes steeper than 3H:1V when possible. Appropriate ranges of clear zone distances from edge of road surface is provided in Section 565 of the Roadway Design Manual.

The clear zone should be free of fixed objects (e.g., large trees and rocks). Vegetation in these zones should be maintained at a reduced height to provide for good visibility. Trees and brush should be removed or maintained so as not to be a safety hazard.

An added benefit for providing clear zones on roadsides is the ability of the traveler to see and avoid wildlife, livestock, or other potential life-threatening objects on the roadside.

Clear zones cannot always be economically provided. When roadside hazards exist within the clear zone, the following options should be considered: remove the hazard, relocate the hazard, reduce the impact severity by using breakaway devices, shield with barrier, mark with hazard marker or do nothing. The option chosen should be based on hazard severity, traffic volume /speed, accident history roadway geometrics and economics.

Sight Distance

Sight distance is the length of highway visible to the driver. It is essential that the driver of a vehicle be able to see far enough both vertically and horizontally in advance to assess potential or developing situations and take appropriate action. Roadside landforms, signs, structures, and low-hanging branches may have to be removed or trimmed. Vegetation must be maintained at a lower height or removed to facilitate adequate sight distance and safe driving.

Adequate sight distance should be provided at intersections, approaches on the inside of vertical or horizontal curves, and other areas on the roadside that could be a potential problem to the driver. Operations staff should be aware of and recognize these safety hazards and take appropriate action to resolve or reduce the problem. Refer to Section 560 of the Roadway Design Manual for more detail on sight distancing.

Shading

Shading of roadways by obstacles on the roadside such as trees can result in frost, snow, or ice remaining on the roadway creating or prolonging hazardous driving conditions. These conditions occur because of the inability of the sun to reach the roadway in order to melt and dry off these areas. Sometimes it is impossible to remove obstructions such as trees, and the road surface has to be treated and receive special attention with antiskid or de-icing chemicals.

Living Snow Fence

Living snow fences comprised of living plant materials such as grasses, shrubs, and trees can be used to improve driver safety and reduce road closures and operations costs. When roads or sections of road are subject to recurring snow blockage due to drifting and blowing snow, well-planned and placed living snow fences can be more cost effective than structural barriers or snow fences.

On the other hand, vegetation such as grass, forbs, shrubs, and trees can act as an unplanned living snow fence and deposit drifting or blowing snow on the roadway. In this case, the vegetation may have to be removed or reduced in height to allow blowing snow to continue to pass over the surface of the road.

Added benefits to installing living snow fences are aesthetic or visual benefits, providing wildlife habitat and noise or visual barriers.

Living snow fences should be considered in those sections of a road that are subject to continuous drifting snow. Considerable thought and planning must be done in advance before living snow fences can be installed. Consult the local USDA Natural Resource Conservation Service or the Roadside Program Manager in the Maintenance Operations Section for more

details. Because living snow fences do not fit in all instances, the district may have to revert to permanent or temporary snow fencing or barriers.

Vegetation Management

Vegetation along roadsides is managed for a number of reasons including maintaining visibility for drivers, reducing water and debris on the roadway, protecting longevity of the road surface, improving water quality and filtration, reducing erosion control, and minimizing fire danger. Desirable vegetation on roadsides provides soil stabilization, erosion and dust control and valuable ground cover; captures sediment bio-filtration; and creates a more pleasing visual experience for the driver, thereby reducing driver fatigue and competing with undesirable invasive and noxious weeds.

Vegetation management maintains or restores roadside functions and character in order to produce low maintenance and self-sustaining plant communities. It is a coordinated decision-making and action process that uses the most appropriate management methods and strategies to achieve sustainable roadside vegetation and meet agency programmatic management objectives. It is the policy of ITD to promote the growth and management of as much native and other adaptable vegetation on roadsides as is compatible with erosion control, safe highway use, attractive appearance, and minimal maintenance. Refer to the Appendix E of the Roadway Design Manual for more information on restoring roadsides.

Integrated Vegetation Management (IVM) considers a variety of tools to manage vegetation in an economically and environmentally-sound manner. Management tools such as contracting, seeding, fertilizing, spraying herbicides, mowing, releasing and monitoring biological control agents, plant selection, and brush removal and control (cultural, manual, and biological) are all appropriate and cost-effective depending on the site, funds available and management goals. These activities, individually or in combination, consist of a total IVM approach to roadside vegetation management and provide compliance with state noxious weed laws and invasive species rules.

The objective is to have species diversity and as much desirable vegetation growing on roadside areas where its presence is suitable and manageable. A diverse plant mix is less susceptible to disease and homogenous decline. This would consist of low-growing grass on the fore slopes and a diverse mix of grass, forbs, shrubs, and/or trees on the back-slope to the right-of-way boundary. Retain existing stands of native plants where practical, including specialist host plants such as milkweed. The intent is to remove or control undesirable vegetation (invasive, noxious, or excessive growers) in such a manner that there is little or no impact to the area or vegetative regrowth. At the same time, desirable vegetation should be treated in such a manner as to assist and promote the growth, establishment, and vigor of healthy plants. When undesirable vegetation is removed (mechanically or chemically), the ground will not remain bare but will re-establish with whatever species (seed) is on or adjacent to the site, whether good or bad. This is why it is important to revegetation disturbed or bare areas with other desirable species where species have been removed.

Program administration, technical guidance, and assistance are provided by the Roadside Program Manager in the Maintenance Operations Section, who shall be licensed as a Professional Statewide Consultant.

Vegetation Management Guidelines

Vegetation management on roadside rights-of-way and ITD property shall be carried out according to the following guidelines.

All vegetation management activities shall be implemented to provide a balanced IVM program using the most environmentally sound and appropriate measures available. Consideration should be directed toward:

- Protect existing desirable vegetation
- Provide continuous and sustainable vegetative cover
- Encourage desirable volunteer growth by allowing natural succession to take place
- Provide appropriate plant selection,
- Perform soil analysis to determine if soil amendments are necessary
- Minimize long-term maintenance procedures and fertilizer requirements
- Maintain appropriate clear zones and sight distance,
- Maintain weed-free roadsides and other ITD properties

Another issue of growing concern to consider is using selective herbicides or altering herbicide treatment times to avoid impacts to milkweed and native flowering plants to promote and protect pollinators and pollinator habit.

Priority and emphasis of vegetation management on roadsides will be assigned to the following four zones of maintenance.

Zone 1 Foreslope. (Mow Zone) will receive the highest priority by promoting the growth of low-growing, fire-resistant grasses and using the most effective control measures [e.g., mowing, plant growth regulator (PGR), seeding, selective herbicides, etc.] to accomplish this task. Zone 1 will begin from the edge of the road surface and not to exceed 15 feet. Depending on the gradient (degree) of the foreslope, some control measures may not be applicable and alternate control methods may be employed.

Zone 2: This area encompasses all remaining right of way from Zone 1 to right of way boundary.

Ditch or Drainage. (Transition Area) will receive the next highest priority by maintaining this area for positive drainage, bio-filtration of pollutants and sediments, sight distancing, and clear zone vehicle recovery.

Backslope. (Biodiversity Area) will receive the least amount of control attention in order to promote establishment of various grasses, forbs, shrubs, and/or trees. This area, unless treated for specific reasons, should be left alone and managed on an as-needed basis.

Special. (Needs Area) may cover all three previously mentioned areas of vegetation management and would be utilized where special vegetative management needs are required. This would include spraying or mowing from outside boundary to outside boundary in urban areas; meeting sight distancing or clear zone requirements; reducing or eliminating snow drifting or shading; controlling noxious, invasive, or undesirable weed infestations; and

maintaining landscaped areas, biological control release sites, wetland or aquatic sites, agricultural or special crop lands, guardrails, bridge abutments, and other structures and property under ITD jurisdiction other than roadsides.

Treatment schedules shall be coordinated with other maintenance activities and be species- and site-specific to take advantage of the most effective time(s) to conduct programmed weed control measures. Climatological, physical, and botanical factors must be considered along with treatment method(s) when planning the annual vegetation management program. Some areas or sites may require two or more treatments annually, while other sites may require treatments once every two or three years. All state highway and ITD property shall be reviewed one or more times annually to determine the vegetative control requirements for the coming (next) years. Immediate corrective action may need to be done during this annual inspection in order to prevent seed formation or spread of an undesirable or noxious weed species.

Prevention of the spread of undesirable and noxious weeds shall be given program planning attention and priority. This shall include transferring weed seed contaminated mulches or fill material from sources to the roadsides. All ITD fill material sources shall be evaluated and documented for the presence of noxious weeds. Fill material should be marked or flagged where noxious weeds are present and special care should be taken to eliminate or disposed of the weeds. The ability to recognize or identify new invading and noxious weed species is required. High priority shall be given to planning and implementing complete eradication whenever an Early Detection Rapid Response species or new infestations are encountered. Road corridors are a quick way to contribute to the spread of undesirable weeds, and immediate attention and response is required to prevent this spread.

Establishment of desirable and native species and vegetation management practices to improve quality of roadside habitat for pollinators will receive emphasis in the overall planning process for roadside vegetation management. Plant survivability is improved and maintenance requirements are decreased when plants are matched to site conditions and proposed use. Competition with weeds by desirable species is of prime importance for success, and this weed control method shall be given the highest priority in program planning. Native species including regional specific species will be used for reseeding whenever practical and feasible. Existing native vegetation shall be protected to the maximum extent possible and ground disturbance shall be minimized by utilizing the least intrusive methods or techniques. Soil condition shall be restored to qualities similar to adjacent undisturbed soils as much as possible. Soil amendments including topsoil, mulches, compost, plant proteins, and mycorrhizal inoculants can enhance the soil moisture holding capacity, reduce soil temperature, and provide a better growing medium thereby reducing and perhaps eliminating the need for irrigation.

Every precaution shall be given to sensitive areas such as riparian areas and wetlands to avoid detrimental effects on these areas. "Brown out" of vegetation, especially shrubs and some trees from herbicide use, harms the vegetation and creates adverse public reaction and should be avoided. Alternative methods of control are available for controlling shrubs and trees and should be utilized in most instances.

Roadside Mowing

Roadside mowing is an important phase of vegetation management and, when used in combination with herbicides or other integrated best management practices, should be employed on sections of road where the height of vegetation needs to be reduced for sight distancing, vehicle recovery, snow drifting, fire prevention, drainage, and livestock or wildlife safety. In some cases, depending on the site or areas (e.g., urban or high precipitation), mowing may have to be done more than once a year. Fire resistant, low-growing grasses on the foreslope (mow zone) should be utilized to reduce mowing requirements and times.

Strategic reduced mowing and consideration of the timing of mowing can improve roadside habitat quality for pollinators. Avoid mowing of entire right of way and when wildflowers are blooming. Mow only one pass, not to exceed 15 feet from edge of pavement (Zone 1). No mowing activities should occur in Zone 2, which includes everything outside of Zone 1 to the right of way line, unless authorized under an exemption and approved by the District Operations Engineer. Exemptions include areas covered under an existing agreement with another agency such as fire fuel reduction, snow removal and management, or sight distance; OR emergency situations and/or exigent circumstances. Contact Maintenance Operations for further direction. Avoid mowing zone, 2 during monarch migration periods until after September. Do not mow areas with blooming plants; mow after plants have completed blooming/flowering cycle. Mowing during late fall may be considered when grass height exceeds 18 inches to prevent snow drifting. Mowing after September can also benefit a variety of pollinators by allowing flowering plants to bloom uninterrupted throughout the growing season. Mowing after seed maturity of desirable and native vegetation is recommended and should be considered when scheduling mowing. Every attempt should be made to protect native and other desirable vegetation. If an area to be mowed is treated with herbicides prior to mowing, delay the mowing two (2) weeks after spraying. Coordinate mowing with other phases of roadside vegetation management.

General roadside mowing should be confined to 6 - 10 feet on narrow or steeper foreslope roads extending outward from the edge of the pavement to the toe of the foreslope. Mowing widths of 10 - 15 feet on wide foreslope roads is appropriate. For interstates, mowing width will be determined by District Operations taking into account the time of year, plant germination, pollinator species present, and other environmental factors. Reduce mowing beyond Zone 1 as much as possible to avoid impact to pollinator species. If an exemption applies and mowing is needed for safety, schedule mowing activities in Zone 2 around pollinator breeding season and right of way habitat use, such as monarch butterfly. Schedule mowing activities in Zone 2 determined by direction (mow north and east on odd years; mow south and west on even years). You can also schedule mowing every other year or mowing in thirds; mowing one-third of the right of way one year, another portion of the right of way in the next and so on. Mowing in these areas should be scheduled and timed around pollinator migration times to meet required objectives.

The mower height shall be adjusted so that 10 to 12 inches of vegetation remains after mowing unless height of vegetation needs to be reduced to prevent snow drifting, for fire prevention or safety hazards. Mowing height should be adjusted to avoid scalping the ground. Blades, sickles, and flails should be maintained to achieve a sharp clean cut. Special precaution in the operation

of the mower must be taken to avoid propelling objects such as rocks and other debris onto the roadway. Maintain all mowers according to manufacturer's recommendation and ensure they are in good working order before mowing. Proper operation of the mower shall include height control, protective baffle or guards, direction of rotation, direction of travel, shut down, turning, and lifting. Removal of berms that develop at the pavement edge may be required prior to mowing. If weed management is the goal, mowing could be limited to patches of weeds and timed to reduce seed production.

Mowing equipment including the mower and tractor should be cleaned before entering mowing sites and after mowing activities. A mowing site is defined as any continuous mowing operation on a single route. When moving tractors and mowers between routes or back to the maintenance yard, ensure that all external surfaces of the mowers and equipment are cleaned and free of plant and dirt debris before mowing activities begin at the next scheduled mowing site.

Mowing equipment should also be cleaned of plant and dirt directly after mowing extensive weedy sections of right of way to insure weed seed is not transferred to non-infected areas.

If contract mowing is planned, special consideration shall be included in the contract specifications to address pollinator habitat and migration periods, scheduling, mower width, height of cut, traffic safety concerns, fire prevention equipment (water tanks, hoses, etc.), and other ITD vegetation management practices.

Brush and Tree Control/Removal

Brush and trees that encroach into highway corridors (roadsides) may represent various maintenance and safety problems requiring special attention. Problems associated with brush/tree encroachment are shading, sight distance, vehicle recovery, hazard trees, livestock and wildlife safety, driver and pedestrian safety, obstructing or interfering with power lines, and snow drifting or removal. Both brush (shrubs) and trees can be effectively dealt with to minimize these problems yet keep an esthetically pleasing and biologically diverse roadside. The right kind of brush and trees in the proper location on the roadsides provide essential ground cover and varying root depths that aid in soil/ slope stabilization. This in turn provides natural erosion control and prevents slope failure, resulting in less maintenance.

Selective removal of trees and brush and retaining low-growing brush and small caliper trees is recommended over complete and total removal. Selective removal eliminates the appearance of clear-cuts, which may result in negative public reaction and environmental impacts. Selective removal also provides some native flowering shrubs like Rabbitbrush and Canada Goldenrod, late season nectar for pollinator species.

Brush and trees shall be cleared or maintained to a minimum distance of 30 feet from the edge of the road surface where appropriate and on the inside of curves. This minimal distance will provide and meet adequate clear zone and sight distance requirements. High hazard trees that pose immediate or future problems to traffic and/or driver safety should be removed, regardless of location. All broadleaf brush and trees (stumps) should be treated with an approved herbicide as soon as possible after removal (1-4 hours). This cut stump treatment will prevent vegetative regrowth from the stump or sprouting from the roots by killing the plant.

Brush and tree stumps shall not be allowed within the Level 1 Foreslope and the Level 2 Ditch zones. Brush and tree stumps shall not exceed 12 inches in height in the Level 3 and 4 backslopes.

Running the shrubs and tree branches through a chipper is an effective way to handle disposal. The chipped branches can either be blown back directly onto the roadside or retained for later use as landscape or erosion control mulch. Idaho Department of Corrections (IDOC) inmate labor is a cost-effective method for brush and tree removal in those districts that utilize this form of labor. Contracting brush or tree removal to private firms, especially for large hazard or difficult trees, should be considered when those situations exist.

Seeding, Planting, and Fertilizing

Seeding, planting, fertilizing and/or other soil amendments in disturbed, unhealthy and/or poor vegetation stands due to ground disturbance from construction or maintenance activities and/or disturbed areas due to slides, flood events, invasive weed encroachment and/or wildfires is a critical component of an integrated roadside vegetation management. ITD's policy is to maintain appropriate, healthy and sustainable vegetation along roadsides where they are best suited for the conditions and is an on-going management requirement that shall receive appropriate attention and high priority. The benefits from having established desirable and sustainable vegetation include bio-filtration (sediment and pollutant capture), erosion control, minimal maintenance, attractive appearance, soil and slope stabilization, reduces weed species, provides ground cover, enhances wildlife habitat, and restores native plant ecosystems.

Seeding. Seeding disturbed Level 1 Foreslope (Mow Zone) and Level 2 Ditch (Transition Zone) due to blading, berm removal, ditch cleaning, or other reasons such as weak stands of healthy, desirable vegetation or lack of desirable revegetation establishment, shall be completed in the fall or early winter, or in some cases in the spring. Low-growing, fire-resistant native and other adaptable grasses including Hard Fescue, Sheep Fescue, Idaho Fescue, Siberian Wheatgrass, Streambank Wheatgrass, Bluebunch Wheatgrass, Slender Wheatgrass, Sandberg Bluegrass, Bottlebrush Squirreltail, Sand Dropseed, or Indian Ricegrass shall be used according to the soil type, elevation and annual mean precipitation (MAP) zones located in the Idaho Roadside Revegetation and Native Plants for Roadsides Handbooks. All seed shall be certified by Idaho State Dept. of Agriculture as noxious weed free. Seeding in Level 3 Backslope (Biodiversity Zone) and Level 4 Special (Needs Zone) shall include seed that is comprised of taller grasses with varying types of roots and depth, forbs including native and desirable wildflowers and legumes, shrubs, and/or trees. Use regionally native species where applicable. Seed with or transition to a plant cover that supports pollinators. Include plant species that bloom at different times to ensure there is overlapping succession of blooms throughout the growing season. Include host, forage or nest plants for species of concern. Seed selection and rate shall be based upon the Idaho Roadside Revegetation and Native Plants for Roadsides Handbooks and/or guidance from the Roadside Programs Manager in the Maintenance Operations Section.

The preferable method of seeding is drill seeding or mechanical "no till/drill" seeding which allows optimal seed to soil contact and produces the best and most effective plant establishment. However, there are some circumstances that are not suitable for mechanical or drill seeding including unavailability of equipment, steep slopes, saturated soils, and areas with

excessive rock, gravel, or hardpan soil. In these cases, broadcast seeding (hydro or dry) should be used. Whenever possible, the soil shall be lightly cultivated or disked prior to seeding and left in a rough condition using a harrow, triple k, cleated crawler, or tiller. All seeded areas shall be covered lightly with soil after seeding whenever possible to provide optimal seed to soil contact. A successful vegetative establishment depends on the amount of positive seed to soil contact and can affect overall vegetation cover.

Seed Ordering. All seed ordered shall be certified noxious weed free and include a tag of certification from the Idaho State Seed Lab or State approved laboratory. The majority of seed is ordered through Business Support & Management Section at headquarters. All orders requesting ITD furnished seed are processed through the Roadside Programs Manager in the Maintenance Operations Section. All Supply Request forms shall have the proper maintenance authority and function codes along with the Activity Code M213.

Planting. In certain areas of the roadside or ITD property, planting seedlings, tubelings, and bare root, balled, burlapped, or container plants may be desirable for beautification, erosion control, soil and/or slope stability, noise or visual barriers, or living snow fences. In this case, the program warrants careful planning and implementation. The ideal time to plant is in the fall prior to winter freeze-up and snow. Plant species selection should be based on adaptability to the site (preferably native) and locally grown to assure winter hardiness. Refer to the BMP Manual, PC-35 Vegetation/Planting when planting trees and shrubs.

Fertilizing. Since most disturbed roadsides are deficient in vital plant nutrients and beneficial microorganisms, commercial fertilizer applications should be based on a soil analysis report with appropriate recommendations made by an accredited laboratory in order to achieve successful dry land seeding. Areas that are less critical or do not have special requirements or specifications may use fertilizer applications based on the Fertilizer Selection section and general soils map in Section 40 in Appendix E of the Roadway Design Manual. In many situations, there are other good alternatives to commercial fertilizer and include topsoil, compost, organic soil amendments, and soil biological stimulants. Soil microorganism inoculants may also be used to provide for healthy and sustainable vegetation growth and establishment. Consult with the Roadside Program Manager in the Maintenance Operations Section for assistance and more detail in plant nutrient selection and use.

Cultural Control

With the utilization of IDOC inmate labor in some districts, cultural vegetation management can become a key component or tool in Integrated Vegetation Management. Cultural control, which primarily involves hand labor but is closely associated with mechanical methods (e.g., chainsaws, brush mowing, chippers, etc.), can be utilized to perform a wide array of vegetation management tasks, especially brush and tree removal. Every effort should be made by the districts to use this vegetative management tool where practicable.

Biological Control

Biological vegetation control is the use of plant insects or diseases (pathogens) that are host- or species-specific and, rather than killing a plant, they reduce the vigor of the plant or reduce seed production. Biological agents can bore into roots, stems, or branches and interrupt plant

growth, lay eggs in seed heads with the hatched larvae feeding on the seed, form galls on stems or leaves, or form rust spores, etc., on the plant and leaves, which interrupts photosynthesis. Biological agents are the natural predator for plants and are extensively screened and tested for ten or more years before release on noxious or invasive weed infestations in the US. Many noxious and/or invasive weeds come from foreign countries or regions which are introduced into this country without natural predators. A successful integrated pest management program requires a combination of different biological agents that attack the host plant in a variety of ways.

The use of biological agents on ITD property, especially right-of-ways, is encouraged but must be pursued with caution. Biological agents are living mobile organisms that can relocate to other targeted noxious and/or invasive weeds within the highway corridor. Careful consideration must be given to site selection and placement of biological agents in order to preserve the life and success of these organisms. Special expertise is needed to properly plan and execute biological control, therefore consult with Roadside Program Manager for guidance before proceeding with this practice. Narrow road corridors that may receive extensive vegetation management such as chemical spraying or mowing are not always conducive to biological agent release.

Noxious and Invasive Weeds

The Idaho State Noxious Weed law is administered by the Idaho Department of Agriculture and declares that specific weeds (listed on the Idaho Noxious Weed List) are designated noxious because they cause or can cause extraordinary negative economic, environmental and ecological impact and control is usually difficult and expensive. Idaho counties, through county ordinances, have the ability to declare additional noxious weeds within their jurisdictional boundaries. ITD is committed to complying with the Idaho Noxious Weed Law in the prevention, control, management, and/or eradication of noxious weeds on ITD property.

Noxious weed control shall receive high priority within ITD and its districts. All districts are encouraged to enter into cooperative agreements with the individual counties within the district to perform noxious weed control on ITD property. Refer to Form ITD 2393 Board Policy B4027 and Administrative Policy A5027 for more detailed information. These cooperative agreements will identify the roads or areas (location) in the county where ITD property will be treated for noxious weeds and include the targeted species, the approved herbicide(s) treatment and/or application method used and other required specifications for effective treatment. The county will be compensated as agreed in the cooperative agreement. This agreement should receive annual review and update.

If the district is unable to enter into a noxious weed control cooperative agreement with an individual county, the district shall assume all noxious weed control responsibilities on ITD property in that county.

In addition to county involvement and agreement, the District Vegetation Technician and staff is highly encouraged to be involved and participate in state, regional, or cooperative weed management areas pertaining to the comprehensive and strategic management of noxious and invasive weeds.

All operations staff should have some familiarity with Idaho's noxious weeds. Identification, recognition, and early detection are paramount in keeping noxious weed spread in check. Any

suspected infestation of noxious weeds or new invasive plants should be reported to the District Vegetation Technician.

Chemical Spraying

Chemical (herbicide) spraying is the cost-effective control method available to the District Roadside Integrated Vegetation Management (IVM) program. When used in combination with other IVM practices, herbicide efficiency and control results increase. Extreme caution should always be used when applying herbicides near water on roadsides and other ITD property, as adverse safety, public reaction, or liability issues may result.

Herbicides selected for use on ITD property for vegetation management are selected based upon their ability to control all or certain targeted weed species, safety to the applicator and the general public, and minimal impact on the environment and off-target species.

ITD policy is to avoid to the fullest extent practicable any herbicide applications directly to waters of the U.S. or over waters of the U.S. Districts are highly encouraged to minimize herbicide applications below the high water mark or directly to or over waters of the U.S. Applying herbicides to wetlands, intermittent waters (if they are actively draining to streams or rivers), or over the waters of the U.S. will require a Pesticide General Use Permit (PGP) from the Idaho Department of Environmental Quality (DEQ). Districts should evaluate their Roadside IVM program regularly to determine if a PGP is required and take the necessary steps to obtain the permit if needed. Terrestrial herbicides may be applied above the mean high water mark or to the water's edge if the stream or river is at bank full and does not require a PGP.

Equipment used by the district to apply herbicides should be equipped with the most technologically advanced equipment to reduce herbicide exposure to the public, to adjacent off-target species and, in particular, to operations staff operating the equipment. Maximum safety measures should be provided in choosing the equipment.

State laws govern the use and application of all pesticides, and it is ITD policy that all district staff applying or supervising the application of pesticides be licensed as Professional Applicators. This licensure requirement covers the use and application of "Restricted Use Pesticides" and the ability to consult and supervise in those categories of pesticide use for which operations roadside vegetation staff are licensed.

The licensed spray applicator shall have on the application vehicle at all times a current label of the herbicide(s) being applied and a current Safety Data Sheet (SDS) of the herbicide(s) being applied. It is the responsibility of the District Vegetation Technician to assure that this procedure is strictly followed.

Herbicide Application. Herbicide treatments on ITD roadsides and property are based on the vegetation management guidelines (two zones of vegetation maintenance). Consider spot spray treatments for all maintenance zones, if at all practical. For Zone 1, broadcast spray, one spray width not to exceed 15 feet from edge of pavement and under/around guardrails. For Zone 2, spot-spraying specific noxious or invasive weeds and dense weed infestations. Herbicide treatments in Zones 1 and 2 (Mow and Transition Zones) will be done using selective herbicides based on vegetative control objectives and requirements. The objective in these two zones is to

have low-growing, fire resistant grass species. Plant growth regulators may be considered in combination with the selective herbicides chosen for these two zones.

Herbicide treatments in Zone 2 should only be used in areas where circumstances require the application of herbicides to meet vegetative control objectives and requirements. The selection of herbicides for this zone should meet stricter review requirements and use by the operations vegetation staff. Schedule systemic herbicide spot-spray applications before or after pollinator breeding season; directed towards perennial weeds reproductive structures. Establish protocols to time applications as effectively as possible, within given operational constraints such as developing a control calendar that identifies key weeds and the best windows for control for optimum time of application.

Noxious weed control will be required in all four Zones and will be given high priority. Reduce broadcast spraying with systematic herbicides to reduce exposure to pollinators and use selective herbicides, spot-spray applications, and timing applications for maximum weed control efficacy and target the most vulnerable life stage of the weed. Time applications when pollinators are less active such as during cooler temperatures below 50 degrees, before sunrise, and after sunset. Do not spray plants in bloom or specific host plants such as milkweed. Consider spraying non-selective herbicides when desirable native plants are dormant or past their blooming stage.

Under no circumstances will herbicide treatments be used in all the zones for the sake of spraying only or to meet self-imposed acreage or mileage goals. The objective is to use herbicides as an efficient and effective management tool and use only in areas where situations exist that justify its use.

Removal of roadside material, such as berms and other ditch cleaning activities, should be carefully considered knowing that this material may have residue resulting from herbicide applications. Wasting or disposing of this material should be done at approved disposal sites or areas and only after consultation with the District Vegetation Technician. All large shrubs or woody plants such as trees shall be removed and the stumps treated with an appropriate herbicide to avoid "brownouts," fire hazards, and unsightly conditions prior to any herbicide treatments.

Herbicide treatment and application should be done during the time of year that will achieve maximum results. The timing should be based on optimum growth stages of the targeted species in conjunction with the design and mode of action of the selected herbicide, whether it is through leaf translocation or through root uptake. Herbicide applications should be done during favorable weather conditions with special consideration given to temperature, wind speed, wind direction, and rainfall events.

Spray Equipment. Spray equipment for applying herbicides should be selected based primarily on pesticide safety and exposure to the applicator. Self-contained spray systems using individual herbicide injection systems and computer-controlled spraying with GPS recording devices are the most accurate, effective and state-of-the-art application method available. This equipment can effectively apply herbicides at the prescribed rate to the correct location(s) based on width, speed of travel, and the length of the desired application. Properly calibrated computer

equipment in the cab of the spray truck can perform and accomplish all the spray requirements for the job plus record the exact quantity, rate and location of the application.

The District Vegetation Management crew shall be knowledgeable and proficient in the use and maintenance of this sophisticated equipment to assure accurate herbicide application and record keeping.

Herbicide Selection. Herbicide selection for use on ITD roadsides and properties is based on impact to the environment, safety to the applicator, and its ability to control or eliminate weeds meeting ITD vegetation control objectives and requirements. The herbicides selected may be selective, non-selective, or growth regulated. In conjunction with herbicide selection, spray adjuvants such as surfactants, wetting agents, or drift reducers may be used to enhance herbicide activity or reduce or eliminate physical drift of the spray solution.

An approved ITD herbicide list is maintained with the Roadside Program Manager in the Maintenance Operations Section. Herbicides and adjuvants on this approved list are determined by the six District Vegetation Technicians and the Roadside Program Manager. Use of herbicides and adjuvants other than those on the approved list shall be cleared through the Roadside Program Manager. This applies to herbicides and adjuvants purchased by the district for all applications. ITD is responsible for all pesticides applied to its properties and will have final approval on their use and application. Application of pesticides and, in particular, herbicides applied by adjacent landowners on ITD rights-of-way is prohibited.

All herbicides used and applied on ITD property shall be used and applied according to manufacturer label recommendations, instructions, limitations, and precautions.

All bidding and awards for purchase of ITD-approved herbicides will be done through Business Support and Management Section at headquarters and the Idaho Division of Purchasing. The Roadside Program Manager will coordinate all purchasing, product descriptions and bid specifications. All approved herbicides purchased through the bidding process will be delivered FOB to the districts. Payment for the herbicides will be made by the district from the herbicide budget line item in the District Maintenance Operation's budget.

Storage of herbicides at the district will be in an approved, heated, ventilated, locked and contained storage building. It is recommended that the herbicide storage building be isolated from other buildings and materials to reduce the chances of contamination, leakage, or exposure to district staff. The storage building should contain a spill kit and the floor should be made of concrete with a floor drain leading to a sump or containment area. The sump or containment area should be capable of containing 110% of the total liquid content (if storing greater than 500 gallons of liquid or 2,000 lbs. of dry product). The storage area or building shall be posted with warning notices visible from any direction at a minimum of 25 feet and contain contact info (name and phone number). Warning signs should also be posted on fenced areas and visible from 25 feet away. The notices shall read as follows:

- **DANGER**
- **POISON STORAGE AREA**
- **ALL UNAUTHORIZED PERSONS KEEP OUT**

(Repeat the warning in Spanish)

Place the name and phone number of an individual to contact in case of emergency on the sign.

Herbicide bids now specify that districts can order and buy smaller quantities of the herbicide. This is helpful to the district because less storage (both in size and quantity) is required, thus alleviating the problem of storing large quantities over longer periods of time. The district can now buy herbicides that are in essence stored at the distributor's facilities (successful bidder) rather than in the district. This procedure helps because money for herbicides can be better spent and there is less carry-over of herbicides into the next year.

When herbicides are stored on the spray truck(s), the trucks should be parked in a fenced in area away from easy access by district staff other than the spray crew. The herbicides should be secured or locked in cabinet on the vehicle. The truck parking area (inside or outside) should have containment capable of handling 110% of the volume of the largest hazardous material (i.e., herbicide) containers on that vehicle.

Another issue related to herbicide storage is herbicide container disposal. It is recommended that when districts order an herbicide, the herbicide container should be self-contained and returnable. Advantages of using returnable, self-contained containers are a substantial reduction in pesticide exposure to the mixer-loader, there is no longer a triple rinse requirement to meet, and the distributor delivers and collects the containers. There is not the time-consuming, labor-intensive requirement to triple rinse the container, destroy, crush, or cut the container and dispose of the container in an approved landfill. Storage of empty pesticide containers have to meet the same requirements as full or partially-filled containers, thus alleviating this need.

Transfer of pesticides from the self-contained returnable pesticide containers can be accomplished with self-contained transfer pumps, either owned by the district or furnished by the distributor of the product. This procedure also reduces exposure of pesticides to the mixer-loader. Pesticides from self-contained returnable containers can be transferred to small containers as long as the smaller container is properly labeled.

Safety. By using the proper equipment and protective and safety gear, the mixer-loader and herbicide applicator can reduce their exposure to pesticides. This is a critical component in ITD's integrated vegetation management program. All spray equipment should be self-contained (injection system) and computer-operated (eliminating any pesticide exposure in the cab). The pesticide containers should be self-contained and returnable, eliminating exposure and disposal. Transfer pumps and all associated plumbing should be self-contained, with check valves to prevent leakage.

Mixing should be done in a mix bay with secondary containment if the tank size is in excess of 300 gallons of liquid chemical. The person mixing and loading shall have face shields, proper rubber gloves, boots, and clothing to reduce or eliminate direct exposure to the pesticides. Eye wash and wash-off systems shall be on all spray rigs and in the mix-load area. Approved first-aid safety kits with soap shall also be within easy access on all spray equipment.

Herbicide and adjuvant selection for listing on ITD's approved herbicide and adjuvant list should be based on the least amount of toxicity (oral and dermal) to the mixer-loader, applicator, and the environment.

District staff that will be working with pesticides and exposed or possibly exposed should attend pesticide safety training whenever this training is available.

District staff shall not handle, transport, display, mix-load, apply, or distribute pesticides in any manner that endangers man and his environment or contaminates food, feed, or other products. Pesticide spill and containment kits shall be available on all spray trucks and in the mix-load area.

Record Keeping. Districts and ITD are required by state and federal law to keep records of all pesticide applications on ITD property for up to three years. This requires the District Vegetation Technician to be knowledgeable and up-to-date on these requirements and as stipulated in the Idaho Laws and Rules Governing Pesticide Use and Application. Pesticide applications shall be recorded using the approved mobile application Survey 123 Weed Control, which replaces the electronic form 2011 in Form Finder. Refer to SoE Hub for Weed Control App Suite:

<https://gisp.itd.idaho.gov/portal/apps/sites/#/weedcontrol>

The form ITD 2011 is currently accessed and stored on the ITD SharePoint site and can generate Daily Pesticide Application reports as needed. This system allows the district to access and modify the Daily Pesticide Application Log as determined by the individual District needs, enter and save data, and retrieve completed herbicide logs. This information is stored on the ITD SharePoint site for a period of three years as required by state law.

Contracting. ITD recommends that whenever practicable, roadside herbicide applications be contracted out to private firms. In many cases where reduction in vegetation staff (especially seasonal help) has occurred, annual roadside vegetation objectives and requirements need to be contracted out. This is necessary in order to accomplish the district vegetation objectives and requirements.

Herbicide(s) specified on the contracted projects shall be on ITD's approved herbicide list. Other important factors to consider in the preparation of the bid proposal document should address target species, production, solid or spot treatment requirements, record keeping, expected results, and traffic concerns. It is important that contract herbicide applications be closely monitored by responsible District Vegetation Management staff to assure compliance with the contract terms and that all precautions are being closely followed.

Volunteer Services Program

This program allows individuals or groups to volunteer in ITD-approved activities. The activities may include Adopt-a-Highway, One time litter pickup, Operation Wildflower, Graffiti Removal, Wildlife Fence Maintenance, Landscape Planting/Maintenance Rest Area Activities, or other ideas can be considered on a case by case basis.

Information and forms are located on ITD's website located at <https://itd.idaho.gov/road-mtce/?target=volunteer-activities>.

Participation in the Volunteer Services Program Through formal application and agreement, individuals, family members and/or members or employees of civic or nonprofit organizations and commercial or private enterprises may, upon approval from ITD, participate in the Volunteer Services Program.

Volunteer Services Program Application

An ITD Form 2727, Idaho Volunteer Services Program Application, is submitted to the District Volunteer Services Coordinator.

The application shall be in the form prescribed by the Department and contain the following information:

- The volunteer group's name.
- The name, telephone number, cell phone number, email address, mailing address, and the approximate number of volunteers who will be participating in the approved activity.
- The proposed location or a description of where the volunteer service activity will take place.
- The type of volunteer service activity to be performed.
- The date(s) the volunteer service activity will be performed.
- Be signed by the volunteer group's coordinator.
- An acknowledgment by the volunteer group of the potential hazardous nature of the work involved in participating in the Volunteer Services Program.
- An acknowledgment that the members of the volunteer group agree jointly and severally to be bound by and comply with the terms and conditions set forth in the agreement.
- A list of the respective responsibilities of the volunteer group and ITD, as outlined in the following sections.

General Limiting Conditions and Eligibility. Because of administrative, legislative, and financial constraints, the Volunteer Services Program shall be subject to each of the following:

The Program may, at any time and for any reason, be modified in scope or altered in any other manner at the sole discretion of ITD.

ITD may consider such factors as width of right of way, geometrics, congestion, and reduced sight distance of roadways in determining what highways shall be eligible for adoption.

ITD will not approve applications for highway sections that fall within the incorporated city limits without concurrence by the appropriate city governing body.

If any actions are determined to be contrary to any of the provisions of this Section, or to any legislative restrictions or any restrictions on the use of appropriated funds for political activists, ITD shall have the right to take any and all necessary remedial actions, including, but not limited to, the removal of the Adopt-a-Highway signs displaying the volunteer group's name or acronym.

Modification/Renewal of the Agreement. The Volunteer Services agreement may be modified in scope or altered in any other manner at the sole discretion of ITD. The volunteer group shall have the option of renewing the agreement subject to approval of the District Volunteer Services Coordinator.

Termination of the Program. ITD may terminate the agreement and remove the signs upon 30 days notice, if in its sole judgment it finds and determines that the volunteer group is not meeting the terms and conditions of the agreement. The Volunteer Service Program may at any time and for any reason be terminated at the sole discretion of ITD.

Responsibilities of Volunteer Groups, and Individuals participating in the ITD Volunteer Services Program:

- Each volunteer group acts as an independent contractor when participating in the Volunteer Services Program.
- Participants agree to obey and abide by all laws and regulations relating to safety and such terms and conditions as may be required by the District Engineer or headquarters supervisor.
- Volunteers shall be required to sign a release form before participating in the Volunteer Services Program. Release forms will be provided to the volunteer group's contact along with appropriate safety information after application approval (Form ITD 2870).
- Participants younger than 18 years of age must have a separate release form signed by a parent or guardian before participating in any Volunteer Services Program activity. Release forms will be provided to the volunteer group's contact along with appropriate safety information after application approval (Form ITD 2871).
- No person or group shall be denied the opportunity to participate in this program based on race, color, gender, sexual orientation, religion, national origin, age, disability, veteran status, marital status, political opinions or affiliations, religious opinions or affiliations as provided in Board Policy 4055 Harassment in the Workplace.
- Participants are prohibited from either possessing or consuming alcoholic beverages or illegal drugs while participating in the Volunteer Services Program.
- Participants in litter pickup shall not pick up syringes, needles, possible drug paraphernalia, dead animals, and materials that appear to be toxic, hazardous, or contaminated with blood or urine. The volunteer group contact will notify ITD of the location of these types of items.
- When participants of a volunteer group are younger than 18 years of age, the volunteer group shall furnish supervision with a **minimum** of one adult for every 10 participant between the ages of 14 to 18 years of age and one adult for each five participants under the age of 14.
- Supplies and materials shall be obtained from ITD during regular business hours and returned to ITD within two working days of the roadside activity.
- Every volunteer participating in litter pickup shall be required to review three safety handouts prior to participation in the program: Guidelines for Litter Pickup/Traffic Control Plan for Volunteer Group Litter Pickup; Safety Tips; Bag It, Move It or Leave It?, provided in the Volunteer Services Application packet. Participants shall review these safety handouts at least once a year.
- All participants should be aware of the possible presence of dust, exhaust fumes, plant pollens, pesticides, hazardous materials, etc., on roadsides. Any participant who may have allergic reactions to any of these conditions should refrain from roadside activities.

- Each volunteer group shall be responsible for maintaining a first-aid kit and adequate drinking water while participating in roadside activities.
- Traffic control signs shall be used for roadside activities. Signs shall be obtained from ITD and properly set up prior to any roadside activity.
- Participants shall wear ITD-supplied safety vests during roadside activities.

The responsibilities of ITD are:

- ITD District Roadside Vegetation Lead will furnish wildflower seed and planting instructions for ITD-approved seeding sites.
- Adopt-a-Highway signs should be installed for adopted sections as soon as possible.
- Adopt-a-Highway signs shall be 36 inches X 36 inches and shall be the standard format established by ITD (see Figure 5-1).
- Signs displaying the volunteer group's name or acronym will vary in font size, as needed, to accommodate the length of the volunteer group's name or acronym. Names or acronyms requiring three lines must be approved by the District Adopt-a-Highway Coordinator and will require approval by the ITD Sign Shop. Signs shall not contain any contact information, directions, slogans, logos, phone numbers or group names that contain hate speech. Internet addresses shall not be displayed on signs unless they are the official name of the business as registered with the Secretary of State's Office.
- Adopt-a-Highway signs should remain in good repair as long as a section is actively adopted.
- When a section is no longer adopted, the adopting group's signs shall be removed as soon as practicable and should be replaced with the "to adopt this roadside section" and ITD contact information signs for at least one year or until normal deterioration warrants removal.

Management of the Volunteer Service Program

Statewide management of the program will be provided by the Maintenance Operations Section.

The Maintenance Operations Section will:

- Administer program policies and procedures.
- Review program status, needs, and innovations.
- Maintain the Adopt-a-Highway database as requested by the District Adopt-a-Highway Coordinator.
- Maintain a file of number of volunteers utilized, total number of hours donated to ITD by calendar year, the location of services provided, and the types of services provided.

The program will be administered and promoted in the districts by the District Engineers, who will provide staff to serve as coordinators for the program.

The District Volunteer Services Coordinator will:

- Furnish and review the volunteer group's applications for participation in the program.
- Coordinate proper execution and return of agreements and release forms. The release forms will be kept on file at the district office (see Form ITD 2870 and Form ITD 2871).
- Maintain the volunteer groups file (either electronically or hard copy) consisting of the original application, the last two renewal documents, any documented complaints, any correspondence relating to possible suspensions and cancellations. The file is to be retained for three (3) years after the groups cancellation for reference should there be a complaint or protest.
- Provide the volunteer groups with safety training material.
- Coordinate arrangements for furnishing volunteer groups with ITD-approved safety vests, trash bags, and traffic control signs.
- Order and coordinate the placement of the 36 in. x 36 in. standard format Adopt-a-Highway signs displaying the volunteer group's name or acronym as near as possible to each end of the adopted segment. Signs shall not contain any contact information, directions, slogans, phone numbers or group names that contain hate speech. Internet addresses shall not be displayed on signs unless they are the official name of the business as registered with the Idaho Secretary of State's Office.
- Provide information, clarification, and appropriate assistance to the volunteer group contact.
- Oversee the general performance of each district volunteer group to ensure compliance with the terms of the agreement.
- Resolve issues, complaints, concerns, etc., regarding the program with the HQ Volunteer Services Coordinator.
- Primary contact responsible for maintaining the Adopt-a-Highway database.
- Annually, each District Adopt-a-Highway Coordinator will select deserving volunteer groups as outstanding group of the year. As recognition 36 inches X 18 inches signs displaying "Outstanding Group of the Year" will be erected under the volunteer group's Adopt-a-Highway signs. The following year, the "Outstanding Group of the Year" signs will be removed and erected to recognize subsequent outstanding groups.

The Maintenance TOTL will:

- Provide volunteer groups with convenient access to Form ITD 2863, safety vests, trash bags, and traffic controls signs. The group representative shall complete the supply pickup portion of Form ITD 2863 Adopt a Highway Equipment Request. When the supplies are returned the TOTL will have the group representative complete the Equipment Return portion of Form ITD 2863. If the supplies are not returned during business hours, the TOTL's staff removing the filled litter bags will complete the ITD Use Only portion of Form ITD 2863, indicating the number of filled litter bags removed from the adopted site in the Remarks section. Immediately forward a copy of the form to the District Volunteer Services Coordinator electronically.
- To the extent possible, remove the filled trash bags and litter from the roadsides the first ITD workday following the volunteer group's pickup.

- Notify the District Volunteer Services Coordinator when adopted segments are not being picked up by the volunteers as outlined in the agreement.
- Notify the Volunteer Services Coordinator of any questions or concerns regarding volunteer activities as they relate to Work Zone Safety and Mobility Program requirements. Concerns can be escalated to Maintenance Operations.

Adopt-a-Highway Program

In this program, individuals, families and/or members or employees of civic or nonprofit organizations and commercial or private enterprises may, upon approval by ITD, adopt a section of state highway right of way for the purpose of picking up litter twice yearly (minimum).

Litter Pickup

Two Lane Two Way Roadways -- Participants are restricted to one side of the roadway between the right-hand edge of the pavement and the right of way fence or boundary at any one time. Litter on the pavement is NOT picked up by participants. Crossing back and forth over the roadway is prohibited on two-lane rural highways.

Multiple Lane Divided/Interstate -- Participants working within a median area shall be restricted to the minimum number of crossings required to gain ingress and egress from the median area. It is recommended that a transport vehicle be used to transfer the participants from working on the outside shoulder area to the median area. A transport vehicle can be used as a shadow vehicle (see definition below) to protect workers and minimize the potential for accidents.

Parking -- Volunteer groups should park their vehicles off the roadway shoulder and as near to the right of way fence as possible. It is recommended that a minimum number of vehicles be used to transport participants to the litter pickup area.

Safety Vests -- Participants must wear the ITD supplied Class 3 safety vests during litter pickup.

Shadow Vehicle -- A shadow vehicle is used to give advance notice of work taking place through the means of either additional signing mounted on the rear of the vehicle, flashing emergency lights or a flashing rotating beacon. Shadow vehicles, when used, should be parked in advance of the work taking place or be used to follow a moving operation at a distance to give additional protection to the workers. When one large vehicle (van or bus) is used to transport the volunteers it may be parked on the shoulder closest to the litter pick up where it can act as a shadow vehicle for additional protection of the participants. This would allow parking on the inside shoulder for median pickup or the outside shoulder for litter pickup between the shoulder and the right of way fence. If used, a shadow vehicle will be required to have safety flashers or a rotating flashing beacon in operation during the litter pickup and be parked as close as possible to the outside edge of the roadway shoulder. Supplemental signing mounted on the back of the shadow vehicle may also be used to give additional advance notice to the traveling public.

Signing -- Traffic control signs should be mounted on temporary stands and placed adjacent to the edge of the shoulder.

- Two Lane Two Way Roadways (Figure 5-1). Traffic control signs should be placed on both sides of the roadway where litter pickup is taking place. Signing should be at least 500 feet in advance of each end of the litter pickup section for each direction of travel.

The lower edge of the sign must be mounted a minimum of one foot (1') above the roadway surface.

- Multiple Lane Divided/Interstate (Figure 5-1, Figure 5-2 and 5-3) -- Signing should be placed on both sides of the travel lanes a minimum of 1000 feet in advance of the litter pickup area. Signs must be mounted with the lower edge of the sign a minimum of six feet (6') above the roadway shoulder. If a shadow vehicle is used for litter pickup on Interstate roadways, consideration should be given to mounting supplemental signing on the back of the shadow vehicle that restates the "Roadside Litter Pickup" message.
- The volunteer group shall be responsible for placing litter in trash bags furnished by ITD. The bags shall not be overfilled and shall be tied. Trash bags shall be placed on the roadway shoulder and behind guardrail, where possible. Trash bags shall not be placed on or under bridges. Where possible, trash bags shall be grouped in areas with good sight distance and roadway shoulder significant for safe pickup by ITD.

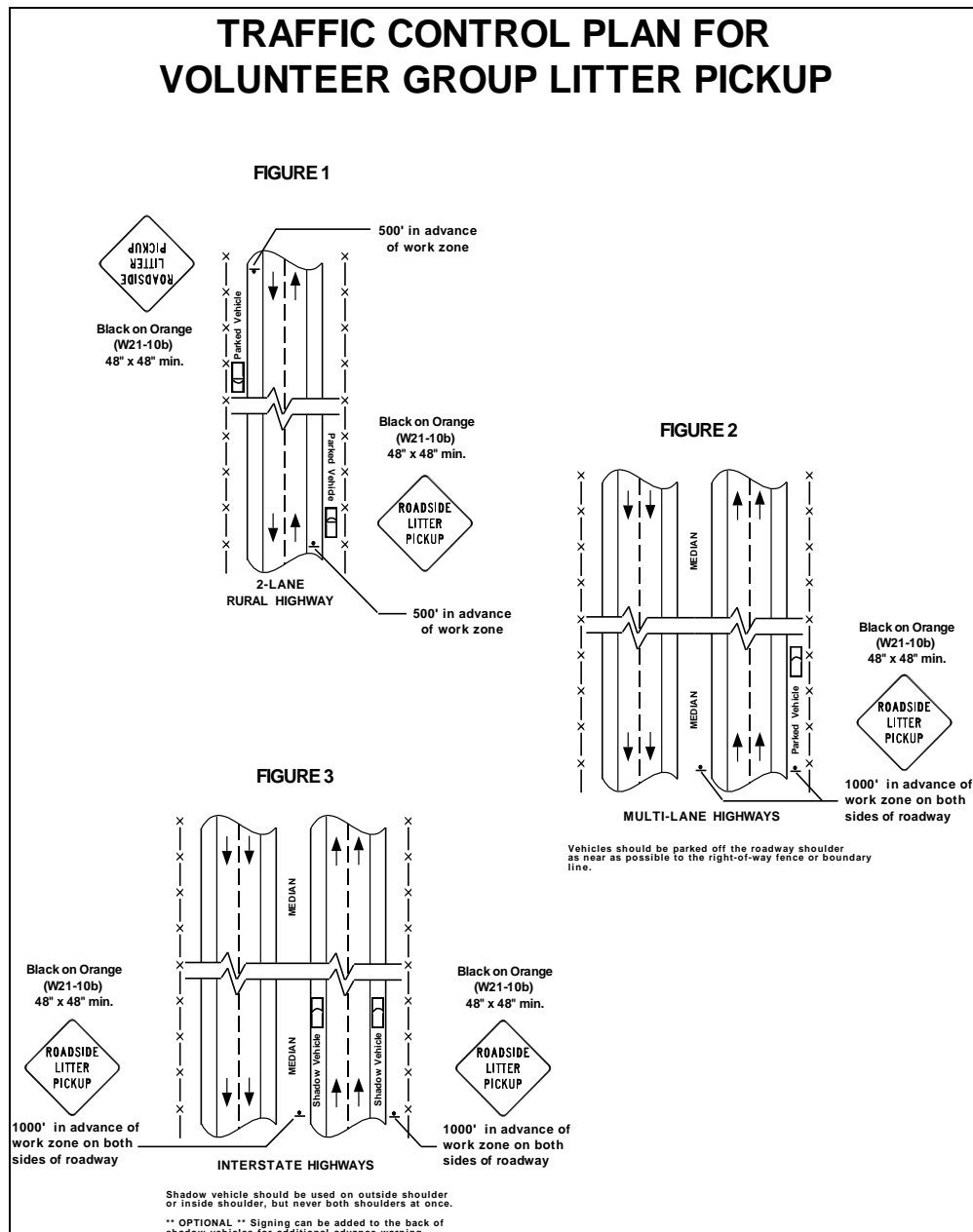


Figure 5-1: Temporary Traffic Control Plan for Volunteer Groups

ITD Responsibilities. ITD will place an Adopt-a-Highway sign (see Figure 5-2) as near as possible to each end of the adopted section. The sign will display the volunteer group's name or acronym as approved by ITD. Signs shall not contain any contact information, directions, slogans, logos, or phone numbers. Internet addresses shall not be displayed on signs unless they are the official name of the business as registered with the Secretary of State's Office. No group name containing hate speech will be allowed.

NOTE: The design, installation and use of all traffic control devices, must comply with the Manual on Uniform Traffic Control Devices (MUTCD), as adopted by the State. All

- sign sheeting must meet ASTM 4956 D TYPE III or greater retro-reflectivity standards. Sign stands and sign installations must comply with NCRHP-350 crash standards.
- ITD will provide Class 3 safety vests, trash bags, traffic control signs, and safety literature for the use of volunteers. See Figures 5-3 thru 5-5.
 - ITD will remove the filled trash bags from the roadsides.

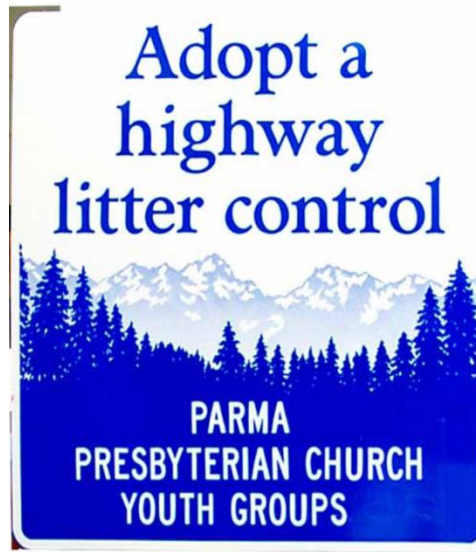


Figure 5-2: Sign Example



Safety Tips

- Never conduct roadside activities when weather conditions might effect a driver's vision or when driving conditions are questionable. Limit activities to full daylight and fair weather days. Keep in mind, this activity is conducted in a heavily trafficked high-speed zone.
- Each group should review the Guidelines for Litter Pickup/Traffic Control Plan for Volunteer Group Litter Pickup **and** Bag It, Move It, Leave It before each activity.
- Use the Litter Traffic Plan for signage, it's not only a good idea, its federal law.
- Have a first-aid kit available. Take extra gloves, sunscreen and water.
- We **require** all participants wear an ITD issued Class 3 Reflective Safety Vest.
- We recommend wearing gloves, long pants and sturdy closed toe shoes.
- Headsets/earbuds can interfere with your ability to hear oncoming traffic or other potential hazards and should not be worn.
- Items that might cause injury, such as axes, knives, machetes, etc., should not be carried during litter pickup.
- **DO NOT** conduct litter pickups on the roadway, bridges, tunnels, curved roadway sections, overpasses or in construction zones. These areas are especially dangerous for pedestrians.
- Stay clear of mowing operations and maintenance or construction activities.
- Be alert for snakes, stinging insects & poison ivy. Be cautious around tall grass and old logs.
- Don't try to make room in your litterbag by jumping or pushing down on it. You could cut yourself or the bag may rip and you might end up picking the litter up all over again.
- Avoid overexertion by resting when you need to and drinking plenty of water, especially on warm days.
- Never possess or consume alcoholic beverages or illegal drugs while on the adopted section.
- Leave roadkill. Report its location when returning your supplies.
- Never pick up questionable material. Leave and report the location of any drug paraphernalia or bodily fluids (Bottle Bombs) when returning your supplies.

Figure 5-3: Safety Tips

If you find any of the following items, please call your local district maintenance shed. Shed locations and telephone numbers are listed on the blue reference sheet titled "District Adopt-A-Highway Coordinators & Maintenance Sheds". The sheet is included in the Adopt-A-Highway information/application packet and was provided to your group contact.

Item

Miscellaneous Items

Any item that you cannot identify and suspect may be hazardous.

Hazardous Substances

Spills of liquid or powdery substances

Fuels

Motor oils, petroleum products

Antifreeze

Batteries

Paints

Human urine, feces, bloody waste

Syringes

Extremely Hazardous Items

Explosives

Weapons, unspent ammunition

Items with hazardous material labels (see examples below)

Unlabeled medicines

Possible drug paraphernalia**

** Methamphetamine drug lab waste can be found in many shapes and forms. Propane cylinders from grills are used to transport anhydrous ammonia. This ammonia can burn your skin and cause severe respiratory damage. Other lab waste could include medicine boxes, pill residue (putty looking substance pink to red in color), respirator masks, rubber gloves, rubber hosing and clamps, pyrex glass, corning containers and other containers with rubber hoses attached.

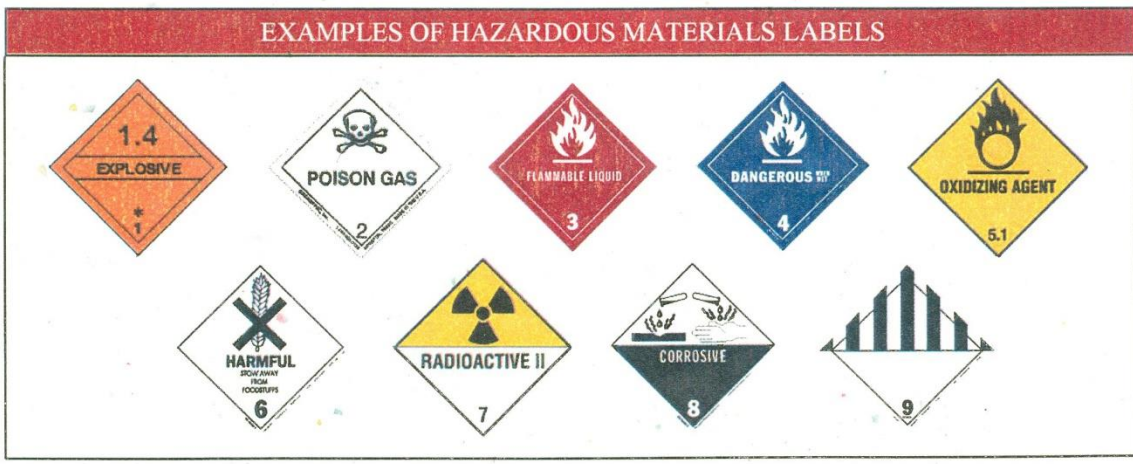


Figure 5-5: Hazardous Materials

Adopt-a-Highway signs should be placed to have maximum practical lateral clearance from the traveled way for the safety of motorists.

Where the right of way and terrain permit, Adopt-a-Highway signs should be placed behind the normal line of highway signs. The face of the Adopt-a-Highway signs should be placed perpendicular to the roadway.

If the boundary of an adopted section falls at a road intersection, care should be given to place the Adopt-a-Highway signs so they will not obstruct the sight distance at the intersection.

The District Adopt-a-Highway Coordinator may, with approval of the District Engineer, delegate some of the above responsibilities to the Maintenance TOTL. Coordinators will communicate and consult with the Maintenance Foremen when their coordinators' duties involve Maintenance activities in order to provide for effective, efficient coordination of the program.

Operation Wildflower Program

Through the Operation Wildflower Program, Adopt a Highway volunteer groups have the opportunity to participate in ITD-approved wildflower planting on their adopted sections.

- Eligibility for the Operation Wildflower Program is limited areas the District deems eligible for wildflower seeding.
- Only ITD furnished seed will be allowed for planting

For more information on this program and to download the required forms, prospective volunteers can visit ITD's website under the Adopt a Highway/Volunteer Activities/Operation Wildflower tab.

Rest Area Activities Program

The Rest Area Activities Program allows nonprofit groups with 501(c)-3 status and other nonprofit entities as approved to dispense free refreshments to the motoring public for the purpose of providing a period of relaxation and improving highway safety.

Members of nonprofit, 501(c)-3 status organizations may, upon approval by the Department, provide free, non-carbonated beverages and refreshments at select rest areas under such terms and conditions as may be duly promulgated under the authority of the Board. The volunteer groups will not be allowed to dispense organizational, political, or any other type of literature.

For more information on this program and to download the required forms, prospective volunteers can visit ITD's website under the Adopt a Highway/Volunteer Activities/Activities Programs tab.

Application. The Rest Area Volunteer Spokesperson shall submit Form ITD 2727 Volunteer Services Programs Application to the appropriate District Engineer. Applications will be approved on a first come/first serve basis. In the event more than one organization requests the same day, a blind drawing will be held to make a selection. Only one initial reservation is allowed each year. Additional applications may be made if no other organization has applied for the designated days. ITD may restrict reservation to only one initial holiday weekend reservation each year. Additional application may be made for non-holiday weekends.

ITD will inform the applicant of allowable dispensing locations, vehicle parking areas, electric and water connections, storage areas and all restrictions that apply. ITD will furnish informational signs prior to the scheduled activity. The group will set up the signs prior to the scheduled activity and remove the return the signs after completion.

Adopt-a-Wildlife Fence Program Application

Through formal application and agreement, volunteer groups have the opportunity to support efforts being made by ITD and the Idaho Department of Fish and Game to mitigate vehicle-wildlife collisions by maintaining wildlife fencing that deters wildlife from crossing over and entering the roadway in select areas of the state.

An application for participation in the Adopt-a-Wildlife Fence Program is submitted to the District Volunteer Services Coordinator in which the section of state highway fence line is located.

The application shall be in the form(s) prescribed by the Department and contained in the Volunteer Service Program Guideline contained here-in. For more information on this program contact a District Volunteer Services Coordinator.

School Outreach Programs

The School Outreach Programs provides students an opportunity to learn about Work Zone safety practices and anti-litter habits that can benefit the environment.

Schools can apply to participate in the program by completing Form 0297, School Outreach Activity Program Application. The program is provided free of charge.

School Outreach Program Application. The school's contact submits an application for participation in the School Outreach Activity Program to the District Volunteer Services Coordinator.

The application shall be in the form prescribed by the Department. It shall contain the following information:

- The school's name and mailing address.
- The school's contact's name, daytime telephone number, cell phone number, e-mail address and signature.
- The approximate number of student participants and their grade level.
- Date and time requested for presentation.

Approve Application Forms. The District Maintenance Operations School Outreach Coordinator finalizes presentation arrangements with the school's contact.

Responsibilities of Schools and ITD. Schools participating in the Maintenance Operations School Outreach Program are subject to each of the following requirements and responsibilities:

- The school's contact serves as the spokesperson for the school and is the school's contact with ITD.
- The school's contact provides the completed Form ITD 0297 Maintenance Operations School Outreach Application to the District Volunteer Services Coordinator.

After the presentation, the school's contact provides the completed Form ITD 0298 Maintenance Operations School Outreach Program Presentation Report to the District Volunteer Services Coordinator.

The responsibilities of ITD are:

- ITD will provide training, including, the demonstration of appropriate heavy equipment.
- ITD will provide each student with a complimentary Work Zone Safety or Betty the Butterfly Kid's Activity Book.

Because of administrative, legislative, and financial constraints, the School Outreach Programs may at any time and for any reason, be modified in scope or altered in any other manner at the sole discretion of ITD.

Inmate Labor Program

The Directors of the Idaho Transportation Department and the Idaho Department of Correction have entered into a Human Resource Agreement outlining the utilization of offender labor. District Engineers and Division Administrators may enter into Annual Work and Financial Plan agreements with the Idaho Department of Correction to obtain inmate labor to supplement Department resources as appropriate under the terms of the Human Resource Agreement. The use of inmate labor may include but is not limited to:

- Facilities maintenance
- Vehicle and equipment maintenance
- Department-supervised operations crew assistance

Inmate labor shall not be used on projects receiving federal-aid funds.

Responsibility for Budgeting and Planning. District Engineers and Division Administrators shall establish and maintain a one (1) year plan and budget for inmate labor agreements. Inmate labor plans and budgets shall include anticipated expenditures and include location and cost information for planned or special projects.

Each month, the District Engineers and Division Administrators or designee shall reconcile all payments to the Department of Corrections and provide cost breakdowns as follows:

- Inmate Labor – Time and Rate
- Department of Correction Guard Labor – Time and Rate
- Idaho Transportation Department labor associated with projects using inmates
- Materials furnished by the Idaho Transportation Department and used by inmates
- Equipment furnished by the Department of Correction and used by inmates
- Equipment furnished by the Idaho Transportation Department and used by inmates

Handling and Disposal of Dead Animals

The following are Best Management Practice (BMP) guidelines for the handling and disposal of dead animals which have been killed on the Idaho Transportation Department right of way.

These methods have been approved by the Administrator of the State Department of Agriculture and the Idaho Department of Environmental Quality and found to be within the

Idaho Administrative Policy Act (Department of Agriculture), (IDAPA) 02.04.17-- Rules Governing Dead Animal Movement and Disposal and (IDAHO CODE 18-5807) – Leaving Carcasses Near Highways, Dwellings, and Streams and Pollution of Waters Used For Domestic Purposes.

The Idaho Transportation Department, Department of Agriculture, and Department of Environmental Quality have utilized the rules, statute, and related Idaho law in the development of these BMP's so that they may reflect and promote best practices.

Removal of Dead Domestic Animals. If the dead animal poses a safety threat to the motoring public, ITD will respond to remove the dead animal. If the dead animal is off the shoulder or fog line then ITD personnel will remove the dead animal the next working day.

Livestock. Remove all livestock from beyond the fog line to the shoulder of the roadway. For disposal of all dead livestock animals, contact State Communications, who will contact the Idaho State Police, the Brand Office or local law enforcement to determine ownership and removal.

Small Domestic Animals (cats, dogs etc.). Remove animal from beyond the fog line to the shoulder of the roadway. Where ownership of small domestic or house hold pet animals can be determined by tag or other marking, contact the owner for removal.

Where no ownership can be determined, the carcass should be disposed of using the guidelines found below.

Wildlife and Unidentifiable Animals. Handle, remove, and dispose of dead animals found on ITD right of way in accordance with these Best Management Practices.

Injured Animals (alive). Injured but still alive animals on or near the roadway should be reported to State Communications who will then contact the Idaho Department of Fish & Game to be euthanized by a Conservation Officer or Law Enforcement. Salvageable animals will be determined by an Idaho Fish & Game Officer.

Handling of Dead Animals. ITD personnel are strongly encouraged to follow these precautionary guidelines when handling dead animals:

- Use tools such as shovels to avoid direct contact with the animal
- Avoid bare hand contact when handling dead animals
- Wear latex or rubber gloves that provide a protective barrier between your skin and any blood or body fluids.
- Avoid splashing blood and other body fluids into your eyes, mouth and non-intact skin (wounds, abrasions, cuts)
- If possible, decontaminate tools and vehicle of blood with a 10% solution of bleach and water. Allow solution to saturate affected area for at least 10 minutes before rinsing with water.
- Discard latex or rubber gloves immediately after use. Enclose in a plastic bag and disposed in the trash.
- Wash hands thoroughly with soap and water after disposal. Check for ticks.

Animals that die on federally managed rangeland from causes other than significant infectious or contagious diseases or agents shall be disposed of as provided by the rules and regulations of the responsible land management agency.

Transporting Dead Animals. Vehicles used for transporting dead animals shall be constructed and maintained, or be prepared prior to receiving dead animals into the vehicle, so that no liquid or fluid from the dead animals is allowed to drip or seep from the vehicle during transport. Dead animals should be properly secured to avoid being lost during transport and should be concealed from public view during transport. Vehicles hauling dead animals shall travel to the destination directly.

Disposal of Dead Animals. Dead animals should be disposed of as soon as possible after notification.

The following are BMP guidelines for disposing of dead animals or birds killed along ITD right of ways. Disposal may be by one (1) of the following methods.

Burial. If disposal at a properly permitted landfill or composting is not feasible, animal carcasses shall be buried to such a depth that no part of the dead animal shall be nearer than three (3) feet to the natural surface of the ground. Every part of the dead animal shall be covered with at least three (3) feet of earth.

The location of a burial site shall be:

- At least three hundred (300) feet from any wells, public or private drinking water supply lakes or springs.
- At least three hundred (300) feet from any existing residences.
- At least fifty (50) feet from property lines.
- At least one hundred (100) feet from the roadway shoulder.
- Should not be buried within the ditch line of the right of way.
- At least two hundred (200) feet from any body of surface water such as a river, stream, lake, pond, and/or intermittent stream.
- Burial sites shall not be located in low-lying areas subject to flooding, or in areas with a high water table where the seasonal high water level may contact the burial pit.

Burial sites shall not be located in low-lying areas subject to flooding, or in areas with a high water table where the seasonal high water level may contact the burial pit.

If dead animals are regularly disposed by burial at a specific location, contact DEQ for more information.

Disposal in an Approved Sanitary Landfill. Arrangements should be made with a city, county, regional, or private landfill official in order to dispose of a dead animal in a city, county, regional, or private landfill.

Composting. Composting of dead animals should be accomplished in a manner approved by State Department of Agriculture and/or the Department of Environmental Quality.

Decomposition. Animals (except livestock) that die on ITD right of ways from causes other than significant infectious or contagious diseases or agents and there is no alternative means of disposal, may be left to decompose naturally.

Livestock shall **Not** be discarded to decompose on State right of way. Contact State Communications; they will contact the Idaho State Police, Brand Office or local law enforcement to determine ownership.

Domestic and Wildlife Animals. The dead animal may be discarded off the roadway or shoulder and out of site of the traveling public as long as ITD personnel consider the area, location, size of animal, and the amount of ITD right of way in which the dead animals are to be left to naturally decompose.

Dead animals are **Not** to be discarded or left within ¼ mile of any residences or property line or privately owned property or any public highway.

Dead animals are **Not** to be discarded within ½ mile of any wells, lakes, ponds, streams, public or private drinking water supply lakes, or springs.

Dead animals are **Not** to be stockpiled and left for decomposition in any open pit, crevasse, ditch, or swale where water will pond.

If dead animals are regularly disposed by decomposition at a specific location, contact DEQ for more information.

Salvage of Dead Animals. Big game and upland game animals, upland game birds, furbearing animals, predatory wildlife or unprotected wildlife unintentionally struck and killed or severely injured on a roadway with a vehicle may be salvaged. Persons who want to either salvage or humanely dispatch and salvage a struck animal must report it to Idaho Department of Fish and Game (IDFG) within 24 hours and obtain a salvage permit from the IDFG within 72 hours. The following wildlife must also be presented to the nearest IDFG office to satisfy mandatory check and reporting requirements: Moose, mountain goat, big horn sheep, mountain lion, black bear, wolf, bobcat and river otter.

Animal Carcass Records. In cooperation with the Idaho Department of Fish & Game (IDFG), and to address highway safety concerns related to animal/vehicle collisions, recording and reporting of dead animals (carcass) which have been killed upon the Rights-of-Way shall be accomplished by Department personnel. The Department's Transportation Asset Management System (TAMS) has been configured to allow for the easy input of carcass information. Department personnel shall record all animal carcasses that are removed in TAMS. If an animal has been salvaged in accordance with the Idaho Salvage Law, it will be recorded in the IDFG database as part of the salvage permit process and does not need to be entered into TAMS as a carcass record.

Chronic Wasting Disease. Chronic Wasting Disease (CWD) has been confirmed in Idaho. If you encounter a dead animal you suspect is infected with CWD, contact the Idaho Department of Fish and Game. Additional information can be found at the following link:

https://idfg.idaho.gov/cwd?utm_source=idfg-website&utm_medium=link&utm_campaign=home-featured

Rest Areas

Safety Rest Areas located on the state highway system are established for the purpose of providing travelers with convenient service and opportunity for rest and relief from the fatigue of travel.

Rest areas should always be neat, clean, sanitary, secure, easily accessible, and should be constructed and maintained to make a favorable impression about the state of Idaho and the Department.

Activities which are not safety related are not compatible with the intended use of the Safety Rest Area facility. Safety rest areas are not intended for commercial or organized activities including public discussions, meetings, speeches, or distribution of tracts, pamphlets, favors, or any material, product, or literature that are not part of the Rest Area Activities Program.

The location and level of service provided at the safety rest area shall be determined by analysis of trip length, travel time, traffic volume (ADT) and availability of other 24 hour public or private roadside facilities. Proposed safety rest area size shall be determined by the need, availability of land, type of facility and construction costs; and should be designed to meet or exceed projected usage.

For planning and maintenance purposes, department roadside rest areas shall be classified as to level of service provided to the traveling public and to maintenance requirements.

Basic Plus. Basic Plus safety rest areas are appropriate for low to medium volume state highways. Basic Plus safety rest areas provide basic human needs plus other amenities such as potable water, flush toilets, and picnic tables.

Deluxe. Deluxe safety rest areas are appropriate for medium to high volume state or interstate highways. Deluxe safety rest areas provide full service facilities and are operated exclusively by the Department.

Gateway. Gateway safety rest areas are located near important regions or tourist entrances into the state. Gateway safety rest areas include all the amenities of a Deluxe rest area and provide adequate space for a staffed visitor information center.

The Department maintains and operates only rest areas that are classified as Basic Plus, Deluxe or Gateway and located on department right of way. Unless otherwise authorized by the Chief Engineer or the Director, Deluxe and Gateway safety rest area(s) should include a resident caretaker who is responsible for daily maintenance activities and protection of the Department's investment.

Each safety rest area facility shall be periodically reviewed by the Maintenance Operations Manager and District staff to ensure that the desired travel and rest purposes and services are being provided. Corrective action shall be planned and scheduled for safety rest areas that do not meet department standards. Safety rest areas, not meeting the desired purposes and services, shall be evaluated for rehabilitation, closure, or transfer to another agency or organization.

Visitor Information Centers should be incorporated into Rest Areas that are located near important regions or entrances into the state to make them into Gateway Rest Areas. Visitor Information Centers should provide traveler and commercial information and services along or accessible from Scenic and Recreational Highways. Pertinent information, whether posted or available in printed or electronic form, is restricted to information that is of interest to the traveling public. ITD has a Memorandum of Understanding (MOU) between the Idaho Department of Parks & Recreation (DPR), and the Idaho Department of Commerce (IDC) and

ITD. The MOU includes program objectives and assigned responsibilities for each agency. The Maintenance Operations Manager is responsible for developing and updating the agreement between the agencies. Acceptable commercial advertising shall be limited to the promotion of services and products of special interest to the traveling public (i.e., lodging, travel attractions, restaurants, vehicle services, and emergency road services), or of services and products that promote Idaho's "unique and of interest" attractions. Promotion of services or products not falling within the above-mentioned categories requires approval by the Maintenance Operations Manager.

Nonprofit organizations are authorized to provide free refreshment services to motorists in safety rest areas with a formal agreement (See Volunteer Services Program). Other volunteer organizations that assist the department in Safety Rest Area beautification or cleanup shall also be authorized by a formal department agreement (See Volunteer Services Program).

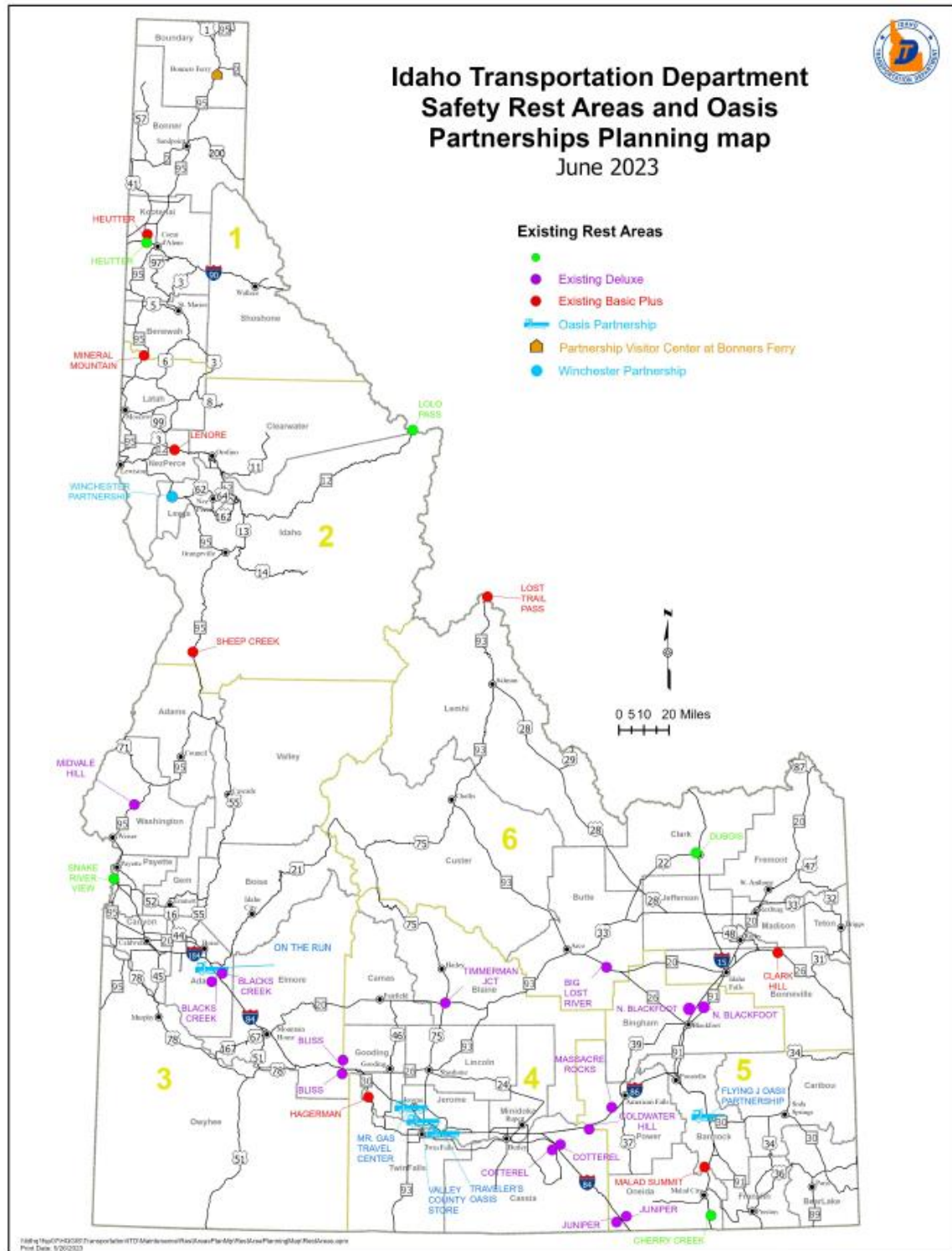
It is encouraged to pursue funding sources and participation with other governmental agencies on new proposed or existing safety rest areas and may be funded and maintained through cooperative agreements with the U.S. Forest Service or Bureau of Land Management. Joint funding and participation partnerships with other government or private entities may require special consideration for maintenance and management purposes of a Safety Rest Area. Duties and responsibilities should be defined in the cooperative agreements. It is recommended that in any joint participation the Department limit its involvement in maintenance activities to parking lots, exits and entrances. Maintenance by ITD of restrooms or grounds should be in the form of annual financial assistance. Refer to the rest area map (Figure 5-6), Board Policy B4044, and Administrative Policy A5044 for additional information.

Interstate Oasis and Partnership Oasis Programs. Public and private partnerships, known as Oasis Partnerships, may provide opportunities to improve and expand the services provided by Safety Rest Areas. The Interstate Oasis Rest Area is associated with the Interstate System and as such must meet federal requirements. An Interstate Oasis shall be defined as a facility near an Interstate, but not within the Interstate right-of-way, that provides a viable service and products to the traveling public on a continual 24-hour basis, 365 days per year. Products and services shall include but not be limited to: food, water, public telephone, ADA compliant public restrooms, parking for automobiles, recreational vehicles and heavy trucks. Interstate Oasis partnerships should comply with the locations identified by the Safety Rest Area and Oasis Partnership Program or Corridor Management Plans.

The use of the phrase "Interstate Oasis" on a business' premise, on-site private signing, and advertising media shall be limited to only those businesses which have been approved by the State as an Interstate Oasis facility. Signing shall conform to the specifications, placement, and design standards as addressed in the Part 2 Signs of the Traffic Manual.

Rest area facilities not associated with the Interstate System are also eligible for public/private partnerships. The guidelines for these partnerships are similar to those of the Interstate Oasis noted above, but some streamlined approvals can be made when using state funds. A cooperative agreement between the department and the Oasis facility must be completed which states the Oasis services to be provided and the conditions under which the facility shall be operated to provide those services. The agreement shall also list all conditions under which

the department or the facility may cancel the partnership. Refer to the rest area map (Figure 5-6), Board Policy B4044, Administrative Policy A5044, and Traffic Manual, Part 2 for additional information.



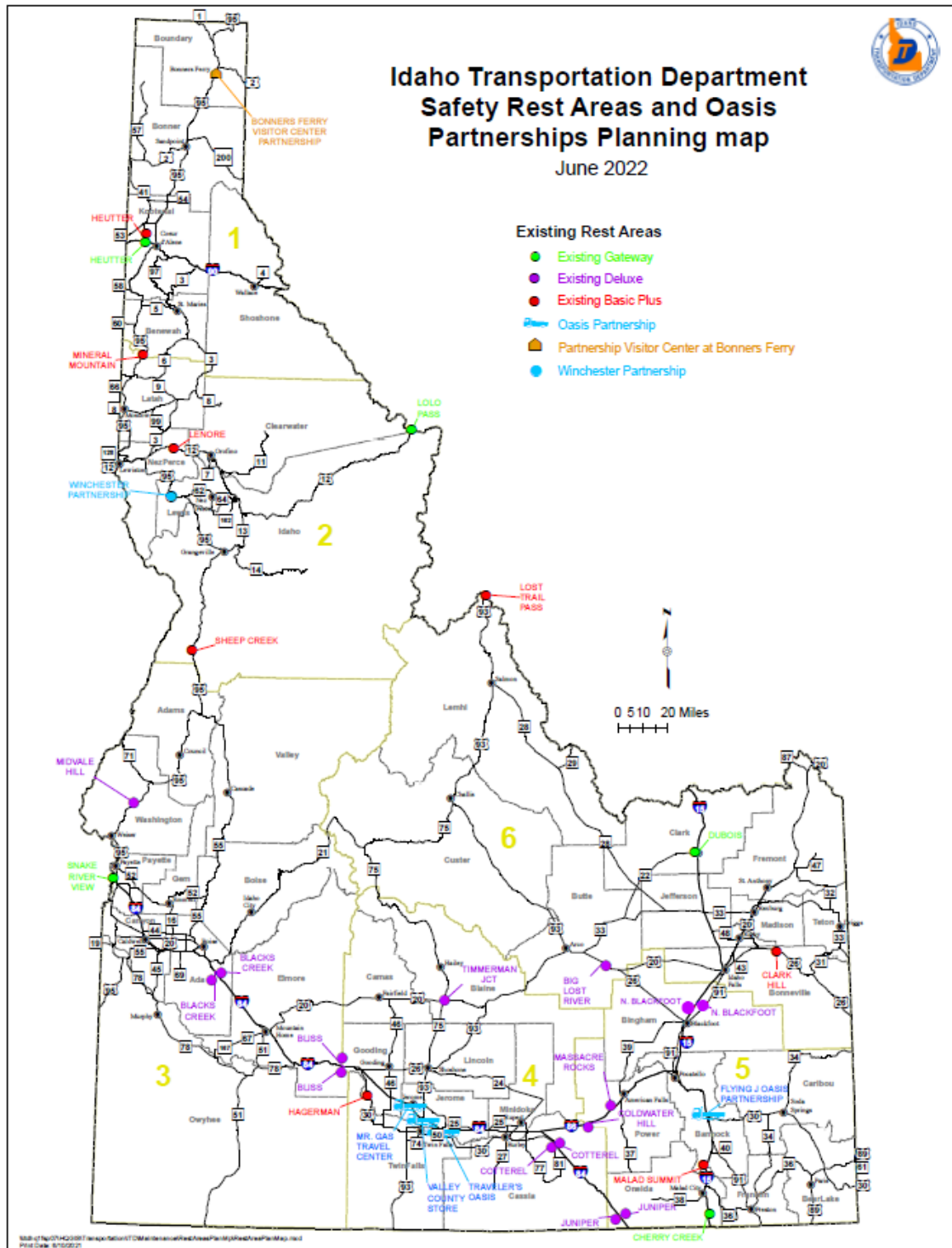


Figure 5-6: Rest Areas & Partnerships

Rest Area Maintenance

All roadside rest area maintenance, using either state forces or outside vendors, shall be reported to activity code M411 (Rest Area Maintenance).

All construction, reconstruction and rehabilitation work shall be scheduled through normal project development procedures and shall report to M621 (Rest Area Construction and Major Improvements). Whenever possible, work should be scheduled during tourist off-season periods. Safety rest areas shall be closed while major work is accomplished and must be properly signed in advance and at the entrance.

Refer to the MOP Manual for more detailed information on the activity codes and a list of building and yard numbers. When using this activity code, include the building or yard location number on all documents.

State Forces Maintenance and Repairs. Maintenance and repairs using state forces may include, but not be limited to, landscaping, masonry, plumbing, electrical, carpentry, painting, parking lot and road snow removal, weed control and pavement upkeep. Repairs and maintenance should be accomplished promptly and the quality of the work should meet the high standards of the associated trades. It should also match or complement existing finishes and reflect favorable credit to the Department. Maintenance and repairs, such as plumbing, may require that a licensed outside vendor be used.

All Operations personnel shall be aware of the safety precautions noted in the ITD Safety Manual, and are required to meet all OSHA requirements and standards to fulfill the level of protection for the potential exposure. Necessary personal protective equipment will be provided at no cost by ITD and be readily accessible and available in appropriate sizes. If contact with potentially infectious materials can be reasonably anticipated, ITD will provide training, testing, information, and vaccinations as appropriate for the potential exposure.

2022

SAFETY REST AREAS AND OASIS PARTNERSHIPS PROGRAM

BASIC PLUS – a public roadside facility that is located in areas directly accessible to low to a medium volume State or US highways. A Basic Plus Safety Rest Area will provide the basic human needs to the traveling public plus furnish other amenities such as potable water, flush toilets, and picnic tables.

DELUXE – a public roadside facility that is located in areas directly accessible to a medium to high volume State, US, or Interstate highways. A Deluxe Safety Rest Area will include all of the amenities of a Basic Plus Safety Rest Area plus vending machines, designated pet areas and traveler information. The preferred design includes vestibules, where climactic conditions warrant, and at least one family-assist restroom to accommodate people with small children and those assisting others with disabilities.

GATEWAY – a public roadside facility that is located in areas directly accessible to a medium or high volume State, US or Interstate highway and located near important regions of the state or tourist entrances into the state. A Gateway Safety Rest Area will include all of the amenities of a DELUXE Safety Rest Area plus adequate space for a staffed Visitor Information Center.

SAFETY REST AREA CLASSIFICATION**Existing Safety Rest Area Meeting Requirements**

PROG FY	REST AREA TYPE	REST AREA LOCATION	DIST	RTE	APPROX. M.P.	HWY ADT 2022
MR	Basic Plus	Sheep Creek	2	US-95	189	2,500
MR	Basic Plus	Mineral Mountain	2	US-95	371	3,400
MR	Deluxe	Midvale	3	US-95	101	4,300
MR	Deluxe	Blacks Creek EB	3	I-84	62	29,000
MR	Deluxe	Blacks Creek WB	3	I-84	62	29,000
MR	Gateway	Snake River View	3	I-84	1	26,000
FY-25	Deluxe	Bliss EB	4	I-84	133	19,500
FY-25	Deluxe	Bliss WB	4	I-84	133	19,500
MR	Deluxe	Cotterell EB	4	I-84	229	11,500
MR	Deluxe	Cotterell WB	4	I-84	229	11,500
MR	Basic Plus	Hagerman	4	US-30	184	1,900
FY-25	Deluxe	Juniper NB	4	I-84	269	11,000
FY-25	Deluxe	Juniper SB	4	I-84	269	11,000
MR	Deluxe	Timmerman	4	US-20 /SH-75	177/101	2,100/ 4,500
MR	Gateway	Cherry Creek	5	I-15	7	12,500
MR	Deluxe	Big Lost River	6	US-20/26	265	2,600
MR	Basic Plus	Clark Hill	6	US-26	357	5,200
MR	Gateway	Dubois	6	I-15	167	3,400

**Existing Safety Rest Area
(Rehabilitation/Expansion or Proposed Reconstruction Upgrade)**

PROG FY	REST AREA TYPE	REST AREA LOCATION	DIST	RTE	APPROX. M.P.	HWY ADT 2021
RE	Basic Plus	Huetter WB	1	I-90	8	63,000
RE	Gateway	Huetter EB	1	I-90	8	63,000
RE	Basic Plus	Lenore	2	US-12	28	3,500
RE	Basic Plus	Malad Summit	5	I-15	25	11,500
RE	Deluxe	North Blackfoot NB	5	I-15	101	25,500
RE	Deluxe	North Blackfoot SB	5	I-15	101	25,500
RE	Deluxe	Coldwater	5	I-86	19	7,400
RE	Deluxe	Massacre Rocks	5	I-86	31	7,700

Public/Private & Oasis Partnerships

PROG FY	PUBLIC/PRIVATE STOP LOCATION	DIST	RTE	APPROX. M.P.	HWY ADT 2021
MR	Oasis Partnership with On the Run at Boise	3	I-84	59	29,000
MR	Oasis Partnership with Flying J Truck Stop at McCammon	5	I-15B	4	6,600
MR	Winchester Partnership Rest Area	2	US-95	252	4,300
MR	Oasis Partnership with Valley County Store At Twin Falls	4	I-84	173	29,000
MR	Oasis Partnership with Mr. Gas Travel Center at Jerome	4	I-84	165	25,000
MR	Oasis Partnership with Travelers Oasis At Twin Falls	4	I-84	182	24,000

Partnership Rest Area/Visitor Center

PROG FY	VISITOR CENTER LOCATION	PARTNER	DIST.	RTE	APPROX M.P.	HWY ADT 2021
MR	Visitor Center at Bonners Ferry	City of Bonners Ferry	1	US-95B	507	14,000
MR	Rest Area at Lost Trail Pass	Montana Department of Transportation	6	US-93	350	730
MR	Rest Area at Lolo Pass (Gateway)	U.S. Forest Service/MDOT	2	US-12	174	560

Total – 35 facilities (29 facilities, 6 partnerships)

MR – Indicates rest areas that currently meet requirements.

Mr. Gas Oasis Partnership at Eisenman Exit, Boise was added in 2023.

RE – Indicates rest area projects not currently programmed that may need Rehabilitation or Expansion in order to meet requirements based on facility assessments.

Delete – Facilities that will be removed from the program and replaced with an OASIS Partnership Agreement.

Contract Maintenance and Repairs. Maintenance and repairs using outside vendors shall include, but not be limited to, contract maintenance, mechanical repairs, pest control, trash pickup, septic tank pumping, replacing/repairing hardware or plumbing fixtures, rest area security, and utility bills. Plumbing, electrical, and/or heating/air conditioning repair or servicing may require, by Idaho Code, a licensed journeyman in the respective trade.

Maintenance and repairs should be accomplished promptly and the quality of the work should meet the high standards of the associated trades. It should also match or complement existing finishes and reflect favorable credit to the Department. Refer to the section on Building and Yard Operations in the Financial Services Manual for information on expenditures to outside vendors.

Contract Maintenance and Operation. Routine maintenance and operation of roadside rest areas contracted to outside vendors will be advertised and awarded utilizing the State of Idaho's procurement system IPRO. The Idaho Division of Purchasing (DOP) on behalf of the Idaho Transportation Department will solicit interested parties for bid proposals, make award recommendations to ITD and award Maintenance contracts for Idaho's roadside rest areas. Advertisement will be for a minimum of thirty (3) calendar days and the right is reserved with proper documentation and due process to reject any or all proposals, or to accept the proposal or proposals deemed best for the state of Idaho. Contracts are typically awarded for two (2) years, with the option to renew for two (2) additional years, when agreed in writing by both parties.

ITD Districts will be responsible for providing the Scope of Work and requirements for the solicitation with the assistance of ITD's Headquarters Purchasing Section.

The District will be responsible for following ITD purchasing guidelines that can be found in ITD's Procurement Manual.

The solicitation must include: "The Contractor shall provide at no cost to their employees training, testing, information, vaccination (if requested), and appropriate personal protective equipment in all matters relating to the human health hazards due to exposure or contact with blood-borne pathogens or diseases. The Contractor shall meet all current federal (OSHA) requirements to protect their employees from this exposure."

Copies of standard maintenance contracts are made available by submitting a "public records request" to the ITD District Supply office which the rest area resides in or with ITD purchasing at ITDPurchasing@itd.idaho.gov.

Appropriate modifications and revisions of the standard contract may be made for considerations or situations that may be unique for a district or a site.

Rest Area Care and Inspection. The Rest area Contractor shall provide appropriate personnel to service and clean the restrooms and other related facilities as specified in the contract, seven days per week; starting no later than 7:00 AM. The Contractor shall provide additional cleanup and care during daylight hours, periods of high use and, if necessary, through temporary closures, holidays and weekends. Onsite Caretakers shall be on site and available at all times.

Inspection of each rest area should be carried out by designated district staff at least once a month or more often, if necessary, to assure contract compliance. The ITD 2538, Rest Area Inspection Report shall be used. A copy of each completed ITD 2538 inspection report shall be

retained by the inspecting district, either a printed copy or in electronic form. This procedure is to be followed for all rest areas, regardless of whether they are maintained by state forces or by a contractor. Inspection reports shall be kept on file during the term of the contract and retained at least five years in the district after termination of the contract.

A Rest Area Maintenance Checklist shall be posted in each rest area mechanical/storage room for caretaker and inspection reference. The Rest Area Maintenance Checklist describes the task or job to be performed and the minimum results expected by the Department.

Rest Area Closure

Rest areas which are closed during reconstruction, refurbishment or periods of interrupted services such as power or water outage or toilet repair should have closure signs available and be properly signed when closure is required. During temporary closures due to repairs or interruption of primary services, every attempt should be made to keep the parking area open and to provide restroom facilities such as portable toilets to serve the traveling public.

Closure signs may be ordered from the central sign shop and should be stored at the rest area whenever practical. Any questions in regard to closure signs or signing procedures should be directed to the Maintenance Operations Manager.

Closure Signs. Closure signs for rest areas located on the interstate system shall be securely fastened (bolted) to the advance rest area signs. The "CLOSED" signs shall be constructed from 0.063 inch sheeted aluminum with an orange background and 15 inch black legend and placed on the following signs: D5-1A (Rest Area 1 Mile), D5-6 (Rest Area Next Right) and D5-2A (Rest Area) (See Figure 5-7, below)

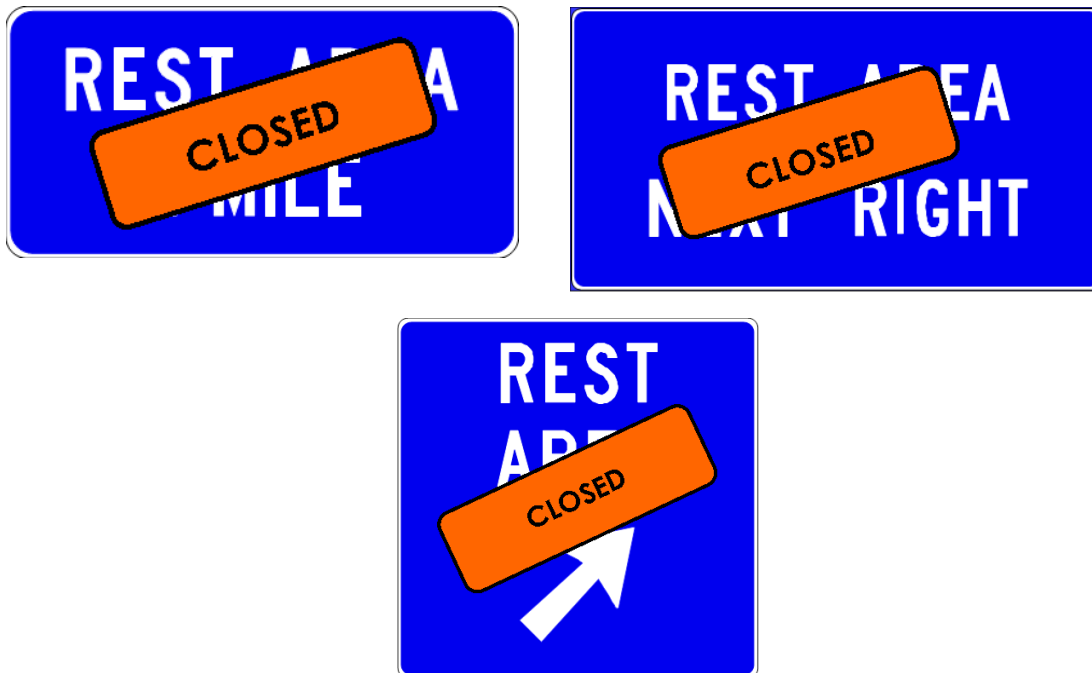


Figure 5-7: Rest Area Closed Signs

Non-Interstate. Closure signs shall be fastened (bolted) to the advance rest area signs. Signs shall be constructed from 0.063 inch sheeted aluminum with an orange background and 8 inch black legend.

Closure signs should be placed diagonally across the advance rest area signs starting from lower left to upper right. Diagonal placement is designed to allow the blue color of the rest area sign to be recognized as such and yet still cover enough of the legend that it will not be misunderstood that the rest area is closed.

Temporary Closures. Unexpected temporary closures of less than 24 hours may be addressed by locking the restroom doors and placing temporary signs at their entrance. All attempts should be made to make repairs or restore the interruption of primary services as soon as possible while keeping the parking lot open and to provide restroom facilities such as portable toilets to serve the traveling public.

If the rest area closure is for more than 24 hours, portable toilets should be provided and "CLOSED" signs shall be displayed over the advance rest area signs with the distance to the next available rest area. See Figure 5-8.

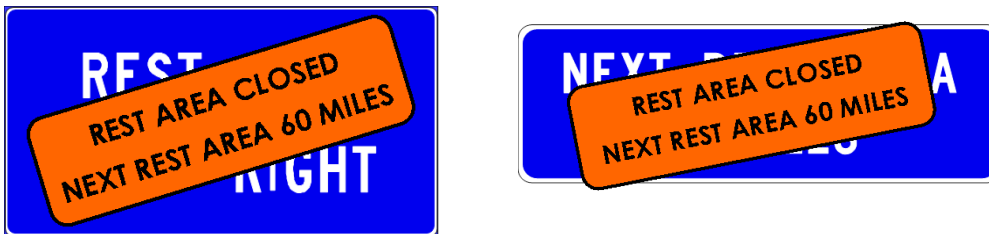


Figure 5-8: Temporary Closure Advanced Sign

Closed signs for both directions of travel shall also be displayed at any rest area preceding the closed rest area.



Figure 5-9: Temporary Closure Proceeding Rest Area

Signs shown in Figure 5-9, above, should be placed on the advance rest area signs to give notice to the motorists who might want to take advantage of the available services without traveling another 135 miles to the next ITD rest area. In Figure 5-9 the signs would be displayed at the Snake River View RA for EB I-84 and at the Bliss RA for WB I-84. Installation of signs which affect more than one District will require coordination between the Districts.

Portable Toilets. During periods of temporary closure which last more than 24 hours, rest areas should be provided with portable toilets per the following:

- Interstate Rest Areas. One portable toilet should be provided for every two stalls during high peak travel times.
- Non-Interstate Rest areas. One portable toilet should be provided for every three stalls during high peak travel times.

Portable toilets should be scheduled for service (or emptied) once per week or more often if necessary during high peak travel periods.

Seasonal or Construction Closures. All advance rest area signs approaching the closed rest area shall display a "CLOSED" sign. Rest Area Gates should be closed or barriers placed at the entrance to the rest area. One closed sign for both directions of travel showing distance to the next available services should be displayed in advance of the entrances to the rest area (Figure 5-10).



Figure 5-10: Closed For Repairs (or For Winter)

Rest Area Vending. Rest Area vending operations, except pay or charge public telephones, are the exclusive right of the Idaho Commission for the Blind and Visually Impaired (ICBVI). A cooperative agreement has been signed between the Department and ICBVI defining assigned responsibilities for vending purposes. Authority for this cooperative agreement is derived from both federal and Section 67-5411 of Idaho Code. The Maintenance Operations Manager is responsible for developing and updating the agreement between the ICBVI.

ICBVI through their business enterprise program will make arrangements for placement of the vending machines to dispense such items as packaged food, candy bars, soft drinks, coffee and newspapers. ICBVI is responsible for all service and maintenance of the vending machines.

The district shall determine the number, kind and location of the vending machines. The district shall provide and maintain a specified location for the vending machines and provide all electrical service to the machines. The district shall maintain the area in front of the vending machines in a safe and accessible condition.

The Department allows non-profit groups to dispense free refreshments to the traveling public. To avoid conflict or confusion between ICBVI with vending privileges and non-profit groups dispensing free refreshments, refer to and become familiar with the REST AREA ACTIVITIES PROGRAM, in the Operations Manual.

For additional information, refer to the cooperative agreement between the Idaho Transportation Department and the Idaho Commission for the Blind and Visually Impaired. Copies may be obtained from Highway Operations and Safety.

Rules Governing Safety Rest Areas. Under the authority of Idaho Code 40-312, the Idaho Transportation Board has adopted rules governing safety rest areas (refer to IDAPA Rule 39). These rules shall be posted in a visible location (preferably on the rest area building) within the rest area complex. Even though the rules do not cover every incident that may take place within the rest area, they can be a good reference to discourage most acts of misconduct or activity.

Signs displaying the rest area rules in rest areas can be obtained and installed by the District Traffic Section.

Turnouts

Roadside areas immediately adjacent to state highways may be utilized by vehicles for purposes of short-term parking. Some of these areas can be classified as scenic overlooks, grass slopes or small roadside parks, or just wide spots in the road. All of these roadside areas should be treated as an extension of the mainline roadway.

In/Near Water Work

Work performed in, near or to a stream channel, waterway and/or designated wetlands shall comply with sections 401 (Water Quality) and 404 (Dredge and Fill) of the Clean Water Act (CWA). Operations staff shall contact the District Senior Environmental Planner to coordinate with the appropriate agency(s) and to be sure necessary permits, easements and rights-of-way are cleared prior to work commencing work in, near or to streams, channels, or wetlands. The Idaho Department of Environmental Quality is responsible for 401 permits and the U.S. Army Corps of Engineers (USACE) is responsible for 404 permits in coordination with the Department of Water Resources (IDWR). If threatened and/or endangered species are found or know to be in the vicinity the U.S. Fish and Wildlife Service or National Marine Fisheries Service will be involved in permitting the work.

Channel maintenance should be done whenever conditions arise such as excessive plant growth or debris that restricts channel flow. Channel banks should be cleaned and reshaped periodically. Work should be done during low flow situations whenever possible. Due to the time involved to obtain permits, environment clearances and easements, this work needs to be planned well in advance. Check with District Environmental Planner as soon as possible to initiate the approval process.

Check the accumulation of weeds in dry channels; they can present a very serious fire hazard around timber structures.

Emergency Channel Maintenance

In emergency situations, operations personnel may take immediate action to protect life and property and provide safe travel conditions for the highway user. When emergency actions are performed, corrective measures shall be implemented to prevent unnecessary alterations in, near or to the stream, intermittent channel or waterway.

The USACE and IDWR shall be notified as soon as practicable with written documentation of all emergency actions performed. Coordinate this notification through the District Environmental Planner.

Cleaning Culverts, Catch Basins, and Inlets

Unless otherwise designated by agreement or special conditions, the Division of Highways is responsible for the flow of water from right-of-way to right-of-way. This includes maintenance, repair, and replacement of culverts under roadside approaches that were installed by adjacent landowners via permit. Coordinate with the District Environmental Planner to ensure compliance with any applicable permits prior to commencing work.

Culvert maintenance is similar to bridge maintenance in that the basic requirement for good maintenance is scheduled periodic inspections. To guarantee the uninterrupted passage of water, inspect and clean culverts and siphons regularly. Unless the culvert is of unusual size or has a particularly complex design characteristic, the Transportation Operations Team Lead (TOTL) will perform the scheduled inspection. Culverts which span 20 feet or greater are inspected by the Bridge Engineer.

Use the following checklist when inspecting a culvert installation:

- Check the channel for obstructions, excessive vegetative growth along banks, and sediment accumulation at the inlet and outlet of the structure.
- Observe the headwall placement with respect to the present channel and make sure the flow is not bypassing or undercutting the headwall or going around the ends
- Observe the available freeboard within the channel. If the channel does not contain a freeboard, or the freeboard is not noticeable, then this may be an indication of an obstruction in the pipe or excessive sediment accumulation.
- Check concrete box culverts for cracks and the associated piping for bolt failures.

Many culverts within older sections of the highway have been "lost" due to excess sedimentation or debris movement caused by slides and/or damage from road construction along the shoulder. Note the locations of culvert inlets and outlets and mark them prior to routine shoulder work. Check the inlets and outlets for restriction immediately after routine shoulder work.

The TOTL shall take precautions to not damage ditch banks or adjacent land during maintenance work. The TOTL should ask for adjacent landowner's permission in advance even if heavy equipment is to be operated from inside the right-of-way. Landowners are usually cooperative and allow encroachment on their property, providing they are notified in advance.

If heavy equipment is used outside the right-of-way, the TOTL shall obtain a signed agreement from the landowner. Any disturbance along the right-of-way or on landowner's property is required to be vegetated with native vegetation.

Special care shall be given to older siphon installations. If ice forms in the siphon barrel (due to shallow installation depths), water may seep into the roadbed causing damage to the existing roadway. Siphons with this type of problem should be pumped dry at the end of each water season.

Reshape Truck Escape Ramps

Truck escape ramps are restored to their original condition by smoothing and working out the tracks made by the last runaway truck, normally within three (3) days after use.

The recommended procedure for this maintenance is as follows:

- Place signs and safety devices.
- Position one radio-equipped vehicle 1/2 mile in advance of the ramp and another radio at the ramp. Use the radios to alert the crew of an approaching runaway truck.
- Work the areas, as needed, using a Triple K cultivator or front-end loader with a 16-inch harrow-type attachment. Drift material over areas that have become rutted or compacted.
- If material is required, place it on the uphill portion of the ramp and drift it down into the required locations. If excessive material has settled to the bottom of the ramp, use a front-end loader to haul the material back to the upper portion of the ramp. Do not leave excess material that causes a bump at the beginning of the ramp.
- Remove signs and safety devices when the operation is complete.

Winter maintenance of ramp:

- Place signs and safety devices.
- Position one radio-equipped vehicle 1/2 mile in advance of the ramp and another radio at the ramp. Use the radios to alert the crew of an approaching runaway truck.
- Salt ramp as required. The normal application rate is 4 1/2 pounds/square yard.
- If excessive freezing occurs, it may be necessary to break up the ramp surface using a Triple K cultivator or front-end loader with a 16-inch harrow-type attachment. Reapply salt.
- Remove signs and safety devices when the operation is complete.

Right-of-Way Fencing Maintenance or Repairs

Fencing on all State Highways is to be maintained at the level of service defined in Administrative Policy 5046. Maintenance and/or repairs of any right-of-way fence should conform to the standards set forth in the Standard Drawings.

Where feasible and practical consideration should be given to make ROW fence more wildlife friendly. Modifying the fence height and/or type can help reduce animal entanglements and other repairs associated with wild animals crossing the fence. The TOTL should consult with the District Environmental Planner and the Idaho Department of Fish & Game before making any fence modifications for wildlife. The safety of the traveling public, the adjacent land uses, the highway geometrics and the needs of the wildlife will all need to be considered. See Standard Drawing F-2-E.

Chapter 6

Traffic Services

Traffic Services

Traffic services on each state highway route are maintained at a minimum level. There are three levels of service that are determined by the average daily traffic (ADT), accident rate, and the physical features of each route. The need to maintain safe travel on the State Highway system on limited maintenance resources necessitates designating three (3) traffic control devices maintenance service levels. The maintenance requirements for traffic control pavement markings, signing, delineators, traffic signals, luminaries and barriers on the State Highway system are identified on the Traffic Control Devices Maintenance Service Levels map (Figure 6-1) and Table 6-1 below.

The maintenance service levels for traffic control devices are intended to be minimum guidelines and are not meant to preclude a more rigorous maintenance program when budget limitations permit. Sound engineering decisions should dictate detailed application. The time limits are intended to apply to temporary repairs when permanent repairs are not feasible within the given time limits.

Formal agreements between the Department and local entities for the maintenance of traffic control devices may be established when mutually beneficial. Refer to the map and definitions in for further information.

Pavement Markings

Pavement markings are an important part of providing guidance and enhance safety for the travelling public. The paint and retro-reflectivity of pavement markings wear off over time and need to be periodically refreshed. Pavement markings must have a retro-reflectivity at or above 50 mcd/m²/lx under dry conditions on roadways with speed limits of 35 mph or greater and at or above 100 mcd/m²/lx under dry conditions on roadways with speed limits of 70 mph or greater. All state highway lane lines should be repainted at least once per year. On some high traffic volume roads or in areas where heavy winter maintenance occurs, markings may need to be refreshed more the once per year.

ITD accomplishes pavement marking maintenance through a combination of state forces and contracted work. The six districts share 5 striping trucks and coordinate with each other to cover the entire state. The District Operations Engineers work together to develop coordinated restriping plans each year to maximize the efficient use of striping trucks and crews. These plans should consider high priority routes, mountain versus lower elevation routes, areas to be skipped due to construction projects and efficiency in traveling to and from areas to be restriped. Operations staff should monitor route markings annually to determine areas of highest priority. Pavement marking is typically done starting in early spring through early fall each year.

Pavement markings must comply with the Idaho adopted version of the Manual on Uniform Traffic Control Devices (MUTCD).

Instructions, drawings and specifications for painting lines and special pavement markings are located in Part 3 "Markings" section of the Traffic Manual and Standard Drawings 630-1 and 630-2.

Sign Repair, Replacement or New Installation

Traffic signs and devices must comply with the Manual on Uniform Traffic Control Devices (MUTCD).

Instructions for proper positioning and erection of signs are contained in Part 2 "Signs" of the Traffic Manual.

Damaged, disturbed or missing signs critical to traffic operations and/or traffic safety must be promptly replaced (per table 6-1) or temporarily repaired until permanent repairs are possible. Report repairs, replacement or new installations on ITD 2668 "Sign Maintenance Report" or ITD 2684 "Sign Maintenance Field Report."

Inspect all signs at least once a year under daylight, and once a year under nighttime conditions. Clean them if necessary. Maintenance patrols shall make routine sign inspections a part of their daily activities; other traveling personnel shall be instructed to report any damaged or obscured signs immediately.

Sign bridges, cantilevered signs and overhead sign mounts require inspections and preventive maintenance to the full structure. Inspections are conducted by the HQ's Bridge Asset Management staff on a risk management basis and the results of those inspections are reported to District Management. It is important for Team Leaders or sign teams to report any known deficiencies of these structures to Bridge Asset Management as well as report any repair that has taken place on these structures.

Annually remove any vegetation that might obscure a sign.

Traffic Signals, DMS and Lighting

When any traffic signal, DMS or illumination device is damaged, it shall be repaired in accordance with the Traffic Control Devices Maintenance Service Levels in Table 6-1. Instructions for this activity are contained in Part 4 and Part 15 of the Traffic Manual under "Highway Traffic Signals" and "Lighting."

Traffic signals and overhead illumination require inspections and preventive maintenance to the full structure, its base and the mounting hardware at least every 5 years.

Barriers – (Guardrails, Bridgerails, Attenuators, Barricades, Etc.)

When any barrier is damaged, it shall be repaired in accordance with the Traffic Control Devices Maintenance Service Levels in Table 6-1. If a portion of guardrail not meeting current standards is damaged, consider upgrading it at the time of repair. Bring damaged terminal sections to current standards if materials are compatible and site conditions are favorable. Secure guardrail ends to the parapet at bridges if that portion of the guardrail requires repair and if such securement is practical. If substantial portion of a single run of guardrail is damaged, consider bringing the entire run up to current standards or consider other alternative which could eliminate the necessity of the guardrail.

Delineators, Snow Poles and Object Markers

Delineators. When any delineators are damaged, they shall be repaired in accordance with the Traffic Control Devices Maintenance Service Levels in Table 6-1. Spacing and installation should

conform to the standards set forth on Standard Drawings 617-1. In addition to the standards set forth on Drawing 617-1, delineators shall also be installed on interstate median crossovers which have been left in place after construction projects. The crossovers shall have yellow delineators installed along the left side of roadway at approximately 100 ft. spacing across each entrance throat of the crossover.

Snow Poles. When any snow poles are damaged, they shall be repaired in accordance with the Traffic Control Devices Maintenance Service Levels in Table 6-1. Snow poles may be installed where the snow frequently exceeds two feet in depth or where drifting snow conditions are prevalent. They are not normally required on tangent sections.

Spacing and installation should conform to the requirements set forth on Standard Drawing 628-1. On crest vertical curves, adjust the spacing so three snow poles are visible at any one time.

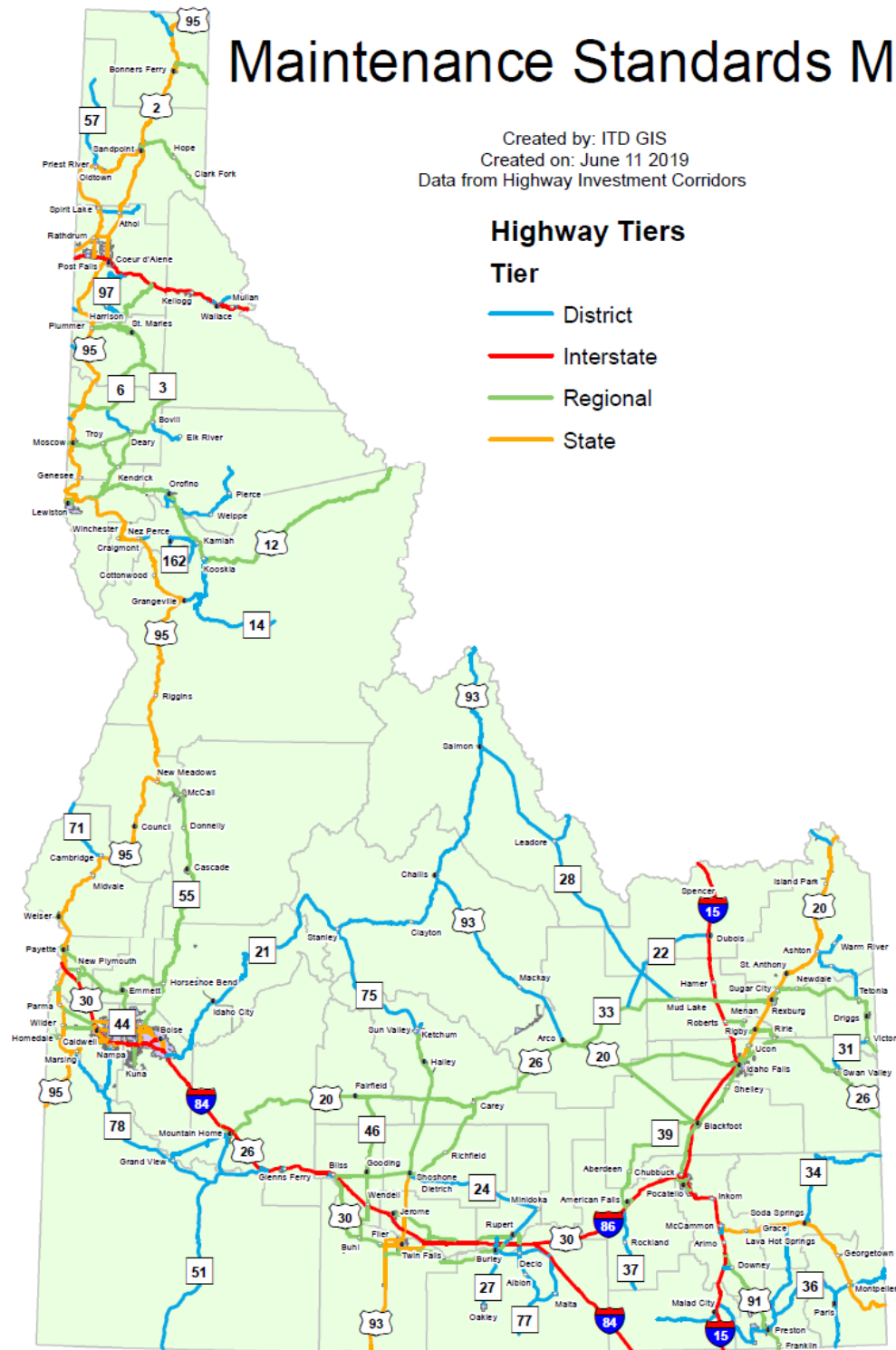
Snow poles with white reflective sheeting are installed on the right side through roadway alignment when required. Install snow poles with yellow retro-reflective sheeting on the left side to mark intersections and median crossovers when required.

On specified highway sections it may be permissible to decrease the number of snow poles by installing them only on the outside edge of the roadway, providing the inside edge is adequately delineated by terrain (mountain side slope) to protect against a vehicle leaving the roadway.

Object Markers. When any object markers are damaged, they shall be repaired in accordance with the Traffic Control Devices Maintenance Service Levels in Table 6-1. Use an OM-2 object marker or series of markers to indicate unexpected temporary hazards near the roadway, such as eroded shoulders, or other problems requiring maintenance.

Do not use object markers as Delineators.

Figure 6-1



	INTERSTATE & STATEWIDE	REGIONAL	DISTRICT
PAVEMENT MARKINGS	Continuous edge, center and lane lines. Highly visible both day and night. Significant loss of pavement markings or reflectivity shall be repaired within 15 days weather permitting.	Continuous edge, center and lane lines. Significant loss of pavement markings or reflectivity shall be repaired within 30 days weather permitting.	Continuous center and lane lines. Only use edge lines where road widths are 22 feet or greater and shoulder condition is adequate to maintain lines. Significant loss of pavement markings or reflectivity shall be repaired within 45 days weather permitting.
SIGNING	<p>Replace signs when retro-reflectivity/legibility is noticeably deteriorating.</p> <p>For downed or damaged signs, use the following repair schedule:</p> <p>Stop Signs – Immediately Upon Notification (Temporary or Permanent)</p> <p>Other Regulatory – Within 15 days after notification</p> <p>*Warning – within 30 days</p> <p>*Guide – within 30 days</p> <p>*All others – within 30 days</p> <p>* Repair Time May Be Impacted by Weather Conditions.</p>	Same as Level 1	Same as Level 1
DELINEATORS	Delineators on curves, transitions and intersections should be repaired or replaced within 90 days. Delineators on tangents should be repaired or replaced when approximately 10% are missing or have lost retro-reflectivity.	Same as Level 1. Delineators on tangents should be repaired or replaced when approximately 25% are missing or have lost retro-reflectivity.	Same as Level 1. Delineators on tangents should be repaired or replaced when approximately 50% are missing or have lost retro-reflectivity.
TRAFFIC SIGNALS and DMS	Repair minor malfunctions and failing lamps within 48 hours. Repair or replace within 30 days when structurally damaged.	Same as Level 1.	Same as Level 1.
LIGHTING	<p>Repair minor malfunctions and failing lamps within 5 days.</p> <p>Repair or replace within 30 days when structurally damaged.</p>	<p>Repair minor malfunctions and failing lamps within 10 days.</p> <p>Repair or replace within 45 days when structurally damaged.</p>	<p>Repair minor malfunctions and failing lamps within 15 days.</p> <p>Repair or replace within 60 days when structurally damaged.</p>

BARRIERS (Guard rails, Bridge rails, Attenuators, Barricades, etc.)	Repair or replace within 90 days when structurally damaged.	Same as Level 1.	Same as Level 1.
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Table 6-1: Traffic Control Maintenance Service Levels

Intelligent Transportation System (ITS) Devices

Specific guidance on ITS devices is located in Part 16 of the Traffic Manual.

Roadway Weather Information Systems (RWIS). RWIS devices and any associated cameras should be monitored weekly to ensure that all functions are reporting properly. Any failures must be reported to the Maintenance Operations section upon discovery.

RWIS require inspections and preventive maintenance to the full structure, its base and the mounting hardware at least every 5 years. The Maintenance Operations Section has a routine preventive maintenance contract established for calibration and regular checks.

Dynamic Message Signs (DMS). When any DMS malfunction or are damaged, they shall be repaired in accordance with the Traffic Control Devices Maintenance Service Levels in Figure 6-1.

DMS require inspections and preventive maintenance to the full structure, its base and the mounting hardware at least every 5 years.

Other ITS Devices. Other ITS devices include, traffic detectors, call boxes, etc. These devices require periodic inspection to ensure that they are functioning properly and are well maintained. The Maintenance Operations Section should be consulted for more information.

Illegal Encroachments

An illegal encroachment is any unauthorized use of ITD right-of- way. This can include:

- Mobile stores, mobile lunch wagons or similar businesses that stop vehicles to offer for sale or sell their wares.
- Solicitations or sale of any goods or services, attempts to serve, distribute, petition or recruit, and all associated stopping, standing or parking of vehicles, except Department-approved vending privileges in safety rest areas.
- The storage of any substance, equipment or material, including but not limited to logs, lumber, supplies or aggregates.
- The abandonment of vehicles or other large objects.
- Servicing, refueling and repairing of vehicles, except for emergencies.
- The placement of portable objects or signs, displays or other unapproved highway fixtures.
- Permanent, temporary or mobile structures manned or unmanned.
- Any obstruction that creates a traffic hazard, including trees, shrubbery, fences, walls, non-standard mailbox stands or other appurtenances.

- Signs or displays that resemble, hide or because of their color, interfere with the effectiveness of traffic signals and other traffic control devices.

Portable objects or signs, memorials, urban improvements, landscaping, farming, irrigation or drainage, mailbox stands or turnouts, recreational parking facilities, park-and-ride lots, and school bus turnouts shall have an approved State highway encroachment permit. Permanent, temporary, or mobile structures, manned or unmanned, or the storage of materials, equipment, or supplies not included in an approved State highway encroachment permit or approved as part of a Department construction project shall not be allowed within the State highway right-of-way. Displays shall not be placed within State highway rights-of-way on structures, trees, rocks, or utility poles.

Election posters/materials may be affixed to private fences bordering the highway right-of-way and to utility poles bordering or within the highway right-of-way when written permission is obtained from the owners of such fences or utility poles. Section 18-7029 of Idaho Code addresses the penalty for placing posters or promotional material on public or private property without permission. Candidates have every right to request permission to place election signs or posters at appropriate locations. There are no circumstances, however, under which the Idaho Transportation Department will grant permission to post election signs or posters on any roadway under its jurisdiction due to federal restrictions, maintenance requirements, and safety. This includes fences along all Interstate corridors and all rights-of-way on the state highway system.

The District Engineer is responsible for ensuring compliance with all applicable laws and ITD policies relating to the removal or correction of unauthorized and nonstandard encroachments. Approaches and other encroachments on the State highway rights-of-way that are installed without an approved State highway right-of-way permit, or not constructed in accordance with the Department requirements as stated in the permit, or are naturally occurring adjacent to the State highway right-of-way line and create a hazard, are prohibited and may be removed or their use may be suspended until corrective action is taken. The application process shall be immediately initiated when applicable or the encroachment removed when such a permit cannot be approved.

The area Transportation Operations Team Leader shall identify and contact the owner of the unauthorized or non-standard encroachment to orally request a plan for immediate corrective action. The actions taken to locate and notify the owner shall be recorded in the Team Leader's diary. When notice is given, use Form ITD 0776.

Non-permitted encroachments are unauthorized and shall not be allowed to remain without an approved right-of-way encroachment permit. The application process shall be initiated immediately, when applicable. If the encroachment is such that a permit cannot be approved, the encroachment shall be removed.

Failure to remove the encroachment within forty-eight (48) hours shall be followed by a certified letter from the District Engineer requesting removal within ten (10) days. If the encroachment is still not removed, the District Engineer shall contact the Legal section to initiate legal action. The District Engineer may order District personnel to take immediate corrective action when time is of the essence.

The applicant may be held liable for injury or damages caused by the unauthorized or non-standard encroachment. The Department shall make no reimbursement for removal of unauthorized or non-standard encroachments nor shall compensation be made for any losses that may arise from their removal. The Department may initiate legal action to recover costs for the removal of unauthorized or non-standard encroachments.

Damage to State Property

Costs associated with repairing damage to state property can have a significant impact upon the Department's budget. Recovering those costs is a priority of the department. The department has developed processes to document the effort involved to aid in recovering these costs.

When damage to state property has been identified, the area foreman shall create a work order in TAMS for each specific incident utilizing activity M801, Statewide Response to Damage to State Property. Listed below is an overview of the steps required for documenting the resources consumed in repairing damage to state property. Refer to the Maintenance Operations Procedure (MOP) manual activity sheet, for specific details of the process for documenting all labor, equipment, and materials associated with responding to and repairing the damage.

- Create TAMS M801 Work Order for each incident
- Obtain Police Report on the incident
- Insert incident number in Comments field in TAMS
- Create day cards for all labor associated with responding to incident and repairing damage
- Create day card in TAMS identifying the route, measure and location
- Create day cards for all equipment utilized
- Upon completion, run Work Order Summary Report
- Submit work order summary report and all other documentation to District support staff

ITD internal equipment rates utilized in TAMS are cost allocation rates used for the purpose of allocating costs to ITD activities. The internal rates are based on governmental accounting principles that do not account for all overhead costs, require straight line depreciation, eliminate applicable profit, and only include direct costs. Therefore, the equipment rates used in documenting and recovering costs associated with repairing damage to state property will be those rates identified from EquipmentWatch™. TAMS has been configured to utilize the EquipmentWatch™ rates for activity M801 only. These rates are reviewed annually and updated at the beginning of each fiscal year to the rates listed on EquipmentWatch™ at the time of review. Maintenance Operations is responsible for reviewing and updating all equipment rates within the TAMS system.

TAMS has been configured to apply an overhead rate to each M801 work order. The overhead rate is used to recover indirect costs associated with completing the process of recovering costs, and incidental items which were not direct charge items associated with repairing the damage. The overhead is reviewed annually.

Chapter 7

Snow and Ice Control

Winter Maintenance Guidelines

Winter maintenance is all work associated with snow or ice removal operations and winter storm patrol. The objective of winter maintenance operations is to provide a passable route for the highway user within available funding and resources. It is not the intent of these standards to maintain a bare pavement, and no guarantee as to the condition of the resulting road surface is implied. During periods of rain, snow and freezing weather, the highway user must be prepared for less than ideal driving conditions due to rapidly changing weather conditions.

Refer to the current Maintenance Standards map, Figure 7-1 and the definitions, Figure 7-2 for the current standards. Annual reviews are conducted to determine benefits versus costs of changing winter maintenance standards for each section of highway. As part of the annual review, the District Operations Engineers should coordinate with adjoining districts and states to provide continuity along routes within resource availability. In addition to the Winter Maintenance Standards noted above, each year the Department sets a Mobility Index goal that serves as the performance indicator. The Mobility Index is measured for each area and tracked throughout the winter.

The approved maintenance levels are the minimum requirements when general area-wide weather conditions are of such duration and intensity as to demand full deployment of Department winter maintenance resources. District Engineers have the authority to maintain State highways at levels greater than the minimum requirements, provided that the increased maintenance activity can be accomplished within budget constraints.

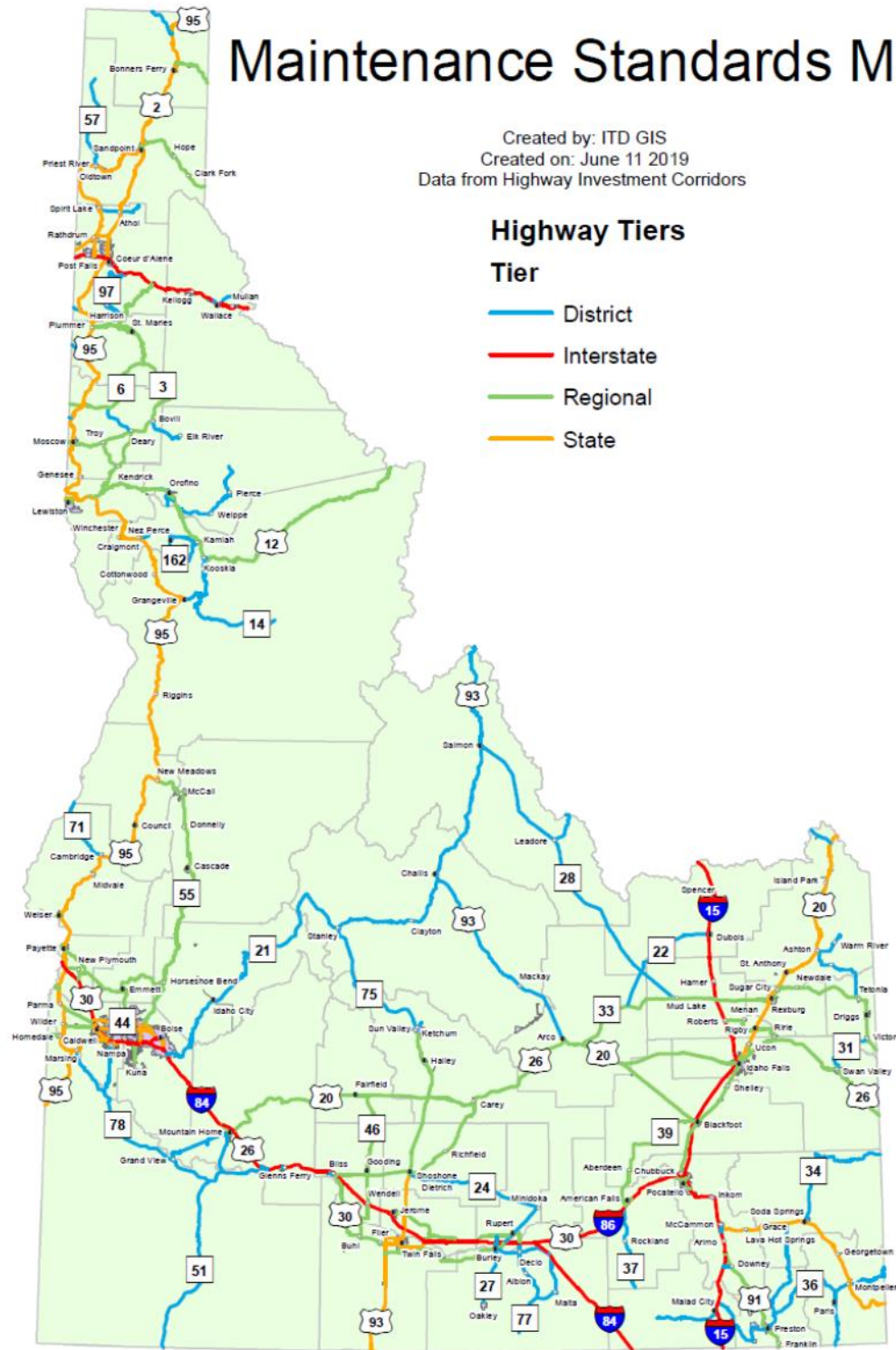


Figure 7-1

WINTER MAINTENANCE STANDARDS DEFINITIONS FOR STATE HIGHWAYS

The map identifies levels of winter maintenance service for those routes on the State Highway System not covered by a separate local maintenance agreement. These standards represent the minimum travel conditions when general area-wide weather events are of such duration and intensity as to demand full deployment of Department resources. Storm Index is calculated as ice duration per unit of storm severity. It is not the intent of this policy to provide bare roads during winter travel.

INTERSTATE AND STATEWIDE CORRIDORS

During the storm event:

Remove snow and ice continually to keep a lane open to traffic in each direction; providing a reasonable surface on which to operate.

Following the storm event;

Remaining lanes and shoulders will be cleared during regularly scheduled work shifts.

REGIONAL CORRIDORS

During the storm event:

Remove snow and ice during regularly scheduled work shifts to keep roads open to traffic. The primary goal will be to treat snow or ice covered areas on steep grades, sharp curves, bridge decks, intersections, known high accident locations, etc.

Following the storm event;

Snowpack need not be removed until thawing conditions exist, or the pack becomes so thick as to constitute a traffic hazard. Remove the pack and clear the road surface during regularly scheduled working hours.

DISTRICT CORRIDORS

During the storm event:

The primary goal will be to provide a passable roadway. Otherwise, resources should be directed to Statewide and Regional corridors.

Following the storm event;

When resources are not committed to Statewide and Regional corridors, remove excess snow and ice from the road surface during regular working hours. These routes may be posted to indicate limited maintenance, and they may be closed for extended periods of time.

Figure 7-2: Definitions

Advance Preparations

The District Operations Engineers and Transportation Operations Team Leaders shall develop a winter response plan to guide and identify resources. The plan should include a list of current equipment resources, assigned routes, BMP strategies, personnel resources both assigned and relief, and procedures for road closures. The individual shed plan shall be posted in the maintenance shed and a District plan shall reside in the Operations Engineer's office.

The plan may include but is not limited to the following:

Equipment

- Types
- Locations
- Operator Assigned
- Calibration Information

Materials

- Types
- Application Target Rates
- Stockpile Location and Quantity

Labor

- Supervisors Acting or Assigned
- Assigned Sections
- Reserve Personnel
- Contact Information
- Locations for Areas for Response

Route Information

- Priority
- Intended Level of Service
- Configuration Concerns
- Special Application Requirements
- Trouble Area Identification

Additional Resources

- Forecast Providers
- Unique Partnerships

Performance Expectations

- Statewide Goal
- District Goals
- Section Goals

Best Management Practices

- Plan for Response
 - Includes Timing of Application
 - Storm Patrolling
- Anti-Icing Practices
- Strategies of Various Types of Events
- Plan for Critiquing Operations and Documented Transitions

- Development and Managing Application Matrix

Reporting Procedures

- Road Reporting
- Accident Reporting
- TAMS System
- WARS System
- Documentation

Prior to winter maintenance operations, every effort should be made to assure that equipment is in top operating condition. This shall include calibration of spreaders and controllers for the materials to be utilized and a record of the calibrations and when they occurred, all required sensors are operable, and the granular pre-wetting system is cleaned and functioning properly. Extra care shall be taken to insure that all safety equipment is in proper working order.

Each District is encouraged to have a Winter Start-Up meeting in the fall to review the response plans, District goals, safety, strategies, and resources.

Training needs will be identified throughout the year and scheduled prior to the start of the winter season to ensure complete understanding of winter operations and safety. Some training may include On the Job Training (OJT) during the storm events and an evaluation of this training should be recorded in the Training Hub.

Snow and Ice Removal

Generally, snow and ice should be moved to the right from centerline to the shoulder. Treatments during the event shall be made directly behind the unit within the wheel track to minimize dilution and establish consistent coverage. All treatments should follow the application target guide lines in the application matrix. If varied from these guide lines, then documentation is recommended to adjust the matrix thus refining the effectiveness of treatments. Treatments should match lap time with the intent to have a workable surface upon return to that location. ITD does not have a wet road only policy but the intent of a workable surface condition should allow for quick grip recovery after the event.

Plowing from centerline rather than from the inside wheel path will minimize the buildup of a packed centerline berm. A centerline berm may prolong icy conditions in the travel lanes during later freeze-thaw cycles and may also create a hazard to vehicles crossing the centerline to turn or pass. During long-duration or heavy snow storms, manpower and equipment availability may limit immediate snow removal to one pass adjacent to the centerline in each direction (truck climbing-lanes should also be maintained). A second pass in each direction to move snow on to the shoulder should be completed as soon as conditions permit. Doubling up with snowplows is a good alternative when resources are available.

Do not operate snow removal equipment against opposing traffic unless the area is under adequate traffic control. Street and highway intersections should be cleared to provide reasonable sight distance under the given conditions.

A rule of thumb for snow floor removal is when the ambient air temperature reaches 25° F, there is a good possibility that application of solid pre-wetted deicing chemicals at that time will be effective in total snow floor removal later in the day. The ultimate removal of snow floor

build up can be greatly accelerated if the roadway surface receives an application of anti-icing chemicals before the storm begins. A good deal of this material will remain on the roadway even after successive plowing (see Snow and Ice Control Using Liquid Chemicals, later in this chapter).

The operator is responsible for discharged snow when operating snow removal equipment. A good deal of care must be taken to avoid damage to adjacent vehicles or property. Overpass structures require special attention to insure nothing is dropped on the underlying roadway.

Snow removal operations often leave a windrow of snow across roadway approaches. Operators should attempt to minimize inconvenience to property owners, but the first obligation is to provide a reasonably passible route for the highway user. If equipment and personnel are available after the highways are reasonably safe for motorists, operators may remove the windrow of snow from established parking areas on the highway right-of-way. However, in no case is snow removal from an entire driveway required.

When weather conditions improve and pavements bear up, the recommended practice is to remove as much of the accumulation of snow from the shoulder of the road as possible, especially on the outside of curves. This practice will greatly reduce the amount of moisture entering the base and subgrade from the shoulder. Maintenance operations to remove snow from the shoulder should be conducted during daylight hours only. Traffic control should be provided in accordance with the MUTCD.

Snow and Ice Control Using Liquid Chemicals

There are two basic uses for liquid freeze point depressant (LFPD) chemicals for winter road maintenance; anti-icing and for pre-wetting of solid winter maintenance chemicals and anti-skid material. Each of these methods has been shown to be cost-effective if used properly and under the right circumstances. The following gives a brief description of when and how to use each method.

Anti-Icing. Anti-Icing is a snow and ice control strategy for prevention of a strong bond between frozen precipitation or frost and a pavement surface by a timely application of a LFPD, such as liquid sodium chloride (NaCl), magnesium chloride (MgCl₂) and calcium chloride (CaCl₂). Anti-icing is a proactive approach to snow and ice control that, when used correctly and under the right circumstances, can improve the service levels, reduce maintenance costs and provide other benefits compared to conventional plowing and sanding.

To use a LFPD effectively in an anti-icing strategy requires good judgment and knowledge on the part of the Operations Team Leader. The keys to a successful program are having accurate weather information, developing proper strategies for the particular area, knowledge about the chemical you are using and using proper application methods. Before initiating an anti-icing program seek advice from other Operations Team Leaders or Operations Engineers who have experience with anti-icing or attend training on anti-icing.

In an effort to reduce the time the public is exposed to the anti-icing agents, chemical treatment of the roadway shall be coordinated as close to the actual precipitation or frost event as possible. Routine application of LFPD in a preemptive manner shall not be used. Once the LFPD is applied to the roadway it will generally stay there, up to several days, until it is washed off by rain, snow melt or consuming frost. Use of the anti-icing chemical in frost prone areas can be

cost-effective because one application may be enough to keep frost from forming for three of four days under the right conditions.

Typical initial applications vary by product and are in the range of 20 to 50 gal/lane-mile. This application rate is enough to provide a very thin coating over the pavement surface but it is not enough to make the material begin to run off the road. Careful monitoring needs to be done as the storm continues in order to determine when, and if, additional applications are needed or to shift into a more standard snow and ice control strategy (i.e., plowing and spreading abrasives). The total amount of material sprayed throughout a storm in subsequent applications will depend on the pavement temperature, the amount of snow, the water content of the snow, level of service and the LFPD used.

One effective method that can be used to build a metric of anti-icing applications for different storms in a particular area is by using a TAPER log (Figure 7-3). TAPER stands for **T**emperature (temperature of pavement), **A**pplication rate, **P**roduct used, **E**vent (duration and amount of precipitation), and **R**esults. By tracking these five factors for each storm in a particular area, the Operations Team Leader can learn how to define what application rates will work in their areas of responsibility for different storm events.

As with other tools used for highway maintenance, anti-icing needs to be used properly and in the right situations. In circumstances where extreme cold temperatures (below 20°F) and falling or when blowing, drifting snow is present the TOTL should be consulted before LFPD is applied. Generally, light powdery snow will not stick and accumulate when pavement is cold. Traffic and wind may be enough to blow snow off the roadway. When pavement is cold and dry, applying LFPD will make the roadway wet, causing the dry snow to stick to the roadway and begin to build-up.

[illegible]

Figure 7-3: TAPER Log

Another circumstance to avoid is applying chemical at an anti-icing rate 20 to 30 gal/lane-mile to a snow floor. This can cause an initial melting then a refreeze that can be extremely slick.

Because of the potential for slippery conditions to be caused by misapplication of liquid anti-icing chemicals to pavement, the following guidance should be utilized:

Applying Anti-Icing Chemicals and Humidity. There is the potential for liquid anti-icing chemicals to transform from liquid to solid and solid to liquid. This “slurry” phase takes place quickly and is short in duration. The greatest potential for a slick pavement problem based on research shows the common denominator for most incidents investigated are temperatures between 40°F and 54°F and a relative humidity of approximately 45-50%. The slurry transition phase can also occur at relatively low humidity levels (below 35%). These conditions typically occur in the fall and generally involve an application of liquid anti-icing chemical prior to the first freezing event of the season. Therefore:

- Users should not apply anti-icing liquids for a winter event if the air temperature is above 40°F with a relative humidity of 45 to 50%. If these conditions exist, delay the application until temperatures drop.
- If humidity is (or expected to drop) below 35%, application rates should be reduced to one-half the normal rate.
- Most slick pavement occurrences involve an application made between noon and 3pm. If it is necessary to make an application around these times, temperature and humidity levels must be verified prior to applying.

Applying Anti-Icing Chemical after an Extended Dry Spell. When a liquid anti-icing application has been made after a long dry spell, the buildup of oil-based residuals left from vehicles and the application of a liquid to the roadway can produce a slick surface. This is very similar to a light rain shower on a roadway surface after an extended dry spell. The chemicals used for anti-icing are heavier than water and may displace any petroleum-based residuals on the roadway surface. The chemical itself may not cause the slick pavement, but may be a contributing factor in a reduced friction surface.

Therefore users should be cautious when applying anti-icing liquids after an extended dry spell. Using lower application rates may reduce the risk of slick pavement developing under these conditions.

Multiple Applications. Multiple applications are discouraged. However, if anti-icing liquid chemicals are being applied on multiple back-to-back applications, the application rate should be significantly reduced on subsequent applications. Reducing the application rate will prevent excess buildup of chemical on the roadway. The rate should not be reduced if excess moisture or high traffic volumes have diluted the initial application.

Pre-Wetting Granular Material. Pre-wetting granular material such as anti-skid and granular salt is a technique of spraying liquid chemical onto the material as it is applied to the road with pavement temperatures below 32°F. Pre-wetting is ineffective when pavement temperatures exceed 32°F. For anti-skid, the idea is that the thin coating of liquid chemical on the anti-skid particles will begin to melt into the snow/ice floor and as it is diluted it will then refreeze, leaving the solid particle partially imbedded in the snow/ice floor. When this procedure is done correctly, using just the right amount of chemical for the conditions, it essentially creates a sand

paper effect with thousands of protruding anti-skid particles imbedded in the snow or ice floor. A good pre-wet rate for salt brine is 15-18 gallons per ton, for MgCl 7-10 gallons per ton.

For solid winter maintenance chemicals, the pre-wetting agent accelerates the effectiveness of the solid winter chemicals and delivers a quicker melt of the snow/ice floor. This is a particularly cost-effective technique in areas that develop bonded snow floors that remain for days or weeks with little or no additional snowfall. It is also a good technique on roadways where high volume truck traffic tends to blow solid materials off the road after it is applied. Expect a 30-50% loss in effectiveness of the solid chloride if pre-wetting is not applied onto a compacted surface.

Anti-Icing Storage and Handling. If there is a risk of off-site impacts from a release of stored anti-icing material, two management techniques need to be considered.

- Control methods to stop or divert any spills that have a potential to move off site across property lines or into storm drains or through culverts.
- Installing secondary containment around storage areas near any waters of the US. The secondary containment must be able to contain a spill from the largest individual vessel. If the secondary containment area is open to rainfall, it shall include the volume of a 24-hour rainfall of a 25-year storm, and shall be made to drain rainwater.

Granular Salt Materials.

The application of granular salt materials can be used for both anti-icing and de-icing applications. ITD currently recommends following the Clear Roads Application matrix target rates as a starting point then customizing the rates based upon lap time, roadway configuration and traffic volumes. See Table 7-1.

Successful chloride usage is dependent upon the ability for the operator to read the roadway surface conditions accurately to determine if an anti-icing or deicing target rate should be utilized. In addition to the surface state condition the operator must consider the precipitation falling and surface temperature trend lines along with traffic volumes. The intent is to strategically apply the best rate possible to deice or maintain a workable anti-icing surface state for mechanical snow removal and chemically treat the residual. For many events, the operator will not be able to maintain an anti-icing surface state for the entire duration of the storm.

A good understanding of the Chloride Eutectic curve provides the operator improved success by staying within the chloride effective anti-icing zone and preventing dilution or over applying to contribute to a chemical refreeze.

Solids chlorides products vary in performance as seen in Figure 7-4 between NaCl and CaCl. Each chloride product has a representative application matrix provided by Clear Roads.

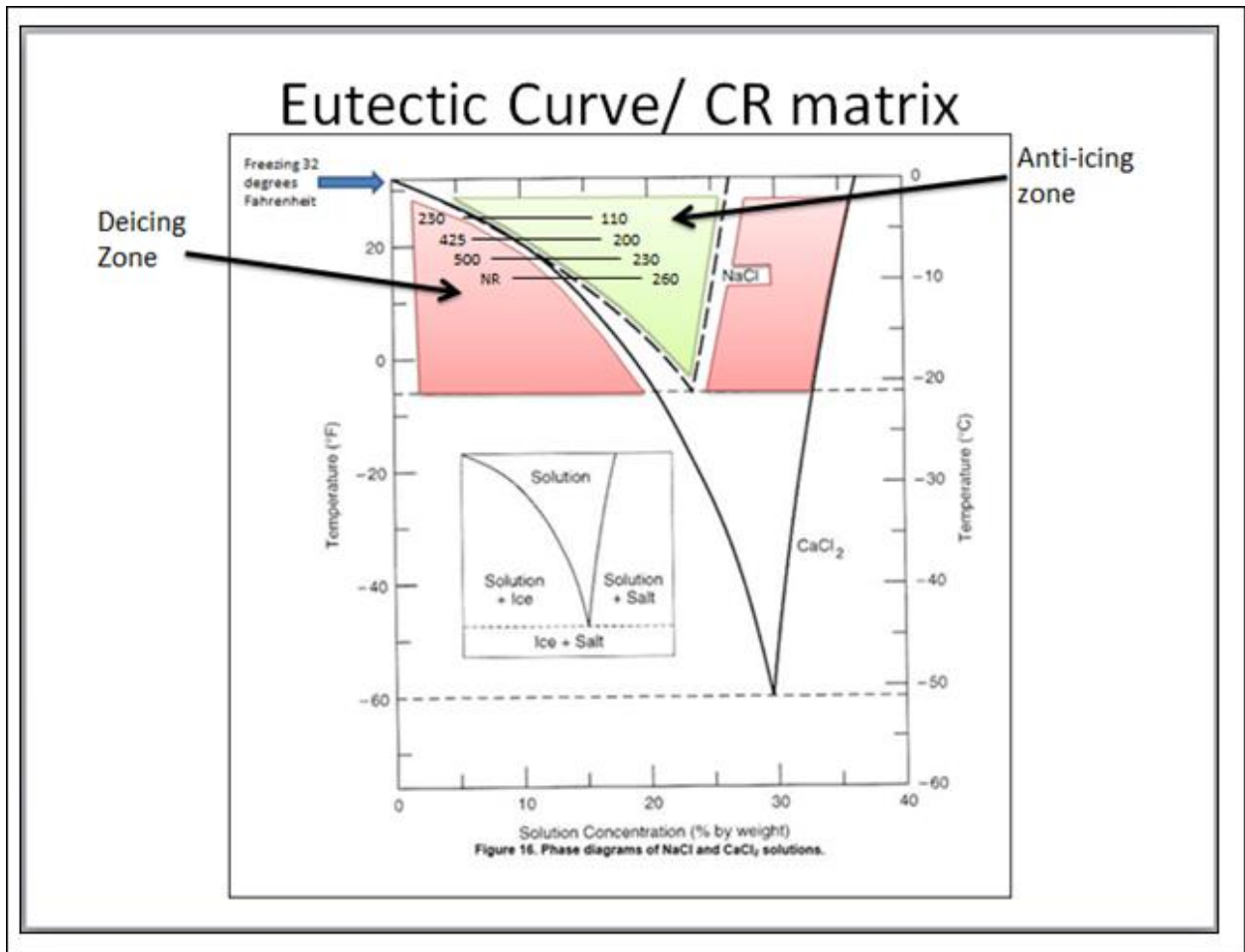


Figure 7-4

Deicing application should always utilize a pre-wetting of the solids to help with adhering of the solids to the target application area and minimizing scatter. Pre-wet also works as an accelerant to burn down through the ice/snow floor and concentrate the chlorides onto the roadway surface to help reestablish the bond breaker.

Anti-icing applications can also utilize pre-wet of solids but is not always needed depending upon the amount of free standing water/slush on the surface. Crews are not discouraged from pre-wetting any solids upon application.

Bond breaker management requires effective chloride usage whether solid or liquid however liquids should not be considered for deicing scenarios unless accompanied with a solid truck and applying as a team. Event critiques can provide valuable information on the bond breaker success and help with refining of application matrix charts for individual locations.

Application Rates of Winter Operations Products

The correct application of the chosen material for each storm event is crucial to the efficiency achieved in managing the event. The Clear Roads Research consortium has initiated multiple research projects for improving winter operations. In 2015, Clear Roads released Research

Report 12-02 “Establishing Effective Salt and Anti-Icing Application Rates”. ITD has adopted these rates as the initial application rates for the various products used by ITD in managing winter storms. The rates published and the format utilized are a guideline for winter maintenance professionals to use until individual application matrix can be developed for each specific geographical region in the State. See Tables 7-1 and 7-2 below for copies of the Clear Roads application rates.

Liquid Application Rates for Common Snow and Ice Control Chemicals and Various Winter Events															
Pavement temperature, °F, at time of application	Liquid NaCl at 23% concentration - gallons per lane-mile														
	Pre-Treatment				Within-Event										
	Snow	Frost/black ice	Freezing rain	Sleet	Light Snow	Moderate Snow	Heavy Snow	Frost and Black Ice		Light freezing rain	Moderate freezing rain	Heavy freezing rain	Light sleet	Moderate sleet	Heavy sleet
								Anti-icing	Deicing						
Over 30	48	44	55	NR	48	57	66	44	98	48	NR	NR	NR	NR	NR
26 to 30	70	57	76	NR	70	76	83	57	109	74	NR	NR	NR	NR	NR
21 to 25	92	70	NR	NR	87	92	96	70	120	87	NR	NR	NR	NR	NR
16 to 20	109	83	NR	NR	100	105	109	83	NR	NR	NR	NR	NR	NR	NR
11 to 15	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 to 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Below 5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Liquid MgCl ₂ at 27% concentration - gallons per lane mile															
Pavement temperature, °F, at time of application	Within-Event														
	Pre-Treatment				Within-Event										
	Snow	Frost/black ice	Freezing rain	Sleet	Light Snow	Moderate Snow	Heavy Snow	Frost and Black Ice		Light freezing rain	Moderate freezing rain	Heavy freezing rain	Light sleet	Moderate sleet	Heavy sleet
								Anti-icing	Deicing						
Over 30	35	32	40	NR	35	42	48	32	72	35	NR	NR	NR	NR	NR
26 to 30	51	42	56	NR	51	56	61	42	80	54	NR	NR	NR	NR	NR
21 to 25	69	53	NR	NR	66	69	72	53	90	66	NR	NR	NR	NR	NR
16 to 20	80	61	NR	NR	73	77	80	61	96	NR	NR	NR	NR	NR	NR
11 to 15	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 to 10	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Below 5	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note: NR = Not Recommended

Liquid Application Rates for Common Snow and Ice Control Chemicals and Various Winter Events

Pavement temperature, ° F, at time of application	Liquid CaO ₂ at 32% concentration - gallons per lane - mile														
	Pre-Treatment					Within-Event									
	Snow	Frost/black ice	Freezing rain	Sleet	Light Snow	Moderate Snow	Heavy Snow	Frost and Black Ice		Light freezing rain	Moderate freezing rain	Heavy freezing rain	Light sleet	Moderate sleet	Heavy sleet
								Anti-icing	Deicing						
Over 30	Anti-icing	Anti-icing	Anti-icing	Anti-icing	Anti-icing	Anti-icing	Anti-icing	31	31	69	34	NR	NR	NR	NR
26 to 30	50	40	54	NR	50	54	59	40	77	52	NR	NR	NR	NR	NR
21 to 25	65	49	NR	NR	62	65	68	49	85	61	NR	NR	NR	NR	NR
16 to 20	75	56	NR	NR	69	72	75	56	89	NR	NR	NR	NR	NR	NR
11 to 15	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 to 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Below 5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Pavement temperature, ° F, at time of application	Liquid KAc at 50% concentration - gallons per lane-mile														
	Pre-Treatment					Within-Event									
	Snow	Frost/black ice	Freezing rain	Sleet	Light Snow	Moderate Snow	Heavy Snow	Frost and Black Ice		Light freezing rain	Moderate freezing rain	Heavy freezing rain	Light sleet	Moderate sleet	Heavy sleet
								Anti-icing	Deicing						
Over 30	Anti-icing	Anti-icing	Anti-icing	Anti-icing	Anti-icing	Anti-icing	Anti-icing	32	32	72	35	NR	NR	NR	NR
26 to 30	51	42	56	NR	51	56	61	42	80	54	NR	NR	NR	NR	NR
21 to 25	61	47	NR	NR	58	61	63	47	80	58	NR	NR	NR	NR	NR
16 to 20	65	49	NR	NR	60	62	64	NR	NR	NR	NR	NR	NR	NR	NR
11 to 15	72	53	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 to 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Below 5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note : NR = Not Recommended

Note: NR = Not Recommended

Table 7-1

Solid Application Rates for Common Snow and Ice Control Chemicals and Various Winter Weather Events

Pavement temperature, °F, at time of application	Solid NaCl Application Rates - pounds per lane-mile													
	Pre-Treatment *							Within-Event **						
	Snow	Frost/BI and ice	Freezing rain	Sleet	Light Snow	Moderate Snow	Heavy Snow	Frost and Black ice	Light freezing rain	Moderate freezing rain	Heavy freezing rain	Light sleet	Moderate sleet	Heavy sleet
Over 30	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing
26 to 30	110	100	125	120	110	240	130	265	130	265	150	290	145	290
21 to 25	130	130	175	175	160	350	175	375	170	350	170	400	175	385
16 to 20	190	190	225	230	200	425	220	475	200	425	220	475	220	465
11 to 15	250	250	275	275	230	500	240	525	230	500	240	525	230	500
6 to 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Below 5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Pavement temperature, °F, at time of application	Solid CaCl ₂ Application Rates - pounds per lane-mile													
	Pre-Treatment *							Within-Event **						
	Snow	Frost/BI and ice	Freezing rain	Sleet	Light Snow	Moderate Snow	Heavy Snow	Frost and Black ice	Light freezing rain	Moderate freezing rain	Heavy freezing rain	Light sleet	Moderate sleet	Heavy sleet
Over 30	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing	Anti- icing
26 to 30	121	110	138	132	121	264	143	292	143	292	165	319	143	292
21 to 25	176	143	193	193	176	385	193	413	187	385	193	440	193	424
16 to 20	231	176	248	253	220	468	231	495	220	468	231	523	242	512
11 to 15	268	203	294	294	246	535	257	577	246	535	257	577	257	577
6 to 10	309	227	335	340	268	NR	278	NR	268	NR	278	NR	268	NR
Below 5	357	258	NR	NR	304	NR	319	NR	299	NR	309	NR	345	NR

Note: * = For prewetted solid chemical

** = For either dry or prewetted solid chemical

NR = Not Recommended

Solid Application Rates for Common Snow and Ice Control Chemicals and Various Winter Weather Events

Pavement temperature, °F, at time of application	Solid Ice Slicker Application Rates - pounds per lane-mile															
	Pre-Treatment *				Within-Event **											
	Snow	Frost/BI		Slush	Light Snow	Moderate Snow		Heavy Snow	Frost and Black Ice		Light Freezing rain		Moderate Freezing rain		Heavy Freezing rain	
		Anti-Icing	De-icing	Anti-Icing		Anti-Icing	De-icing		Anti-Icing	De-icing	Anti-Icing	De-icing	Anti-Icing	De-icing	Anti-Icing	De-icing
Over 30		110	100	125	120	110	240	130	265	150	290	130	265	150	290	365
26 to 30		160	130	175	160	350	175	375	190	400	350	180	375	190	400	440
21 to 25		210	180	225	200	425	210	450	220	475	220	450	220	475	230	500
16 to 20		250	190	275	230	500	240	525	250	550	230	500	240	525	250	550
11 to 15		300	220	325	280	580	270	600	280	625	260	580	270	600	280	625
6 to 10		347	250	NR	NR	310	NR	310	NR	350	290	NR	300	NR	310	345
Below 5		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Pavement temperature, °F, at time of application	Solid OMA Applications - pounds per lane-mile															
	Pre-Treatment *				Within-Event **											
	Snow	Frost/BI		Slush	Light Snow	Moderate Snow		Heavy Snow	Frost and Black Ice		Light Freezing rain		Moderate Freezing rain		Heavy Freezing rain	
		Anti-Icing	De-icing	Anti-Icing		Anti-Icing	De-icing		Anti-Icing	De-icing	Anti-Icing	De-icing	Anti-Icing	De-icing	Anti-Icing	De-icing
Over 30		107	170	213	204	187	428	NR	170	383	187	428	221	NR	255	NR
26 to 30		272	221	298	298	272	NR	323	221	425	289	NR	306	NR	323	NR
21 to 25		336	256	360	368	320	NR	352	256	440	320	NR	336	NR	352	NR
16 to 20		375	285	413	413	345	NR	375	285	450	345	NR	360	NR	375	NR
11 to 15		450	330	NR	NR	390	NR	420	330	488	390	NR	405	NR	420	NR
6 TO 10		NR	NR	NR	NR	NR	NR	NR	375	525	NR	NR	NR	NR	NR	NR
Below 5		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note: * = For prewetted solid chemical

** = For either dry or prewetted solid chemical

NR = Not Recommended

Table 7-2

Anti-Skid Materials

The application of anti-skid materials may marginally improve the pavement traction condition for acceleration and climbing areas. When anti-skid materials will be reasonably effective, they

may be applied to the travel lanes. On all roads, the spreader must be adjusted and every effort made to operate the spreader so that the anti-skid material is spread on one lane at a time.

Operators must be reasonably cautious when applying anti-skid materials to ensure that it does not cause damage to passing vehicles. Distribution of solid products will be configured on the truck as not to damage approaching on-coming traffic, or when there is a possibility of causing damage to nearby vehicles from flying anti-skid material. Each TOTL shall train their operators in the application of anti-skid materials and refresh the training annually; emphasizing the importance of preventing tort claims. Warning lights shall be turned on prior to turning on the spreader and shall remain on while the spreader is in operation.

When filling spreaders, care shall be taken to ensure that large rocks are not scooped up from the bottom of the stockpile and dumped into the spreader. Spreaders shall be filled so that the load is contained below the grates of the spreader body. Excess material shall be removed from the surfaces of the unit so that it does not spill onto the roadway. Material used for anti-skid shall not be larger than 3/8 in maximum size. Good judgment of existing conditions is required when determining the sanding method that will be used. The application rate of sand or sand/salt mixture should be determined commensurate with the weather conditions, type of abrasive, equipment used, etc. As pavement temperatures fall below 32°F, a pre-wetting LFPD should be added to the anti-skid material to increase melting and anti-skid embedment (see Pre-Wetting Granular Material).

In urban areas where large volumes of traffic and lack of snow disposal area make it impractical to plow snow, a complete melting may be considered. If heavy traffic volumes make it difficult to get spreading equipment back into the area, use a higher percentage of solid salt in the mix. Melting the snow and ice is preferable to cleaning anti-skid from the roadway surface and possibly the catch basins in areas where curb, gutter and storm sewer systems are present.

The target gradations to be used for anti-skid material are found in Table 7-3.

TARGET GRADATIONS (percent passing specified screen size)					
Screen Size	Mountain	CMAQ*	Black Ice	Std	Rejects
3/8"	100	100	100	100	100
#4	0-40			0-70	
#8	0-10	0-40			
#30			0-25	0-30	
#100		0-2			
#200	0-5		0-5	0-10	

*Clean Material for Air Quality; also requires <45% L.A. wear.

Table 7-3: Target Gradations

Sanding Material Descriptions:

Mountain: Coarse, fairly clean material where frequent snowfall is common.

CMAQ: Clean material for use where air quality is a problem.

Black Ice: Medium coarse, fairly clean material for use in areas prone to black ice.

Standard: Sanding material crushed or screened to meet a gradation. Sieve sizes selected to preclude large quantities of fine sand.

Rejects: Specification requires 100 percent minus 3/8 inch for use where practical, i.e., low speed routes and where covered storage is available and high fines do not cause equipment breakdown, adverse environmental impacts or drainage clogging.

Fine material (that portion passing the #30 sieve) is assumed to blow off of the roadway from initial traffic and, therefore, does little to aid in skid resistance. Therefore, different road and traffic conditions may require different sanding material gradations. Pre-wetting of anti-skid material allows particles to be imbedded in the snow or ice floor.

High Speed Areas: In these areas use a cleaner, low percentage of minus #30 material.

Heavy Snow Areas: Sanding material should be fairly clean, with a high percentage near the maximum 3/8 in size.

Black-Ice Areas: Use a more graded sanding material, with a high percentage above the #30 so the material does not get blown off of the roadway.

Low Speed Areas: Can use rejects or naturally occurring material as long as fines are controlled to prevent breaking the feed chains in the sander.

Environmentally Sensitive Areas: These areas may require a CMAQ blend of sanding material. Check with your supervisor or the District Engineer for any requirements in these locations.

When clean sanding materials are used, the application rate should be reduced. For example, the application rate based on secondary rejects containing 50 percent minus #30 should be reduced by about 1/3 when using material with 25 percent minus #30. Application frequency should also be reduced in areas prone to snow squalls when using the coarser sanding material.

Salt and Sand/Salt Storage

In general, in the amounts used on the roads, salt produces no permanent ecological effects. However, improper use or storage of salt has the potential to harm roadside vegetation, aquatic life and water quality. Salt or sand/salt mixtures that are stored improperly can lead to an accidental release into the environment. Therefore, every effort should be taken to prevent the possibility of accidental release into the environment.

Salt or sand/salt mixes shall be stored in covered building on an impervious surface with adequate drainage catchment. When a covered building is not available, use a waterproof tarp to cover the salt piles. Drainage from the area should be designed to divert runoff away from the structure or covered pile and to collect any contaminated material in a lined evaporation pond.

Liquid Chloride Storage

Liquid chlorides are stored in tanks at multiple locations throughout the state. Tanks used must be manufactured to hold liquid products that are denser than water. Magnesium and Sodium Chloride solutions typically have a specific gravity between the range of 1.2 and 1.3 and should be stored in tanks designed for this range. Tanks manufactured with UV resistant or UV stabilized plastics must be used.

All liquid storage tanks must be installed with secondary containment. Secondary containment must be able to hold at least 110% of the capacity of the tank, or the largest tank in a multi-tank system. If multiple tanks are utilized at a location, the tanks must be plumbed to insure that complete failure of one tank will not drain all of the tanks in the system.

Manufacturing of Sodium Chloride Brine

The Department typically uses two (2) types of LFPD products, Sodium Chloride brine and liquid Magnesium Chloride. Magnesium Chloride is purchased as a liquid product from various manufacturers while Sodium Chloride brine is manufactured in Department owned facilities.

Manufacturing Sodium Chloride (salt) brine can be accomplished using multiple types of machines that vary in complexity, expense, and brine making capacity. The amount of water required to manufacture brine is excessive and should not be underestimated when planning a manufacturing facility. When manufacturing salt brine, take the proper steps to insure your personnel safety by adhering to the following:

- Handle Material with Care
- Wear Rubber Gloves

- Wear Eye Protection
- Use Care when Adding Water to Dry Materials
- Load the Brine Manufacturing Unit from a Level Surface
- Do Not Overload the Loader
- Keep the Loader Bucket as Low as Possible
- Indoor Facilities should be Well Ventilated when Working with any Chemical

Quality control is vital to a successful salt brine making operation. If you do not have a quality control process in place, you can manufacture a different product with each batch. This will translate into effective versus ineffective operations, environmental contamination, handling difficulties, equipment issues and other possible concerns.

Sodium Chloride (NaCl) brine must be manufactured to a 23.3% NaCl percentage for maximum results. A brine solution with a lower or higher concentration of NaCl has a much higher freezing point and will not be as effective on the roadway and is also susceptible to freezing in the storage tank facility. Figure 7-5 is the Eutectic curve NaCl (Salt). Concentration levels less than 23.3% reduce the freezing temperature gradually, but concentrations exceeding 23.3% dramatically alter the freezing point quickly. NaCl brine should never be manufactured with a concentration level exceeding 23.3%. Regularly check the specific gravity of the salt brine produced by using a Hydrometer to verify the salt solution is at 23.3%. If it higher than 23.3%, add water until the solution is correct and then pump off the batch to the storage tank. The more you test it, the better product you will produce. A good rule of thumb is to verify the first the specific gravity of the first 1,000 gallons produced for each winter season and a verification check of each batch thereafter.

Keep accurate records on the quantities of salt utilized and the gallons of salt brine manufactured.

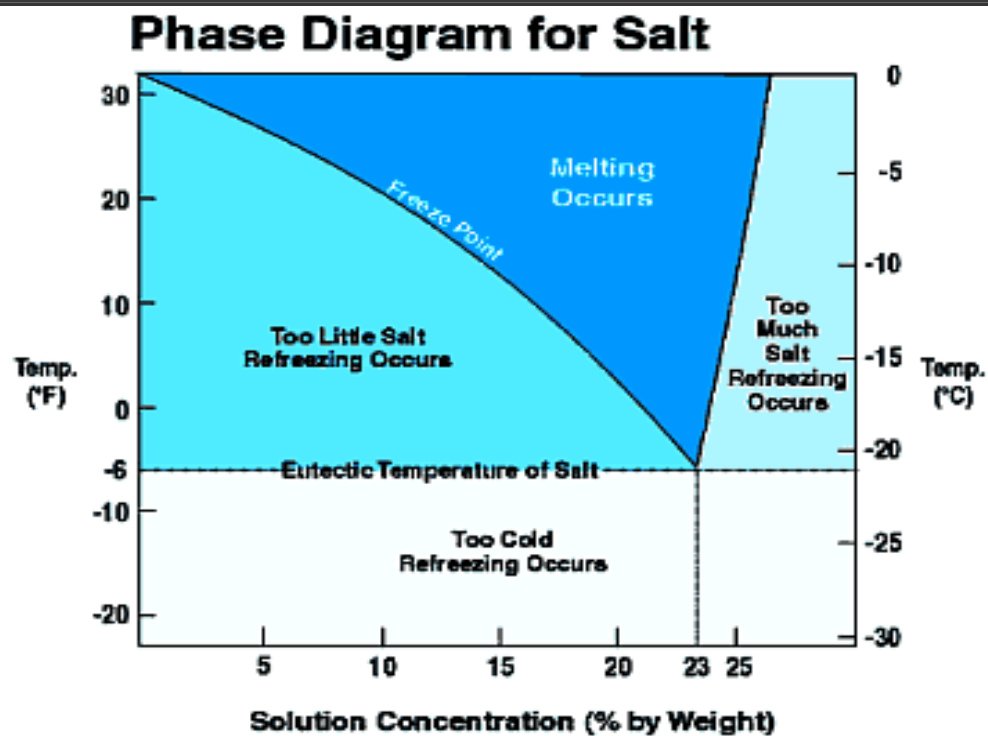


Figure 7-5

When manufacturing NaCl Brine, additional products or enhancers can be added based on the needs of the District, the corresponding weather conditions and temperatures. Each of these products is mixed in a unique ratio to the NaCl Brine, so consult the manufactures recommendations for the proper mixing ratio when using these products.

Winter Signing and Delineation

Special winter signing can be of great assistance to the highway user. Although, it should be evident to most users traveling in a snow area that snowplows will be operating, the signs may further alert them. All signing should be in accordance with Part 2 of the Traffic Manual. District Operations Engineers shall consult with District Traffic Engineers for winter signing and delineation.

"Snow Removal Equipment" (W21-16) signs should be considered for narrow highways with poor alignment.

"Watch For Ice" (W8-6) signs should be used with discretion and only in areas of a prolonged condition such as shaded areas which seldom thaw during the day.

Bridges that have a history of ice should be posted with the standard "Bridge May Be Icy" (W8-16) sign.

Where a series of frost heaves occur, a "Frost Heaves" (W8-14) sign may be used. Individual locations should be marked with the OM-1 Object Marker.

Routes designated for Winter Maintenance Standard Level 3 should be posted with “Normal Snow Removal” signs G20-6, G20-7 and/or G20-8 if limited maintenance operations are in effect.

Install “Chains Advised Beyond This Point” (W21-17) on roads in mountainous areas and on long grades where winter conditions are hazardous. The “Chain Up Area” (I-38) sign should be installed in advance of a turnout that has been provided for motorists to mount chains.

Installation of snow poles is recommended where snow depths may frequently exceed two feet and drifting conditions are prevalent. Snow poles shall be installed in accordance with Standard Drawing G-3-B.

Winter Maintenance of Truck Escape Ramps

Truck escape ramps may require additional maintenance during winter-like conditions. Approaches must be kept clear of snow and ice to provide errant vehicles access to the ramps.

Winter maintenance of ramp:

- Salt ramp as required. The normal application rate is 4-1/2 lbs per square yard.
- Spray LFPD as required. Use an application rate of 100 gal/in-mile and check to see if the chemical penetrates to full depth. If not, apply a second lighter application.

If excessive freezing occurs, it may be necessary to break up the surface using a front end loader with a 16 in harrow-type attachment. Follow the recommended procedure given under “Reshape Truck Escape Ramps” in Chapter 5 of the Operations Manual. Reapply salt or LFPD as required.

Snowplowing Outside of State Highway Boundaries

The District Engineer may designate specific locations where snow-plowing may be done outside State Highway boundaries under these conditions:

- State highways must be open for vehicular traffic before any other snowplowing can be done.
- Snow clearing may be done only as personnel and equipment become available and at locations adjacent to and abutting the right-of-way line. Generally, this service will be limited to publicly used facilities, such as post office, schools, parking turnouts, etc., where no personal benefit can accrue to any one person or business.
- Commercial approaches may be cleared in isolated areas if essential to motorist safety and service. This kind of snowplowing is not intended to infringe on commercial snowplowing or to deter local entities from acquiring their own snow removal equipment.
- Emergency rescue mission off systems may require ITD response and district management will authorize these. Off hour response may delay district management approval requiring the TOTL to assume the approval responsibility. All off systems responses will be well documented and relayed to State Communications that ITD is proceeding off system in a rescue attempt.

Limited Winter Maintenance

In accordance with the approved Winter Maintenance Standards, District Corridors may be posted to indicate that snowplowing will be limited to daytime hours with a G20-7 or G20-8 sign with the following legends:

"Normal Snow Removal 6 a.m. - 6 p.m."

"Travel at Your Own Risk"

OR

"Normal Snow Removal 6 a.m. - 6 p.m."

"For the Next (number) Miles"

Sign G20-6 should be used underneath G20-7 indicating the limits of this restriction:

"From (town) to (town)"

Snow Removal Equipment

The District Operations Engineer shall be responsible for determining the need for and assignment of snow and ice removal equipment prior to the start of the winter season and adjusted as needed. The assignment of equipment, as well as personnel, for winter operations shall be based on the approved level of service designations for highways within a given maintenance area. Operations Team Leaders will be responsible for managing the assigned equipment in an effective manner to meet the state, district and section goals. Calibration verification of controllers will be required prior to the start of the winter season. Verification can be done through comparing controller data to visual quantities consumed or through a complete recalibration process.

Equipment shortages may be expected during heavy or long-duration storms due to breakdowns and the limited supply of snow removal equipment. Proper servicing, cleaning and storage will maximize equipment resources. During heavy or long-duration storms, washing sanders and de-icing equipment should be scheduled as time allows. Between storms or during periods of routine road patrol, sanders and anti-icing equipment shall be washed at the end of each shift or storm or once a week minimum. The TOTL are responsible for insuring equipment is washed and cleaned as described above. Sanders shall be unloaded before washing to minimize corrosion, aid in component inspection, and help prevent compaction of the anti-skid material. Frequent washing of equipment has shown to reduce operating cost as well as improve uptime and availability.

Coordinate new ideas or programs for utilizing men, equipment, and materials to improve snow and ice control techniques through the District Operations Engineer. Creativeness is encouraged at all levels for improvement of existing policies and procedures.

Railroad Grade Crossings

When performing winter maintenance on at-grade railroad crossings, care should be taken to minimize the deposit of ice, snow, anti-skid material, or other debris on the crossing. Slow or

stop snow removal equipment as necessary before crossing to avoid damage to the equipment and/or the crossing. Be alert for approaching trains or railroad equipment, always yield the right of way to trains or railroad equipment.

Stop all heavy equipment before crossing and proceed only when safe to do so.

Always raise the nose of the snowplow or blade to clear rails and planks on the crossing.

Immediately notify railroad authorities and provide warning for railroad users when crossings cannot be left reasonably clear or when damage may have occurred due to the snowplow or blade striking any part of the crossing.

Sanders should be shut off at rail crossings to prevent filling of the flange-ways.

When performing winter maintenance on structures that span over railroad tracks, or other facilities, avoid dropping anything over the edges of the structure. Liquid and granular chlorides should never be used on Rail Road crossings to prevent corrosion to signal wires that are located in confined areas.

Snow Plow Operations

Snowplows are designed to be utilized on paved roadway surfaces only. Under no circumstances shall front mounted snowplows or truck mounted wing plows be used to plow unpaved surfaces, shoulders, or turnouts, except for the designated gravel state highway routes of SH-7, SH-29, and SH-64. When using wing plows, It is recommended the truck operator maintain a minimum one (1) foot buffer from edge of plow to edge of pavement. Only front mounted plows should be used to at the edge of pavement. Any unpaved turnouts deemed essential shall be approved to be plowed by the District Operations Engineer. Truck mounted snow wings, regardless of the style and design, are not to be used to bench back snow berms along roadsides. If benching is required to add snow storage capacity, either utilize motor graders with mounted wing plows or rotary snow blowers. When plowing/clearing snow drifts, truck mounted wing plows are not to be used. The impact of the wing plow hitting the compacted snow drift can cause significant damage to the wing plow.

Winter Maintenance Standards

Standards for winter maintenance have been established, and are explained in detail in Figures 7-1 and 7-2 of this manual. These standards are based on annual reviews of the traffic volume; crash analysis; the number of potentially hazardous areas such as steep grades, sharp curves, intersections and ramps; and availability of resources by the District Engineer. The intent of the standards is to provide passable routes for the highway user during winter-like conditions commensurate with available funding and resources.

Managing Winter Events

There are several strategies that can be utilized for winter operations. Best Management Practices (BMP) should revolve around the most effective strategies for the individual storm event. Transition from traditional treatments of same application rates and timing to be applied to all events is no longer a viable practice at ITD. New technology such as RWIS, improved application controllers, AVL/MDC and improved forecasting in recent years has allowed ITD to

better match the response to the event. By implementing the practice of establishing BMP's ITD has become better managers of all winter storm events.

The Winter Maintenance Coordinator will generate a BMP guide at the conclusion of every season of some the most successful winter storm managed events. This should be considered in district operations in formulating their next seasons plan.

Winter Performance Measures (WPM)

Maintenance crews will face a variety of challenges every season and shall continuously review current operations to determine if additional improvements can be made through better timing, product selection or rates and determine if additional resources are needed.

To track this effort ITD has implemented two winter performance measures. The Mobility Index which measures ice prevention and the Winter Performance Index (WPI) that measures ice reduction. The WPI was introduced in 2011 and the Mobility Index measure was implemented in 2012. Both measures utilize RWIS non-invasive sensors, the data is configured through an algorithm and then displayed into an index.

Figure 7-6 below is of the automated report generated through RWIS sites and displayed on Vaisala's Navigator 2.0 system. The individual lines are different thresholds for changes in surface conditions. At the conclusion of the storm the event will be compiled into a block and counted as one event.

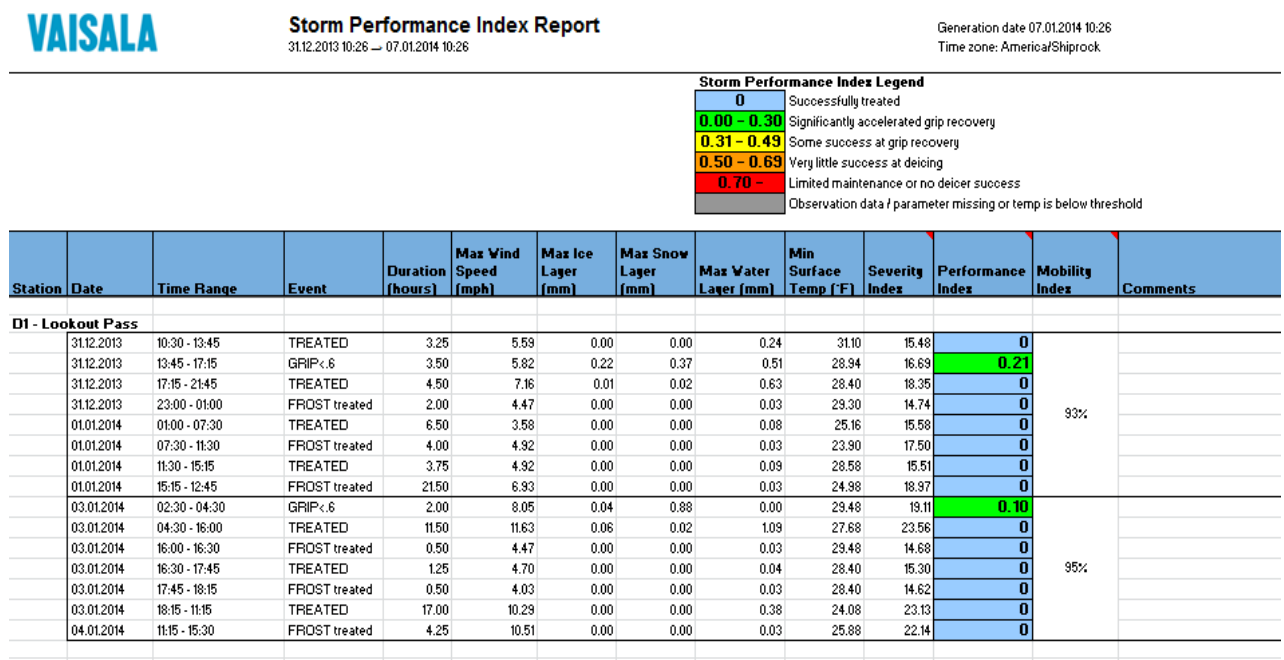


Figure 7-6

The WPI is color coded to effectiveness of response identified in the exhibit above. The WPI matches the severity of the storm to how quickly the ice/snow was reduced enough to provide reasonable traction of a grip co-efficient value above .60, dry is considered .82.

Storm severity is identified in the preceding column of the performance index. The severity index formula is as follows:

Storm Severity Index= (Maximum wind speed) + (Maximum water equivalent layer) + (300/lowest surface temperature).

The Winter Performance index is: Ice Up time/ Severity

Ice Up time= Duration of time the grip is below .60 for more than ½ hour and continues on until the grip recovers above .60 for more than two consecutive hours.

Mobility Index= Percent of time of the storm event when the grip is above .60 and the surface temperature is below 32°F.

Maintenance Operations tracks the WPM data and posts this to the Score Card for district access. Reports are also sent to the districts during the winter months for review.

Winter Performance Measures Tracking

Some areas of the department need a high-level overview of the WPM without the granular level displayed in figure 7-3. This is displayed in two locations, the Dash Board for public consumption at the state wide level and in a tiered process on the Score card only accessible internally. The score card identifies state, district and TOTL WPM measures individually. Reference figures 7-7, 7-8, and 7-9 below

Percent of Time Highways Clear of Snow/Ice During Winter Storms

Target: Maintain at least 55% unimpeded mobility during winter storms.

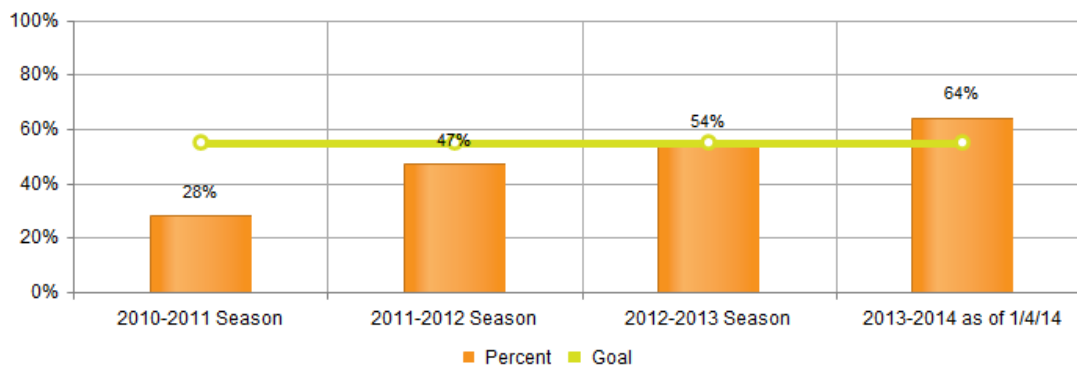


Figure 7-7

Winter Storm Mobility by District -- Total

% of Time Mobility Not Significantly Impeded During Winter Storms

Revised 1/3/14 1,146 events

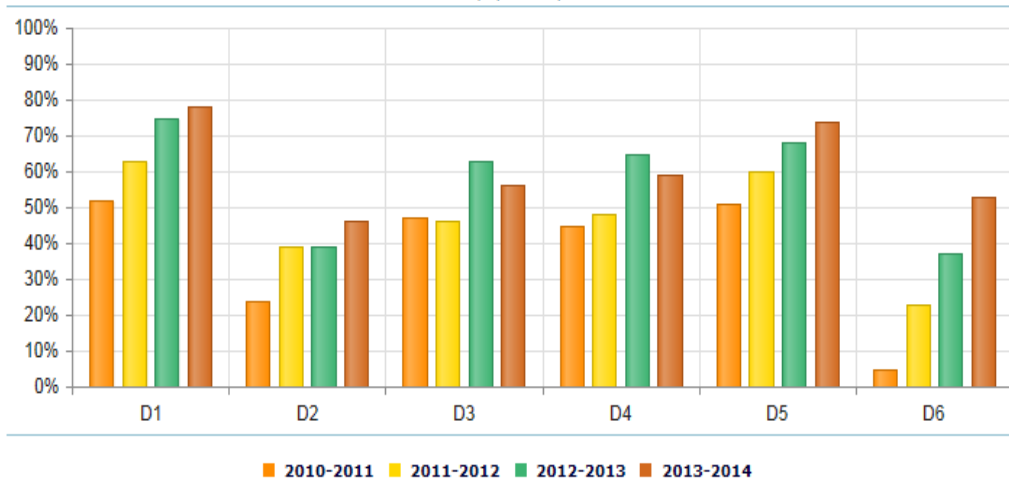


Figure 7-8

District One Mobilty by foreman area

Year End Goal is 55%

Update 1/3/14 262 events

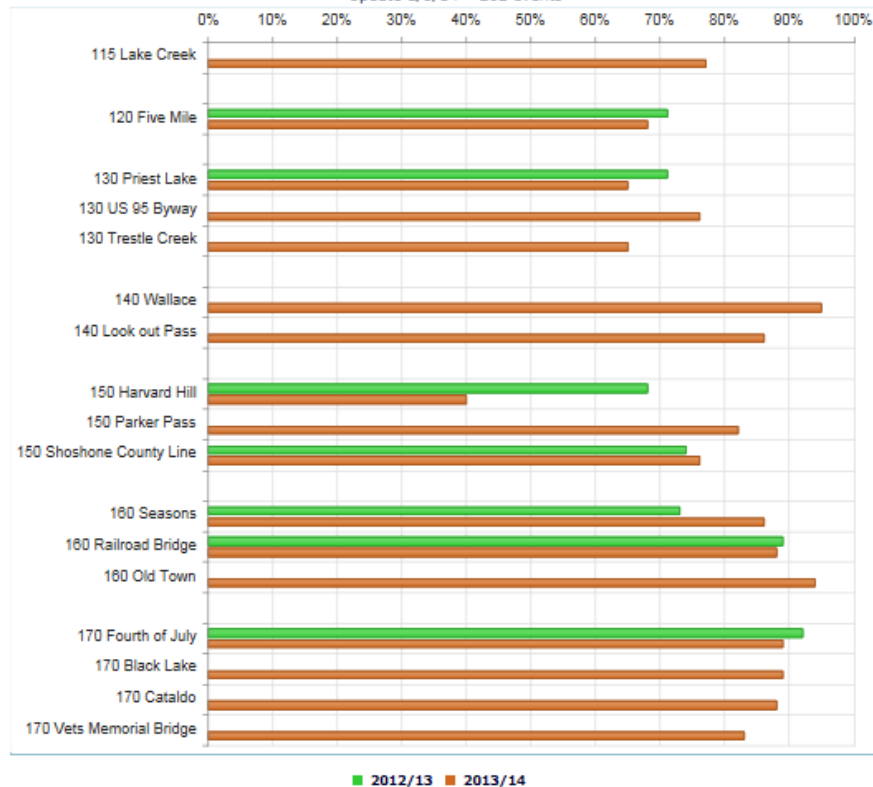


Figure 7-9

WPM Storm Event Critiquing

To improve WPM scores, crews and management are advised to critique existing practices and seek out BMP's of other crews that are getting consistent good WPM results. Crews and managers can proceed with the evaluation process of critiquing the details. This process primarily occurs through field observations and RWIS data.

It is recommended the crews utilize the RWIS graphs and treatment times to see the effectiveness of treatments and the duration of that effectiveness as identified in Figure 7-10.



Figure 7-10

Key elements to check in a critique are

- Timing
- Application rates
- Precipitation intensity
- Temperature trends
- Anti-icing effectiveness
- Traffic volume
- Wind conditions
- Solar radiation waves
- Roadway configuration

All of the elements will play a role in operational success. Any variance in elements can mean a treatment that was successful previously may not provide the same success under slightly

different conditions. To keep track of these variables it is recommended crews maintain a data base of product used, timing and success. Tracking multiple treatments will help identify successful application trend lines for various events. Consolidating this information into an application matrix will provide operators a very good starting point for product selection and reasonable expectations. See Figure 7-11.

Application Matrix for asphalt surface on route US 93 MP 0-42										
Current Conditions					Forecast	lap time	Recommend product	application rate	Expectations	Comments
Weather	Surface Temp		Surface Condition	Precept						
Cloudy	28	steady	dry/untreated	none	1" snow	60 minutes	Anti-ice Brine	35 gal/lm	Bond Breaker	pretreatment
Snowing	30	steady	Wet/Slushy	none	cloudy/ rising to 34	60 minutes	Solid Chloride	50-100 lbs/lm	wet roads	one treatment
Snowing	30	falling	Wet/Slushy	none	cloudy/ falling to 28	60 minutes	Solid Chloride	100-200 lbs/lm	icy spots/slush	One treatment possible touch up
Snowing	30	falling	Wet/Slushy	none	cloudy/ falling to 22	60 minutes	Solid Chloride	200-300 lbs/lm	icy spots/slush	Target to bare roadway before temp drop
Clear	10	steady	ice/snow compacted	none	clear/Low-03 High 15	60 minutes	Prewetted antiskid only	500 lbs/lm	ice/snow compacted with embedding traction	Grip may not rise
Clear	10	rising	ice/snow compacted	none	clear/Low-10 High 26	60 minutes	Liquid Deicer & solid blend	40 gallon salt brine & 300 lbs NaCl/ lm	Wet surface over ice to chemically burn to	Compacted layer to water in wheel tracks and

Figure 7-11

Application matrices are unique to roadway configuration and geographical terrain. They maybe reflective of similar type routes but vastly different on others.

Roadway Weather Information Systems (RWIS)

The Idaho Transportation Department encouraged districts to install RWIS sites in the 1990's to provide notification of adverse conditions in remote locations or on key structures. The ITD RWIS network has grown considerably since 2011, ITD has 130 Performance Measuring Reporting (PMR) RWIS sites and five non-PMR locations.

RWIS Equipment. A PMR site is comprised of a variety of atmospheric sensors and unique non-invasive surface condition sensors. The standard PMR configuration values are Grip, Surface Temp, Air Temp, wind speed, two camera views and night time illumination of at least one camera image. Contact Maintenance Operations Winter Maintenance Coordinator for sensor specifications and models. Several additional sensors can be included in a RWIS sites beyond the PMR requirements, barometric pressure sensor, visibility, precipitation, snow depth and subsurface temperature.

The site may include a remote pole when the communications tower is too far from the roadway to utilize the noninvasive sensors. The enclosure cabinets are access with a T27 key and may require ITD field personnel to help troubleshoot remote locations.

RWIS Systems Information. Vaisala is the current RWIS contactor and data is hosted on the vendor's server through the Navigator 2.0 web application. Operators and managers are assigned individual user names with password to access the system. The website can be configured to individual preferences, refer to the Learning Hub key word RWIS for manual, instructional training and system features. Figure 7-12 identifies the 2013 RWIS locations. Numbers refer to site grouped in vicinity, icon display conditions.

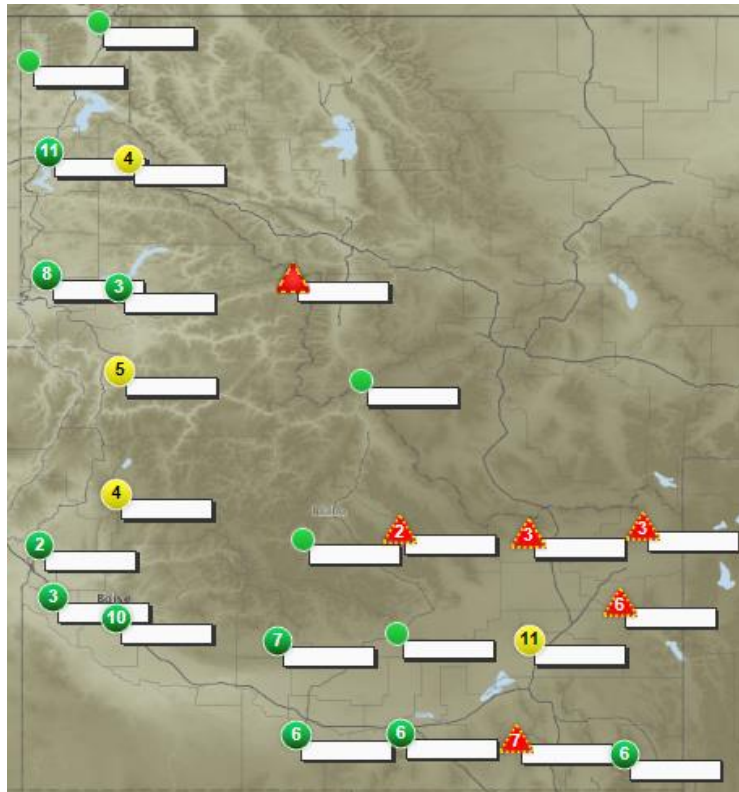


Figure 7-12

The protocol for reporting system concerns is done through the ITD Winter Maintenance Coordinator and then relayed to Vaisala help desk if necessary. Future RWIS build outs or upgrades is encouraged to work with the Winter Maintenance Coordinator to establish statewide continuity in the RWIS network.

Road Condition Reporting

The traveling public depends on reliable, consistent, and current information on driving conditions. It is important to provide this service by providing 511 winter road reports at designated times.

Reporting Segment Changes. By foreman area, each district's roadways are divided into segments, defined by route and beginning and ending mileposts, for winter condition reporting. This set of 511 winter road condition reporting segments is used for each of the following purposes:

- To define the District Road Report forms for the winter season. (ITD-0585, ITD-0595, ITD-0596, ITD-0597, ITD-0598, ITD-0599, and ITD-0600)
- To define the shapes used in the TRAVELIQ-511 websites to paint Idaho's highway system with road condition colors.
- To define the set of available winter road reporting segments in the 511 TRAVELIQ-Segment data entry system.
- To define Job Order locations for winter maintenance in TAMS.

Since all of these have to match exactly for the entire winter season, it is critical that there be sufficient time to update all four, well before the first winter snow storm of the season. For this reason, all changes to the set of winter reporting segments must be sent to the Travel Services Coordinator no later than September 15th of each year. Any updates received after September 15th may have to wait until the next winter season before being implemented. Each district is responsible for sending their updates to the Travel Services by the deadline.

Changes to the set of 511 winter road condition reporting segments should include:

- Any changes to the location or extent of an existing reporting segment. This includes changes in beginning and ending mile points for the segment, and a short description of the new beginning and ending point.
- Where realignment has added, reduced, or extended a reporting segment.
- Where two existing segments are merged, or a single segment is split into multiple segments.
- District reorganization results in adding or removing foremen responsible for winter maintenance.
- Responsibility for a segment is moved from one foreman area or shed to another.
- The district or TOTL requests that the reporting order of the segments be rearranged.

Scheduled Winter Report. Regular winter reporting begins the morning of November 1st and ends April 1st, as outlined in Table 7-4 below. However, if conditions warrant, road condition reporting should be made year round. A time limit of 24 hours shall be put on each report. There will be occasions when one or more areas will not respond when contacted. In these cases, the time limits on these areas' previous reports are not extended. The time limit on each report will determine the length of appearance so when time expires, that report is allowed to time out and show "No Report." Expired reports are unacceptable.

Table 7-4: Scheduled Winter Report Schedule

Monday – Friday (All Times Mountain Time)						Weekends and Holidays		
	Report	Post		Report	Post		Report	Post
D-5 & 6 INL	4:30-4:45	4:45a				D-6	7:15-7:30	8:00a
D-6	6:15-6:30*	7:00a		1:15-1:30	2:00p	D-5	7:00-7:15	8:00a
D-5	6:00-6:15*	7:00a		1:00-1:15	2:00p	D-4	6:45-7:00	8:00a
D-4	5:45-6:00	7:00a		12:45-1:00	2:00p	D-3	6:30-6:45	8:00a
D-3	5:30-5:45	7:00a		12:30-12:45	2:00p	D-2	8:15-8:30	9:00a
D-2	7:15-7:30	8:00a		2:15-2:30	3:00p	D-1	8:00-8:15	9:00a
D-1	7:00-7:15	8:00a		2:00-2:15	3:00p			

*Notes: D-5 and D-6 will report all other routes not listed in the 4:45 am report.

All condition changes that result in official road closures must be reported to State Comm.

Detailed procedures on Road Condition Reporting are contained in the Road Condition Reporting procedure in the Dispatch Manual.

When previous road report conditions are dry and clear or dry and cloudy (reporting codes 1 and 1, or 1 and 2), the scheduled report is not required. State Comm will update the 511 road report automatically if previous report was dry and clear or dry and cloudy (reporting codes 1 and 1, or 1 and 2). Those conditions can include tree fall (TF), rock on road (RR), or deer on road (DR).

Weekend reporting will be modified allowing three-day expirations for Friday morning road condition reports instead of the typical 24 hour expiration on segments where conditions are not likely to change over the weekend. This modification is only permitted under the following circumstances:

- The current report must be the scheduled morning report for Friday,
- AND the current road conditions must be dry and clear or dry and cloudy (reporting codes 1 and 1 or 1 and 2),
- AND there must be no storm conditions expected over the weekend,
- AND there must be no members of the crew scheduled to work over the weekend.

When any of these or weather conditions unexpectedly change, it will be necessary to resume the normal scheduled reports, with updates as conditions change, until conditions clear. A Foreman area must explicitly ask State Comm. to extend the report over the weekend. If a report extension is not specifically requested, then any reports not made over the weekend will be counted as missed reports.

An extension request can only be made on a Friday morning or afternoon, under the conditions listed above. Scheduled reports will resume Monday morning, if not already resumed over the weekend due to changing conditions. For three day holiday weekends, the weekend reporting policy may be expanded to include all three days.

Incident. Any event caused by weather on the roadway, such as a crash, a rock slide, flooding, etc. shall be reported with the beginning and ending mileposts. Specify the time limit of these

reports as it is necessary to delete these reports when the incident is over; these reports do not expire like the reports above.

Updates to road reports, and incident reports are required when conditions change! Keep all reports current and up-to-date.

ITD Area Foremen or designee must:

- Check/verify road conditions for the “Scheduled Winter Reports” prior to the State Communications Center (State Comm.) call-up as scheduled below.
- Attempt to answer all scheduled winter reports and report on his or her sections and provides exception reports if needed.
- Report incidents (crashes, rockslides) affecting ITD roadways.
- Immediately report all significant deteriorating or improving road condition changes that could affect the public safety (keep all “Road Condition Reports” and exception reports up-to-date).

Policy During Spring Breakup Season

Section 49-1005 Idaho Code provides authority whereby the Idaho Transportation Board may reduce allowable weight or size or permissible speeds of vehicles traveling on state highways if it is the opinion of the Board that operation of vehicles of legal weight or size or at legal speed limits will cause damage to the road by reason of climatic or other conditions or will interfere with the safe and efficient use of the highway by the traveling public.

When load and speed restrictions are applied, it is required that the District shall erect and maintain signs designating the limitations of weight, size, or speed at each end of such highway or section and at intersections with main travel ways. The restrictions are normally required throughout the spring breakup season that can start in January in lower elevations and extend through May at high elevations.

Anticipatory Weight Restrictions. The Idaho Transportation Department may impose weight restrictions to preclude or minimize damage to road sections caused by loss of strength during spring thaws and to extend the life of the road. Calculation of the date in which weight restrictions begin will be by form ITD 0239 with careful selection of weather station(s) and forecast values that most accurately represent the road, or section being considered.

Anticipatory Weight Restrictions shall commence the date the Cumulative Thawing Index is equal to or greater than 25 and projected to increase for the following 3-days

The Cumulative Thawing Index (CTI) is the running total of each days’ Thawing Index starting from a value of 0°F degree-days during the winter freeze. The daily Thawing Index is the amount the daily average temperature is above the reference temperature for that days’ date. The reference temperatures are in column M and the daily Thawing Index values are in column N of form ITD 0239.

For days in which freezing occurs, the CTI is reduced by one-half (1/2) of that days’ Freezing Index, provided the CTI does not decrease below zero (0). The daily Freezing Index is the amount the daily average temperature is below freezing (32°F). The Freezing Index values are in column P of the referenced form.

Because each day is either a thawing day or a freezing day when the daily Thawing Index is a positive number, the daily Freezing Index is set to zero (0), and when the daily Freezing Index is a positive number the daily Thawing Index is set to zero.

Notice of Anticipatory Weight Restrictions shall be 3-days before implementation.

After the thaw, the rate at which the road base regains adequate strength depends upon when the road base is completely thawed, the amount of moisture and the permeability of the road base and foundation, upon precipitation, etc. Therefore the duration of weight restrictions will vary from year to year. The end date of the weight restriction for each road or section thereof shall be estimated by the District, however load restrictions should last no more than 8-weeks.

Legal weights will be allowed for the 2-weeks following Anticipatory Load Restrictions.

Permitted over-legal weights may be permitted thereafter.

Type of Load Restrictions. Depending upon the type of road construction, the amount of moisture, temperature conditions, and severity of frost heaves and breakup, routes or sections of routes will be posted for restricted loadings to one of the following categories as required to protect the roadway and in the interests of public safety.

- Maximum of legal allowable weight.
- Maximum of 16,000 pounds on any axle.
- Maximum of 14,000 pounds on any axle.
- Maximum of 12,000 pounds on any axle.

Width Limitation on Two-Lane Road. A spring breakup weight restriction to less than legal weight shall automatically place a restriction on width allowed by over-legal permit. On any section of highway restricted to less than legal weight, the maximum width by over-legal permit shall be restricted to 12 feet 6 inches during the period of the weight restriction.

Speed Restrictions. On those sections of highways which are posted for a maximum of legal loads, or to less than legal loads, truck and buses with a gross weight of ten thousand (10,000) pounds or more will be restricted in critical areas to a maximum of thirty (30) miles per hour. Restricted speed zones will be marked by RED and YELLOW markers. A RED marker will mean speed is restricted to thirty (30) miles per hour and a GREEN marker will mean that legal speed may be resumed. These markers will generally be attached to existing speed limit signs, and on other sign posts and when properly used will afford protection to the highway subgrade and surface as well as speeding the flow of traffic. The District Operations Managers are responsible for initiating the load and/or speed limit restrictions for their particular area.

Over-legal Permit Policy During Spring Break-up. See DMV User Manual, Chapter 14, Policy During Spring Breakup.

Legal Weight Limits Maintained on Certain Highways. The policy of the Department will be to maintain legal load limits on the Interstate highway system. All other routes within the state are subject to Load Restrictions.

Method of Informing Interested Parties. The districts are responsible for entering into the TRAVELIQ 511 spring breakup restrictions and this information is published on the Web at

511.Idaho.gov. The "Trucking" page of the Website identifies spring breakup locations/restriction.

If Anticipatory Weight Restrictions are made, the date in which restrictions will be lifted and the date in which over weight permits will be allowed will be posted no later than 7-days after Anticipatory Weight Restrictions take effect.

The districts are responsible for monitoring all of their spring breakup entries, making sure they are updated as information changes and deleted when the restriction is no longer in effect.

Once the spring breakup restrictions are placed into TRAVELIQ (at least 2 days before the effective date) the district is responsible for erecting the required signing as shown in figure 7-13. The required signing should be in place the day before enforcement begins.

Port-of-Entry personnel will begin enforcement of the posted weight limits the day they become effective.

When restrictions are removed, the action will often be effective immediately in which case the District personnel should immediately remove the load and speed restriction signs.

Temporary Suspension of Posted Weight and Speed Restrictions. Spring breakup restrictions are required because of a seasonal characteristic in which freeze/thaw cycles occur, making the roadway unstable and reducing its load-bearing capability. The load bearing capacity may be temporarily restored by a freeze-up of the pavement after a section has been posted for load and speed restrictions.

Districts may provide a temporary waiver of the spring breakup restrictions by posting GREEN markers on the speed limit signs, and on other signs, if appropriate, within a section of highway posted for reduced loads. This temporary waiver would also need to be entered into TRAVELIQ

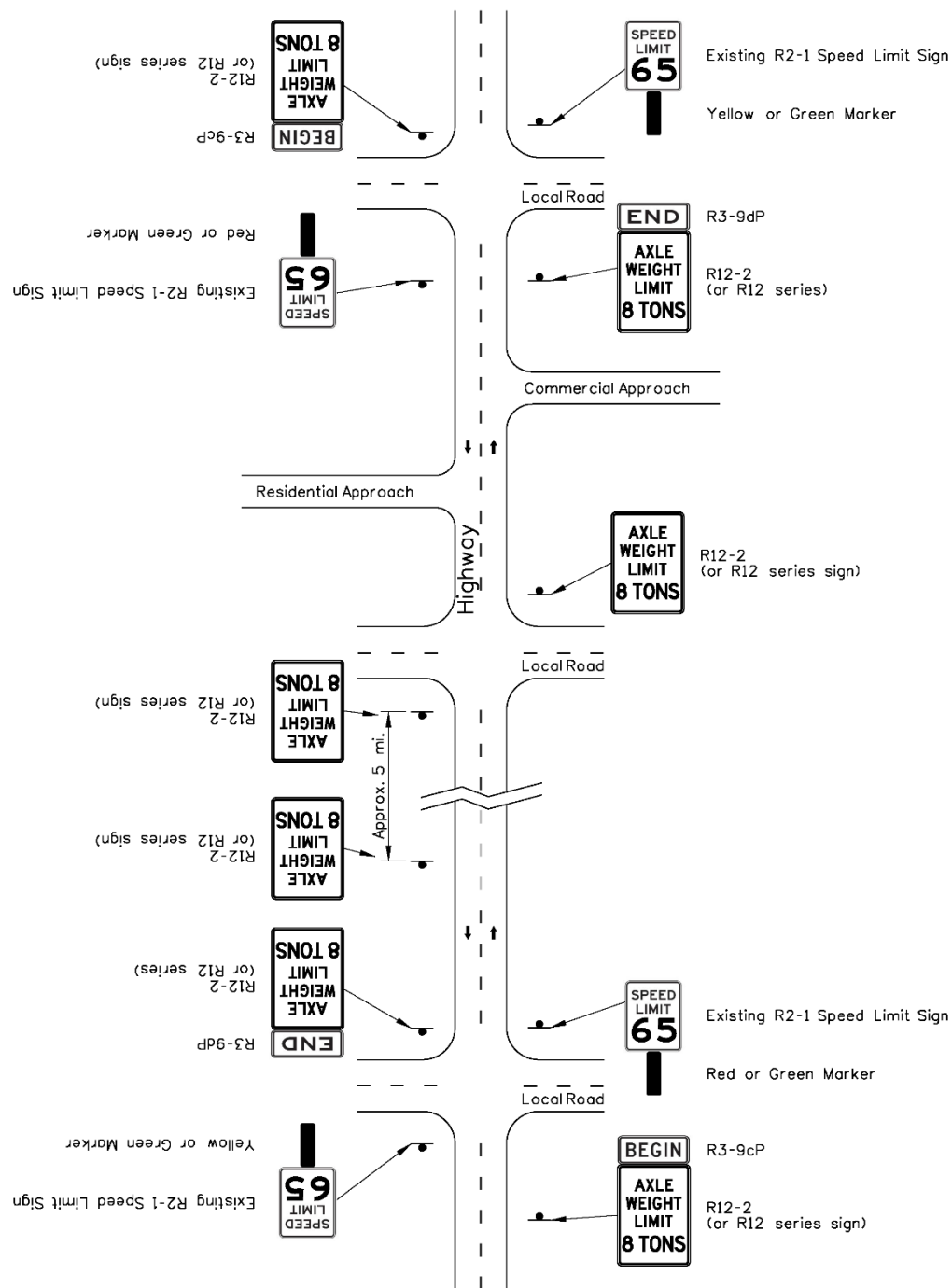


Figure 7-13: Break-up Signage

Special Allowances for Emergency and Critical Service Vehicles See DMV User Manual, Chapter 14, Policy During Spring Breakup Season.

Chapter 8 Facilities Maintenance and Stockpiles

Plumbing

According to Idaho Code, only a homeowner within their own home can replace or install new plumbing fixtures without the requirements of being a journeyman plumber. All plumbing repairs are exempt from this code. All other replacements or new installments fall under the jurisdiction of code. Everyone must obtain the proper permit to perform the replacement and new installment work and have it inspected. State employees are not exempt from this code.

Electrical

According to Idaho Code, Only a homeowner within their own home can install new electrical fixtures without the requirement of being a journeyman electrical. Electrical replacements (in-kind only, not to include upgrades) and repairs are exempt from this code. All other upgrades or new installations fall under the jurisdiction of code. Everyone must obtain the proper permit to perform the upgrades and new installation work and have it inspected. State employees are not exempt from this code.

Miscellaneous Maintenance

The district will establish ongoing methods to ensure that resident offices, maintenance buildings, storage buildings, fuel pumps, equipment, etc., are locked when there are no ITD employees occupying the premises. Periodically check for signs of intrusion and theft and inventory the keys to the padlocks on the gates to ensure that security is maintained.

Report cases of theft or vandalism of state property immediately to local law enforcement officers and the District Engineer.

Report building or yard fires. When a fire does occur, follow this procedure:

- Notify the fire department, the District Operations Manager, the District Engineer, and the Headquarters Facilities Manager.
- Write a complete report as soon as possible and send it to Employee Safety/Risk Manager with copies to the Chief Administration Officer and the Chief Operations Officer.

Unannounced spot checks of facilities and equipment are made by personnel designated by the District Engineer and also by assigned ITD Headquarters employees. Inspections are documented on form ITD 1966.

Energy conservation and safe practices shall be a major consideration for the facilities at all times. Our ultimate goal is to provide a safe, economical, comfortable, and pleasing place to work.

As new facilities are constructed, a few points concerning criteria must be considered. Unless properly justified, a new yard or site for a maintenance building must contain not less than six acres or more than ten. The number of equipment bays to be constructed for a maintenance building must be justified on the amount and type of equipment assigned to the facility to support the road maintenance load. The size of the sand shed shall be justified on the winter

climatic conditions for the need to store sand, the amount of sand to be stored, and the winter highway service levels assigned.

Preventive Maintenance Program

Maintenance programs and personnel responsibilities are identified in the following sections.

Buildings and Yards. The objectives/goals of this program are:

- To keep ITD building facilities and their associated equipment in a safe and serviceable condition.
- To monitor ITD buildings and their associated equipment to ensure proper maintenance and repair.
- To perform these tasks economically and within the allocated budget.
- To minimize emergency repairs and maintenance.
- To ensure maximum compliance of ITD building facilities with building, safety, fire, and access codes.
- To acquire and maintain floor plans, diagrams, layouts, and photographs of each building, its components, and related drainage at the district office and at Headquarters Facilities Manager.
- To keep up-to-date manufacturer's specifications on all equipment and materials used in or buildings.
- To set up a computer database for tracking building-related information. This would include developing a database of improvements needed to comply with updates in energy conservation, handicap access, and safety code improvements so these can be incorporated into major building remodeling projects.
- To ensure that an annual inspection and evaluation of each ITD building and related equipment is performed.
- To develop a building maintenance program whereby major building remodeling and replacement needs can be predicted and planned.
- To develop a building maintenance program whereby building preventive maintenance needs will be timely predicted and addressed.
- To maintain a record of building maintenance activities performed.
- To ensure that personnel know what to look for during inspections and what follow-up actions to take.

5S Method. The 5S method is a standardized process that when properly implemented creates and maintains an organized, safe and efficient workplace. ITD management believes 5S is an effective method to use to keep ITD facilities and associated equipment organized and in safe and efficient condition.

The 5S list is as follows:

- Sort: Separating of the essential from the nonessential items
- Straighten: Organizing the essential materials where everything has its place
- Shine: Cleaning the work area
- Standardize: Establishing a system to maintain and make 5S a habit
- Sustain: Establishing a safe and sanitary work environment
- For more information on how to implement 5S at your facility and training available see “5S” under the “Continuous Improvement” page on ITD’s web page.

District/Headquarters Facilities Manager Responsibilities. Assign a building monitor in charge of building inspection/maintenance. Provide at least one inspection per building per year. Implement a preventative maintenance program for all ITD buildings, including POEs and rest areas. Maintain a hard-file record (floor plan, maintenance, mechanical equipment, manuals, etc.) of the maintenance and repairs needed and performed on each building. Accompany Department of Labor and Industrial Services inspectors, as needed.

Facilities Manager Responsibilities. Assign a building coordinator for monitoring all ITD buildings in the districts and at headquarters.

Develop and maintain a computer database of inventory and the general condition status of all ITD yards and buildings.

Provide periodic spot inspections of ITD buildings.

Assist the districts in implementation of a building preventive maintenance program.

Perform evaluations of roof conditions and recommendations for repair or replacement.

Assist the districts in all aspects of building construction, necessary code compliance, and technical questions involving building repair and maintenance.

Provide technical assistance where violation of code compliance is discovered.

Perform the design of major remodel, rehabilitation, and replacement projects or procure design consultants.

Recommend energy conservation measures to be taken.

Preventive Maintenance Inspections and Service - Exterior. Inspections and service are performed in accordance with the following sections.

Structural Exterior (Annual Inspection) for Foundations, check the overall alignment of the structure. Look for settlement, deflection expansion, and contraction. Check the surface conditions for cracks, scaling, spalling, corrosion or chemical attack, deterioration, and water stains (does the area drain away from the building?).

For walls, inspect for appearance and condition of the wall finish. Check for blisters, cracks, and peeling. Check bolts, clips, rivets, nails, and other fasteners for tightness.

For metal buildings, check for rust and corrosion.

For masonry buildings, look for cracks, open mortar joints, efflorescence, and deterioration.

Repair all faults with state forces or outside contract as necessary.

Windows (Annual Inspection) Inspect all windows and casements. Open and close windows to check for binding of operating devices. Clean and lubricate mechanisms. Keep locking devices in operable condition. Check glazing and repair as necessary.

Doors (Annual Inspection) Examine jamb opening to ensure that the hinge and lock side are plumb and square. Keep all hinges, knobs, locks, rollers, guides, rails, and springs free from dirt, grease, and obstructions. Clean and lubricate all moving parts. Clean and lubricate motors according to the manufacturer's recommendations. Check all members for finish, swelling, shrinkage, and warpage. Clean door locks and lube with poxylube. Update the inventory for key control annually to prevent loss.

Overhead Doors (Semiannual Inspection). Inspect, clean, adjust, and lubricate all overhead door tracks, rollers, cables, and lifting gear drives. Clean and lubricate motors according to the manufacturer's recommendations. Tighten or straighten the bracing members. Check all bolts for tightness, as they have a tendency to work loose. (Adjustment of door alignment and spring tension is essential to proper door operation. Qualified personnel must adjust the spring coil tension.)

Weather Stripping and Caulking (Annual Inspection) Inspect all caulking and weather stripping for proper seal. Repair and replace as needed to keep these components effective. If new cracks have developed in the walls or around the windows and door frames, etc., caulk at this time. Use a high quality caulking compound, such as silicone base compounds, for long life and durability.

411.02.06 Roofs (Annual Inspection) All roof inspections should include photographs for maintenance records.

Check the supporting structure for expansion, contraction, cracks, spalling, deck supports, dry rot, moisture stains, and fasteners.

Give the system description (deck type, insulation, and roof type – BUR, coal tar, PVC, EPDM, hypalon, composition, wood, metal) and the general appearance (physical damage, debris, ponding water, etc.).

Inspect the roof for bare spots, blistering, splits, cracks, ridging, loose laps and seams, punctures, fasteners, slippage, and general deterioration.

Check flashing, counter flashing, coping, and parapet walls for any signs of deterioration.

Check all roof penetrations and mechanical equipment for signs of damage or deterioration.

Inspect the roof for drainage. Check for adequate slope. Look for signs of ponding water. Make sure the roof area and drains are clean and free of debris.

Most roofs require some type of venting, so check for adequate air flow, condensation, and eaves icing.

Roof inspections should be performed in the spring or early summer, so any repair work can be scheduled for the summer months. If it is economically feasible to completely rebuild the roof system, consider energy conservation as a factor in choosing a system.

Walks, Drives and Parking Lots (Annual Inspection). Inspect the entire surfaced area. Include photographs in the maintenance records.

Check for holes, cracking, settling, edge breaking, and standing water. Determine the cause of any standing water. If the drainage area is clogged, clean it immediately. All concrete and asphalt areas are to be kept in a clean condition.

Seal concrete expansion/contraction joints with silicone sealer in all walkways, slabs, foundations, etc.

Schedule maintenance and repairs in a timely manner to avoid further damage or deterioration.

Yard Area Including Landscape, Fences, and Gates (Semiannual Inspection). Establish an ongoing program for yard maintenance to keep the roads patched and the yard graded, drained, neat, clean, and arranged in an efficient working condition.

Maintain driveways in good condition. Do not store material or park vehicles on them. Whenever possible, designate definite parking areas for ITD equipment, employees' cars, and visitors' cars. Issue instructions for confirmation with this ruling. Where conditions allow it, paint traffic lines to guide the driver.

Schedule a work force, as needed (normally twice a year), to remove all weeds to eliminate fire hazards. Materials being stored can be palletized for easy movement to assist in this program.

Inspect areas around trees and shrubs for damage caused by root or branch systems (tree branches rubbing the roof membrane or roots causing cracks in foundations or walkways, etc.). Inspect for disease and pest damage. Consult the roadside foreman for information on diseases and control.

Adjust, tighten, and repair all security fences and gates, as required, so they are adequate for the use intended. Erect and maintain adequate signs to notify unauthorized personnel of the regulations within the grounds.

Fuel-Dispensing Station (Semiannual Inspection). Perform a visual inspection of the pumps and hoses. Look for loose fittings, cracked hoses, etc. All pumps should be fitted with a fuel hose breakaway valve. When possible, the pump panels should be removed to check for loose fittings, etc. The emergency shutoff switch is to be checked for proper function.

The uniform fire code requires a clearly labeled manually operated pump master switch to be located within 75 feet, but not closer than 15 feet, to the pump. Where such master switch is not visible from all dispensers, the location shall be indicated by approved signs. Signs identifying the pump master switch shall be labeled EMERGENCY PUMP SHUTOFF. The master switch on all individual pump circuit switches shall be set in the "off" position before closing the motor vehicle fuel-dispensing station for business at any time. Install appropriate signage if it does not already exist.

A fire extinguisher with a minimum rating of 2-A, 20-B:C is to be provided and located not more than 30 feet from any pump, dispenser, or fill pipe opening.

Schedule any necessary maintenance immediately.

Preventive Maintenance Inspections and Service – Interior. Inspections and service are performed in accordance with the following sections.

Walls, Ceilings, Floors and Finish (Annual Inspection). Check ceiling and walls for cracks, holes, stains, and signs of structural stress. Determine the cause of the defect and correct it before repairing the surface.

Check the ceiling and walls for overall appearance and schedule necessary cleaning or painting. Paint materials selected should be of high quality.

Inspect the floors for settling, warpage, curling edges, cracking, shrinkage, and operational abuse. Determine the cause and schedule repairs.

Check the floor finish and refinish as necessary.

Check the carpet for holes, snags, worn spots, and damaged seams. In areas of excessive use, reroute traffic by moving furniture if possible.

Check the carpet for cleanliness and clean the carpet as necessary (dry cleaning or steam cleaning). Care should be taken so the carpet does not get too wet. Avoid dry cleaning rubber-backed carpet, as solvents will cause deterioration.

Stairways and Handrails (Semiannual Inspection). Keep stairways adequately illuminated and clear at all times. It is advisable to equip all stairways with nonskid treads.

All stairways having two or more risers, except those used to attend equipment only, require continuous handrails on each side. All handrails should project from the wall 1-1/2 inches and be mounted 34 inches to 38 inches above the nosing of treads and landings. Ensure that railing is secure and functional.

Cabinets, Shelving, and Work Areas (Annual Inspection). Check cabinets and hardware to ensure proper working condition. All tiers and shelving units are to be secured to prevent sliding, falling, or collapsing.

All passageways, storerooms, and work areas are to be kept in a clean and orderly condition.

Electrical (Annual Inspection)

All electrical inspection and work are to be performed only by qualified personnel (electricians).

Distribution System. Check the wiring system for loose connections, bare conductors, defective outlets and switches, and faulty wire insulation. Look for signs of overheating, short circuits, grounds, and damaged or defective splices. Check for dirt, grease, and moisture. All wiring, fittings, and controls should be clean and dry.

All controls and outlets should be grounded to minimize accidents. All electrical devices installed near explosives or flammable materials must be explosion-proof. All receptacles installed in bathrooms or within 6 feet of a water source, and those installed in garages, shops, or outside, must have ground fault circuit-interrupter protection.

Inspect all electric panels. Check all fuses or breakers for proper operation, size, function, pitting, signs of heat, cracks, and labeling. Clean with low pressure air to remove dust. Remove covers on auxiliary disconnects and relays and clean in the same manner.

Where possible, check raceways for rust, corrosion, and other damage. Clean exposed areas.

Motors. Inspect and clean all electric motors properly with low pressure air to remove dust and clean any dirt or oil buildup with an approved solvent. Lubricate all bushings and bearings according to the manufacturer's recommendations. If the bearings or bushings show excessive wear, schedule replacement before the windings are damaged by rubbing on the motor fields or frames. Adjust any belts at this time. Ensure that motors have the proper guards in place and that the motor is receiving proper ventilation.

Lighting. Inspect and clean light fixtures, reflectors, and bulbs annually. If a large amount of dust accumulates, additional dusting is required.

Check for loose connections, faulty wiring, and slow starting or flickering bulbs.

Heating. Inspect and clean unit heaters, baseboard heaters, and fan blades of all residue, dust, and dirt buildup. Check for function or appliance. Look for cracked cords, faulty mechanisms, etc.

Communications. Check telephones for proper function, dial tone, any call lights, etc. Check cords for cracks or damage. Phone wiring should not run along floor space where there is any possibility of someone tripping over the cord or damage occurring to the line. Any repair work or changes to the phone system should be performed by qualified telephone company personnel.

Fire and smoke alarm systems require testing to ensure proper function. According to the Americans with Disabilities Act, any audible alarm system also must have visual strobe type alarms integrated into the system for the hearing impaired. See the ADA accessibility guidelines for specific requirements. Guidelines may be obtained from the ITD Headquarters Building Inspector.

Cords. Keep all drop cords, extension cords, and tool cords in good condition and free from breaks and fraying, which could cause shorting and fires. Do not cut or remove the ground prong from electrical cords. Do not locate extension cords in walkways or other paths of travel.

Operations and Maintenance Manuals. Keep all manuals and manufacturer's specifications on file. Refer to them for specific maintenance requirements. All electrical outlets in any building should be on a line drawing. Appliances, motors, panels, etc., should be included for easier maintenance and repairs.

Mechanical (Annual Inspection)

Inspections are performed in accordance with the following sections.

Water Supply. Water supply components consist of the following sections.

Fixtures. Inspect all fixtures, including drinking fountains, for leakage. Look at the surrounding area for signs of moisture. Check for proper functioning of sink faucets and water closet flushing and ensure proper drainage. Remove the faucet face plate or strainer and clean mineral deposits. Keep fixtures in a clean condition. All service sink fixtures and fixtures that allow hose hookup require backflow preventers.

Safety Showers and Eye Wash Units. Safety showers and eye wash units must be provided where the eyes or body of any person may be exposed to injurious or corrosive materials and must be within the work area for immediate emergency use. Eye wash units must have a flow rate of 0.4 GPM for 15 minutes. Inspect, clean, and service these units semiannually to assure their working capability. Self-contained or portable eye wash units must have the same flow rate as fixed units, but should be serviced monthly.

Floor Drains; Maintenance Sheds, Service Stations and Shops. During normal vehicle operations, repair and maintenance activities, vehicle fluids may drip or spill or otherwise enter floor drains in facility bay areas. These fluids can introduce various toxic chemicals into sources of drinking water.

When used together, the following Best Practices significantly minimize wastewater, promote regulatory compliance and reduce environmental liability.

- Designate only one bay for any type of service/repair operations
- Motor vehicle fluids, parts washers kept in same designated area
- Motor vehicle fluid containers to have secondary containment
- Floor drains covered or protected when servicing or repairing
- Sanders emptied before parking in maintenance sheds after post storm event
- Nothing but melt water and tap water shall enter floor drains
- Dry cleaning method instead of water cleanup when possible
- Water only washing of floors, only after spills are absorbed, the floors swept
- Washing of equipment indoors should consist of water only washing or use phosphate free, nontoxic, biodegradable soap
- Washing equipment outdoors on a paved surface where water is contained on our property using phosphate free, nontoxic, biodegradable soap
- At a minimum, monthly inspecting and yearly scheduled cleaning of the floor drain systems; floor drain booms placed inside floor drains, checked monthly and replaced as needed

Good housekeeping, storage, and handling practices can greatly minimize wastewater quantities and costs for disposal as well as reduce potential for employee exposure or environmental contamination.

Disposal. Disposal of materials must be accomplished in accordance with all applicable Federal, State, and Local regulations.

Piping, Tubing and Valves. Check exposed plumbing for leakage, corrosion, loose connections, loose bolts on flanges, and clamp-type connections. Inspect piping for the proper color coding as follows:

Fire Lines	Vermilion Red
High Pressure Steam	Dark Orange
Low Pressure Steam	Light Orange
Condensate Return Lines	Grayish White
Hot Water Heating Lines Supply	Dark Green
Return	Light Green
Domestic Cold Water	Dark Blue
Soft Water	Label every 10 feet
Domestic Hot Water	Light Blue

Chilled Water	Dark Blue with 6-inch yellow bands every 6 feet
Air Lines	White
Gas Lines	Yellow
Waste and Vent Lines	Brown

Unexposed and underground plumbing requires looking for water stains on walls and ceilings, unexplained moisture on floors, and exterior evidence of leakage, ponding, erosion, and settlement of areas adjacent to piping.

Inspect valves for leakage and cracks. Clean the valve assembly and any strainers in or before the valve. Lubricate the valve stem and check the packing and seat.

Inspect pipe insulation for any damage and repair, as necessary. Care should be taken with insulation that might contain asbestos. When in doubt, have a sample tested for content.

Exposed hot water and drain pipes under lavatories used by physically disabled persons shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.

Inspect water heaters for cleanliness, rust, corrosion, leakage, loose connections, automatic controls, combustion chambers, and burner assemblies. Lubricate any moving parts of mechanical devices. In order to reduce the possibilities of personal injury, all water heaters must have a pressure relief valve installed, with the discharge being piped to within 18 inches from the ground. Schedule any necessary repairs immediately.

All external pumps (not submersible pumps, etc.) are to be inspected and serviced annually. Check for general performance, liquid flow, and leaks. Inspect the diaphragm for cracks and leakage. Check the packing and lubricate the bearings.

For sewer and septic inspection, check for wastewater flow and leakage. Check any tanks that are directly connected with potable water supplies and sewer connections. Correct any possibility of backflow. Inspect any manhole frames and covers for rust, corrosion, poor fit, and physical damage. Check concrete surfaces for cracks, breaks, spalling, etc., and make repairs. Check the septic tank water and sediment levels. When sediment is within 24 inches or less of effluent invert, the septic tank should be pumped out. When the liquid level is high, outside flooding, defective operation of the siphon, or a clogged drainage field is indicated. Determine the cause and correct it.

Air Supply. Check and service the air compressor pressure relief valves and drain the condensate from the holding tanks. Check the compressor for oil leaks and tighten the seals or replace the gaskets as required. Check the air lines for cracks and loose fittings. A water separator, filter, and an air dryer may be added to the compressor if there is a large amount of condensate build up. The air compressor holding tanks are to be drained daily to prevent corrosive damage to the tank.

Heating and Cooling Systems. Inspect the fuel supply lines for leaks or possible problems.

Check all fluid levels. Check the heat pump for proper function. Clean and lubricate the bearings.

Clean the fan units with low pressure air. Lubricate the bearings. Check all belts for alignment and tension. For safety, all fans, belts, and similar equipment should have guards in place.

Turn off all gas- or oil-fired pilot lights on furnaces and unit heaters at the close of each heating season. At the start of each heating system, clean and relight the pilots. Clean any dust, oil, or grease buildup on the coils, heating elements, etc. Check the fuel lines for leakage or damage. Consider replacement of pilot lights with electronic firing devices in the future for conservation of energy.

Inspect and clean air conditioners and cooling units at the start of each cooling season.

Inspect all exposed duct work for air leaks, rust, and corrosion and make repairs as necessary. Maintain clean ducting and grill work.

Check all thermostats and controls for proper function.

Remove, clean, or replace all heating-cooling unit air filters a minimum of twice a year or per the manufacturer's instructions. If the filters show an excessive amount of dirt buildup, change them more frequently to prevent reduction of efficiency of the units. Check for a good seal around the filter units. A clean filter in the heating unit saves on fuel costs and interior painting.

When servicing oil-fired units, change the supply oil filter.

Except for air filter changes, all service work on heating-cooling units is to be performed by qualified personnel only.

Fume Exhaust Systems. Inspect the fume exhaust system (controls, etc.) for proper function. Keep the system in a clean condition. Clean or replace the air filters according to the manufacturer's recommendation. Lubricate moving parts as necessary.

Hoist Inspections. Overhead hoists located in the shops, maintenance sheds, and any other buildings within the districts will be inspected on a daily, monthly, and annual basis. The daily and monthly inspections will be performed by the operator and/or the district hoist inspector following the manufacturer's suggested procedure outlined in the operator's manual. The annual inspections will be performed by one of the district hoist inspectors trained to perform these inspections. The inspections will be done in accordance to the manufacturer's recommended procedures and to OSHA and ANSI standards. All monthly and annual inspections will be documented on an ITD 2756 form and kept on file in the building in which the hoist is mounted. One copy is to be retained in the district shop so that the hoist inspectors will have easy access to these files.

Operation and Maintenance Manuals. Ensure that all manuals and manufacturers' specifications are on file. Refer to them for specific equipment maintenance requirements. All mechanical equipment, piping, and fixtures should be included in the building line drawing.

Housekeeping and Safety

Maintenance and inspections are performed in accordance with the following sections.

Exit Signs. Inspect, clean, and service lights and exit devices semiannually. Every exit sign must be suitably illuminated. Some exit sign lights require bulb changes frequently, unless a heavy-duty, industrial, long-life, low-wattage bulb is used. Bulbs shall have an intensity of not less than 5.0 foot candles.

Storage and Disposal of Hazardous Materials.

Storage of Hazardous Materials. Hazardous materials must be stored based on their compatibility, not simply in alphabetical order. Store materials of the same hazard class together.

Hazardous substances should be stored in an orderly manner with older products most accessible and the newer products least accessible.

Good housekeeping must be practiced in areas where hazardous products are stored.

All hazardous materials must be properly labeled including their exact contents, hazardous properties, date of receipt, and if appropriate, date of expiration.

Hazardous substances should be stored in original containers in which they were packaged at the manufacturing plant. If this is not practical, these products should be transferred according to manufacturers' recommendations into containers that are constructed to withstand the effects of the product over the maximum storage time. They should also be labeled of their contents.

Incompatible materials must not be stored such that they may come in contact with each other.

If mixed incompatible materials may result in toxic gases, fire or explosion.

Disposal of Hazardous Materials. The disposal of most hazardous materials is strictly regulated by federal law. Do not dispose of any hazardous material in the sewer, on the ground or in the trash.

ITD has a hazardous materials contractor that is responsible for collecting hazardous waste and treating it or preparing it for shipment to an approved hazardous waste disposal facility.

Waste products must be clearly labeled with the complete names of the contents and they must be stored in non-leaking, safe containers. The District hazmat coordinator can be contacted for disposal.

By law, the Department is required to strive to reduce the amount of hazardous waste it generates; therefore, the Departments should take the following measures:

- Buy only those amounts of hazardous materials which can be used before the expiration date of the material
- Use up the hazardous material by using it for the purpose for which it is intended
- Determine if someone else in the department has a legitimate need for, and can use, the product

Aisles, Stairs and Floors

Every exit, aisleway, stairway, and way of travel or open space shall be continuously maintained free of all obstructions or impediments for full instant use in case of fire or other emergency.

All such areas shall be kept clean, orderly, and in a sanitary condition.

Storage of Tools and Equipment. Keep benches, machines, and floors free from accumulating trash, grease, and dirt. Do not leave tools and/or equipment lying around. When tools and equipment are not in use, store them in their assigned carrying case, cabinet, shelf, etc.

Wash and Locker Rooms. Wash rooms, showers, and locker rooms are to be kept in a clean and sanitary condition. Showers are to contain hot and cold water and appropriate cleansing agents.

Light and Ventilation. Windows, skylights, and light reflectors shall be maintained in a reasonably clean condition and work places shall be appropriately illuminated based on the nature of the operation.

Ventilation shall be adequately provided in all buildings and structures customarily used by personnel. Both natural ventilation and mechanically operated ventilating systems shall be utilized. In areas where toxic and noxious and/or objectionable fumes are present, ventilation shall be to the outside of the building.

Safety Equipment. Inspect safety and protective equipment to ensure adequate protection against the particular hazards for which they are designed. The equipment shall fit snugly, be reasonably comfortable, and shall not unduly interfere with the movement of the wearer. All safety equipment shall be approved by the American National Standard Practices, OSHA, or other regulating organization.

Equipment is to be kept in proper repair and a clean condition. Inspection should be performed during the cleaning process.

For requirements for respirator use, regulations, and control, refer to the Safety/ Loss Control Manual.

Power Tools. Check cords for frays or damage. Cords shall be double insulated or be the grounded type (3-wire). Do not use any tool or cord that has the ground prong removed.

Inspect power tools for required guards, guides, and tool rests. Look for worn or damaged parts. Remove any tool from service that has any defect. Where applicable check the fluid levels and lubricate equipment according to the manufacturer's recommendations.

Ladders and Scaffolding. All ladders are to have a Type I or Type II rating, depending on its intended use. Ladders shall be maintained in good condition at all times. All steps, side rails, and hardware shall be securely attached and the movable parts shall operate freely without binding or undue play. Frayed or badly worn rope shall be replaced. Ladders shall be inspected frequently and those that have developed defects shall be withdrawn from service until repaired or destroyed and shall be tagged as "DANGEROUS, DO NOT USE."

Scaffolds and ladders shall conform to Idaho Division of Building Safety General Safety and Health Standards (Section 072 – Ladders and Section 073 Scaffolding). Scaffolds shall be capable of supporting, without failure, at least four times the maximum intended load and shall be maintained in a safe condition.

Any scaffold damaged or weakened from any cause shall be immediately repaired and shall not be used until repairs have been completed.

First-Aid Kits. First-aid kits shall be made available and accessible to all personnel.

Inspect, inventory, and restock first-aid kits at least twice a year. Approved first-aid supplies must be readily available to comply with OSHA Safety and Health Standards (29 CFR 1926.50).

Fire Extinguishers (National Fire Protection Association (NFPA 10))

If employees use portable fire extinguishers, they must be selected and positioned based on the potential type and size of fire that can occur. The following guidelines will help you identify the number and types of portable fire extinguishers you should have.

Class A (paper, wood). The National Fire Protection Association (NFPA) recommends that locations such as offices, classrooms, and assembly halls that contain mainly Class A combustible materials have one 2-A rated extinguisher for every 3,000 square feet.

OSHA requires that all employees have access to an extinguisher within 75 feet travel-distance

Class B (gasoline, diesel fuel). Locations that contain Class B flammables, such as workshops, storage areas, research operations, garages, warehouses, or service and manufacturing areas requires that all employees have access to an extinguisher within 50 feet travel-distance.

Light (Low). Small amounts of flammable liquids used for copy machines, art departments, etc., that are stored safely and kept in closed containers. 5-B rating, 30 feet travel distance or 10-B rating, 50 feet travel distance.

Ordinary (Moderate). The total amount of flammable liquids are present in greater amounts than expected under low-hazard locations. This can include garages, workshops, or support service areas. 10-B rating, 30 feet travel distance or 20-B rating, and 50 feet travel distance.

Extra (High). Locations where flammable liquids are present and used in large quantities. This includes areas used for storage, production, woodworking (finishing), vehicle repair, aircraft and boat servicing, or where painting, dipping, and coating, operations are performed with flammable liquids.

40-B rating, 30 feet travel distance or 80-B rating, and 50 feet travel distance.

Class C (electrical, overheated motor). Class C extinguishers are required where energized electrical equipment is used. The extinguisher size and spacing is based on its Class A or B hazard. Once the electricity is shut off the fire can be classified as a class A or class B fire.

Class D (metal shavings). Locations where combustible metal powders, flakes, shavings, or similarly sized materials are generating at least once every two weeks must install Class D portable fire extinguishers not more than 75 feet from the hazard.

Mounting. Portable fire extinguishers shall be installed so that the top of the extinguisher is not more than 5 feet above the floor and the clearance between the bottom of the extinguisher and the floor be less than 4 inches. Extinguishers over 40 pounds shall not be mounted higher than 4 feet and the clearance between the bottom of the extinguisher and the floor be less than 4 inches.

Inspection. Inspect all extinguishers at least once a month. (Performed by ITD maintenance personnel)

1. Is each extinguisher in its designated place, clearly visible, and not blocked by equipment, coats or other objects that could interfere with access during an emergency?
2. Is the nameplate with operating instructions legible and facing outward?
3. Is the pressure gauge showing that the extinguisher is fully charged (the needle should be in the green zone)?
4. Is the pin and tamper seal intact?
5. Is the extinguisher in good condition and showing no signs of physical damage, corrosion, or leakage?

6. Have all dry powder extinguishers been gently rocked top to bottom to make sure the powder is not packing?

A certified person (contracted service) is to inspect, weigh, clean, and service all fire extinguishers at least once a year. Mark and date the inspection card that must be attached to the fire extinguisher at all times. Damaged, discharged, or faulty extinguishers must be replaced.

Bulletin Boards. Every maintenance building, shop, garage, and office shall have a bulletin board reserved for posting safety memoranda, posters, and other information pertaining to safety.

The bulletin boards shall be located in a prominent, well-illuminated place where they will be readily accessible to the greatest number of employees.

Safety Painting. Inspect all areas requiring safety painting. The required colors are as follows (see Figures 8-2 and 8-3):

Red/vermilion	Fire equipment
Black and white	Clear areas
Yellow	Overhead door guards, jambs, and bottom panels, equipment guards, handrails
Blue	Electrical door panels
Green	Safety equipment locations and first-aid kit locations

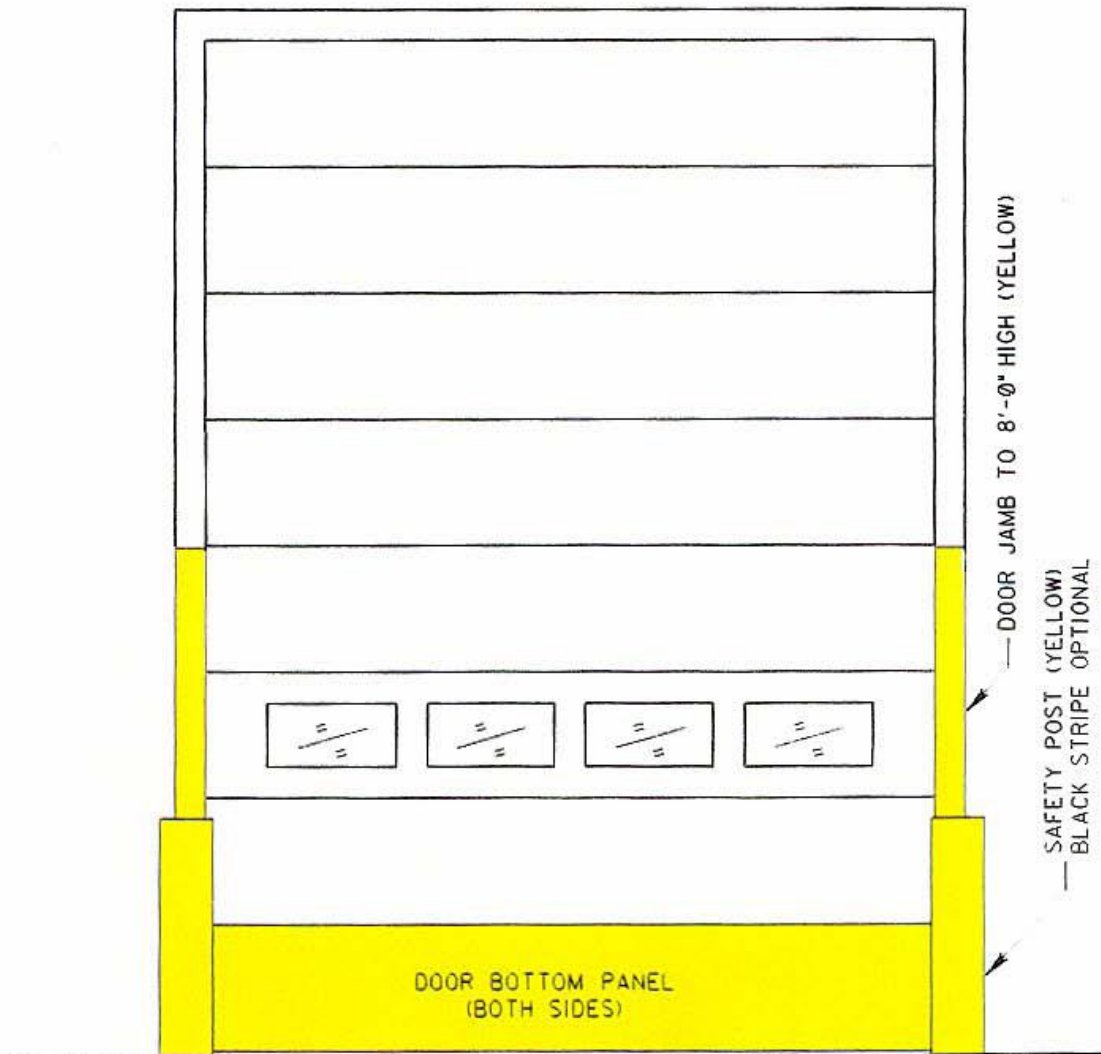
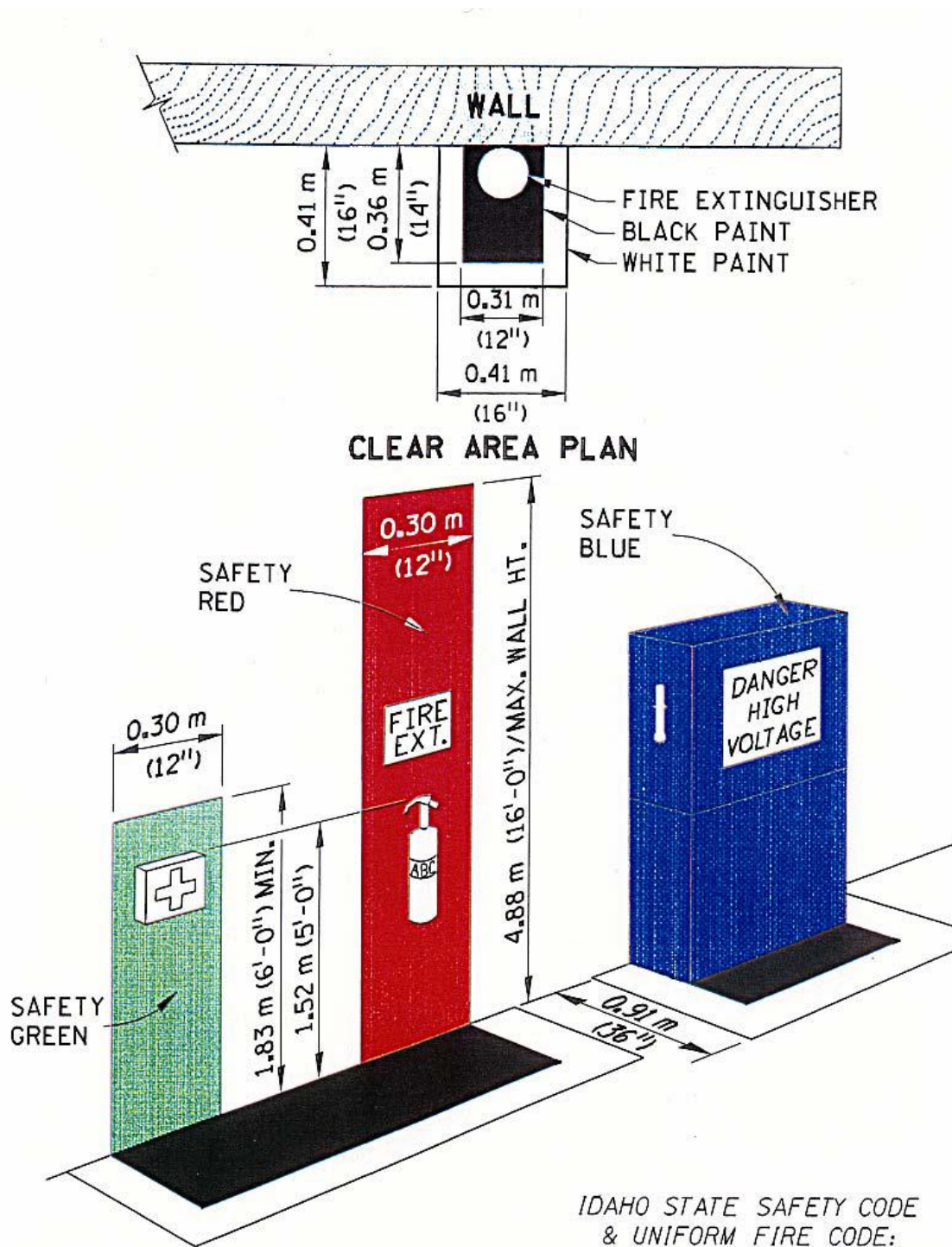
Figure 8-2**SAFETY PAINTING****OVERHEAD DOOR SAFETY COLOR MARKING**

Figure 8-3



EXAMPLES OF USE OF CLEAR AREAS

Sand Sheds

Extensive damage has been experienced in some concrete and metal sand sheds as a result of salt storage. Salt or wet sand-salt mixtures should not be placed in contact with concrete or metal. In those instances where it is possible that this may occur, extreme care must be taken to prevent the intrusion of chlorides into the concrete and metal surfaces by use of suitable sealer, coatings, or liners.

Work Requested by Other State Agencies

Other state agencies occasionally request that maintenance or minor construction work be accomplished at their facilities by ITD forces. Before any work that will cost more than \$1,000.00 is performed, a written request detailing the work must be submitted to the Facilities Manager for approval. If approval is granted, a work authorization is initiated for the project. Projects that exceed \$15,000.00 require approval of the Permanent Building Fund Advisory Council (PBFAC). Approval will be coordinated through the Facilities Manager and the Division of Public Works.

Used Oil Generation

ITD vehicle repair shops, service stations, and state road maintenance fleets are considered as used oil generators.

Used oils include crank case oils, gear oils, brake fluids, transmission fluids, and hydraulic oils. Used oil cannot contain any part of washer fluids, carburetor cleaner fluids, brake fluids or antifreeze.

Used Oil Management. Do not mix hazardous waste or other contaminated oils with your recyclable used oil, with the exception of diesel for use in used oil furnace units.

Used oil shall not be applied as a dust suppressant at any time.

Utilize good housekeeping procedures and encourage safe collection policies.

Used Oil Storage. Store used oil in clean, closed tanks or containers compatible with used oil. Storage containers shall be located outdoors.

Keep tanks and containers in good condition; no severe rust, no apparent structural defects or deterioration, and no visible leaking shall be present.

Used oil containers, aboveground tanks, and fill pipes on underground tanks shall be labeled or marked clearly with the words "Used Oil."

Insure all underground oil storage tanks (except for tanks used for storing heating fuels) with the State of Idaho Petroleum Storage Tank Fund.

Insure any aboveground oil storage tank (except for tanks used for storing heating fuels) with the State of Idaho Petroleum Storage Tank Fund. The decision to insure or not to insure aboveground storage tanks lies with the District Engineer.

Used Oil Releases and Spills. Upon releasing or spilling used oil, the following cleanup steps must be performed:

1. Stop the release.
2. Contain the released used oil.

3. Clean up and manage the used oil, as well as cleaning materials, properly.
4. Repair or replace any leaking container prior to reusing it.
5. If the spill or release is greater than 25 gallons and cannot be cleaned up within 24 hours, notify the regional Department of Environmental Quality office.

Used Oil Accounting. Request and file all used oil recycler/transport company shipment receipts in order to account for outgoing used oil quantities.

Keep a running account of the quantities stockpiled for burning in any used oil furnace.

Transporting Used Oil. Used oil taken from a satellite shed to the district headquarters facility shall not exceed more than 55 gallons at one time per vehicle.

Used oil transported off site by anyone, other than ITD employees utilizing ITD vehicles, must be done by a registered transporter that has acquired an EPA identification number to transport used oil.

Used Oil Filter Management. The following sections are instructions for draining, storing, etc., used oil filters.

Draining Used Oil Filters. All used oil filters shall be punctured and hot drained for a minimum of 12 hours before they are crushed and/or recycled as scrap metal or disposed of. Hot draining means removing the filter from the engine after the engine is at operating temperature. Hot draining can also be done by heating the filter after removal from the engine to ensure adequate drainage of the oil from the filter.

Storage of Used Oil Filters. Used oil filters shall be stored in open topped 55-gallon barrels. Under current regulations, used oil filters may be stored indefinitely if they are to be recycled.

Disposal of Used Oil Filters. Light-duty truck and car screw-on oil filters can be drained of oil and disposed of as a solid waste in an approved landfill. Heavy-duty vehicle spin-on oil filters must be handled as hazardous waste, and they are not to be disposed of in a landfill.

Recycling of Used Oil Filters. Identify and use local recyclers in your area that will take used oil filters.

Regulations for Used Oil Furnaces. Used oil generators may burn used oil in oil-fired space heating systems, provided that the generator burns only used oil received from ITD facilities. The heater must have a capacity of less than 0.5 million BTU per hour and be exhausted to the ambient air. Label the storage tank and fill pipes "Used Oil."

Stockpiling

Stockpile Identification and Inventory. The Business Support and Management Section is responsible for developing and publishing procedures for the control of stockpile inventories statewide. The Division of Highways ensures that the established procedures are followed in receipting, issuing, and controlling stockpile materials. Additional information regarding Stockpile Identification and Maintenance activities can be found at the Business Support and Management Sharepoint site. These may include production of premix, sand, sand and salt, and road aggregates.

Stockpile Usage Reporting. With the implementation of TAMS (Transportation Asset Management System) all stockpile material will be bought into inventory. TAMS will be the

system that records all mixing and usage based on entry from TAMS day cards. It will be the responsibility of District Supply Personnel to review for accuracy those transactions processed through Advantage via the interface from TAMS. Advantage IA (Inventory Adjustments) documents that are created as a result of mixing in TAMS will require an approval by the District Supply Personnel before the transaction is processed to final.

Stockpile Physical Inventory. The Business and Support Manager is responsible for the management and physical accountability of the Department's stockpiles. The Financial Services General Ledger Manager is responsible for assuring that there is adequate internal control of the Department's physical assets. The Financial Services General Ledger Manager or designee will provide physical inventory procedures to staff on an annual basis. District personnel are responsible for the physical inventory and system balance adjustment of the Department's stockpiles.

All items in the stockpile categories (88) and (50) must be counted. Physical measurement will be completed annually by the District Operations Engineer or Designee and submitted to the District Business Manager or designee on or before June 15th of each year. Inventory measurement must not begin prior to May 1st.

The unit of issue for all stockpile material is TON. The only exception to this is Salt Brine which is issued by Gal-Gallon. NOTE: Brine will not be inventoried.

The District Operations Engineer or Designee is responsible for establishing the most accurate method and procedure to determine the physical on-hand balance of a given stockpile. Measuring the stockpile establishes the volume amount of material in the stockpile. The unit weight of the stockpile material is determined by using a 3-year average unit weight by stockpile type (e.g., Salt, Anti-Skid, etc.). The 3-year average is determined by sampling five (5) stockpiles each year for each stockpile type to verify unit weights, and then use the calculated 3-year average unit weights for the rest of the inventory stockpiles in their district. This unit weight, by stockpile can then be used to convert from Cubic Yards to Tons.

Advantage Physical Inventory Process

Please refer to the annual notification from Financial Services concerning the physical inventory of stockpiles, warehouses and fuel sent out before May 1st. The annual notification includes the physical inventory procedures that should be followed

Stockpile Physical Inventory Reporting

The District Supply personnel will submit all documentation of the completed physical inventory to the District Business Manager. On or before June 15th of each year, the District Business Manager or designee will retain original count sheets and supporting documentation used in the completion of any physical inventory for four years and save a copy of the documentation to the Financial Services SharePoint Site.

Chapter 9

Road Equipment

Equipment Management

The management of the equipment fleet is the responsibility of the six districts and the Headquarters Maintenance Operations-Fleet Management group creating a Fleet Management Team. The districts and Maintenance Operations-Fleet Management each have unique responsibilities for managing the fleet. These responsibilities are described within this Chapter.

Headquarters. Maintenance Operations-Fleet Management group is responsible for:

- Maintaining, updating and distributing revisions to all equipment related policies and procedures.
- Purchasing, licensing, up-fitting, and managing the equipment fleet.
- Developing all vehicle and equipment specifications and purchase requests required by the Department in conjunction with purchasing guidelines.
- Developing and Monitoring the Road Equipment Replacement Budget
- Working with the Districts to establish complement levels based on need and usage
- Monitoring on-hand inventory levels and ensuring that complement levels are maintained.
- Evaluating equipment utilization and ensuring compliance with established standards.
- Managing the development and operation of ITD's Fleet Management System.
- Management of the Headquarters motor pool and equipment fleet including disposal.

Districts. The District Equipment Management staff are responsible for:

- Insuring the equipment in the district is operated and maintained in accordance with established policies and procedures.
- Insuring that the equipment is utilized to the greatest extent possible.
- Budgeting for the day-to-day activities of the District shops.
- Managing the operation of the District Shop.
- Maintaining equipment on-hand inventory consistent with established complement levels.

Fleet Management Team. The state Fleet Management Team consists of Maintenance Operations-Fleet Management Group, District Equipment Managers, and District Shop Managers. The team is responsible for:

- Developing the 5-year replacement plan.
- Monitoring the age and conditions of vehicles and equipment to ensure their timely and economical replacement
- Reviewing and directing the development of equipment management policies and procedures.

Equipment Management Objectives

The equipment management objectives are to provide Idaho Transportation Department employees with the most cost efficient and well maintained vehicles and equipment available as well as the training necessary to operate this equipment so they can perform their required job assignments in the most efficient manner possible.

Equipment Assignment

Equipment is assigned on the basis of need and usage. Accurate records provide information concerning the amount of usage. Employees with assigned equipment on either a permanent or temporary basis are responsible for keeping accurate records and performing the necessary preventive maintenance.

Equipment Complement

Road equipment is allocated to each district on the basis of need and availability. A complement system is used to establish the quantity of units assigned to each individual district.

The district complement is reviewed biannually by the Fleet Manager or designee and district personnel to determine if changes are required. The previous year's utilization figures and mileage reports as well as employee complement changes are used as consideration for adjustments made in the complement levels for each type of equipment. One for one category changes in complement for powered units will be allowed as needed. Requests for changes in complement resulting in an increase in the total number of power units must be made through the budget request process for each fiscal year. All complement level increases will be reviewed by the Chief Operations Officer (COO) during the budget review process. Approval by the COO is required prior to the purchase of additional units.

The Headquarters complement is reviewed annually by the Fleet Management personnel to determine if changes are required. Adjustments in complement levels require the same procedure as district complement adjustments.

On-Hand Inventory Levels

The District Equipment Manager is responsible for ensuring the on-hand inventory level of equipment is equal to the established complement level for each category of equipment. As new equipment is received, the District is responsible for ensuring that surplus equipment is disposed of in a timely manner. Surplus equipment can be retained for use during summer months of operation with planned disposal taking place during the fall of each year. All surplus

equipment shall be disposed of by December 31 of each year resulting in the on-hand inventory level being equal to established complement levels.

Equipment Transfer Procedure

Equipment is transferred from one district to another district through the use of Transportation Asset Management System (TAMS) Fleet module. This must be completed by the receiving district and forwarded to the Fleet Manager for approval.

Criteria for Vehicle Assignment

Individual vehicles can be assigned to personnel or work crews based on need and usage. All assigned vehicles are to be utilized at or near 100 percent of the Department assigned target utilization level. It will be the responsibility of the individual or work crew lead worker to make sure that all utilization is recorded on the proper forms. Assigned vehicles not receiving at or near 100 percent of target utilization can be reassigned to another location at the discretion of the District Operations Engineer or Fleet Manager.

Equipment Replacement Budget Process

5-Year Purchasing Plan. The Fleet Management team is responsible for developing a 5-year replacement plan for Road Equipment. The plan is used as a predictive tool to identify and prioritize equipment replacement with a unit cost of \$100,000 or greater.

The plan includes the three components that make up the budget request, replacement, buy-back, and additional equipment. The replacement equipment component is divided into seven equipment types: Snowplow Trucks, Passenger Vehicles, Light Duty Trucks, Construction Equipment, Large Specialty Equipment, Other Snow Equipment, and Misc. Equipment. Due to their low replacement unit cost, the plan does not list specific equipment for passenger vehicles, light duty trucks, and misc. equipment. However, for the other categories, the plan will list the specific equipment type, District, and the estimated replacement cost.

At each of the quarterly District Equipment Managers meetings, the plan is reviewed and updated throughout the year with a final decision to be made in May of the budget request cycle process. The 5-year plan document is stored on the Maintenance Operations SharePoint page so that all members have the ability to view and update the plan as necessary.

Budget Requests. Maintenance Operations-Fleet Management submits to Executive Management a list of the vehicles and equipment that will be at or beyond the determined economic life for such equipment. This list is accompanied by the estimated cost of replacement for the units to develop a proposed budget for road equipment replacement. The request includes the equipment identified in the 5-year plan in addition to all new or additional equipment requested by the District. New/additional equipment must be listed separately within the budget request. The buy-back portion of the request lists the quantity of units to be purchased for each type of buy-back equipment, along with the estimated proceeds that will be generated as equipment is returned. The final budget request lists all proposed purchases, proceeds, and net request amount.

Refer to Figure 9-1.

Budget Allocation Headquarters. The final approved equipment budget is allocated in a two-step process. The first step is to determine the amount of money needed to sustain the headquarters fleet, Buy-Back programs, new/additional equipment, and all units with a unit cost exceeding \$100,000 that were identified in the 5-year plan. The remaining funds are then allocated to funding replacement priorities recommended by the districts for passenger vehicles, light duty trucks, and miscellaneous equipment with a unit cost less than \$100,000.

Budget Allocation Districts 1 to 6. The districts are allocated a budget to replace vehicles such as sedans, pickups, light duty trucks, and other miscellaneous equipment with a unit cost less than \$100,000.

The money is allocated to the districts based on the amount of preventive maintenance performed by the district staff, the District equipment utilization, and the average age of the district fleet.

Preventive Maintenance. Ten (10) percent of the total district allocation is based on the amount of preventive maintenance performed on the vehicles and equipment in the district fleet. Of the ten percent, half is allocated on the basis of the number of work units completed and the remaining half is allocated on the number of man-hours required to complete the preventive maintenance. All types of preventive maintenance activities are utilized in the analysis for all types of vehicles and equipment.

Individual Fleet Age. Forty-five (45) percent of the district allocation is based on the current age of the district fleet for the equipment with a unit cost of less than \$100,000. The allocation process utilizes a weighted average based on individual equipment replacement cost.

District Equipment Utilization. The remaining forty-five (45) percent of the district allocation is based on the current District fiscal year utilization. As with the age allocation, only equipment with a unit cost of less than \$100,000 is utilized for the calculation.

Equipment Replacement & Procurement

Equipment Request Lists. Approximately one month prior to the start of the fiscal year, the individual districts are furnished with a Road Equipment Request form and the amount of their allocation. This form is utilized by the districts to inform Maintenance Operations-Fleet Management of how they wish to spend their allocated money for equipment replacement. The Complement, On-hand, Useful Life, and Unit Cost columns of the form are completed by Fleet Management for each district. The “No. Purchase This Year, Total Cost This Year, and Comments” columns are to be completed by the district and the form returned to Maintenance Operations-Fleet Management. The “Comments” column is to contain the equipment number of the unit(s) to be replaced.

In addition to completing the Road Equipment Request form, the district is required to complete a Disposal request in the Transportation Asset Management System (TAMS) Fleet for each unit identified in the “Comments” column of the Road Equipment Request form. (See Equipment Disposal later in this chapter).

Refer to Figure 8-3.

Replacement Criteria. Units identified for replacement on Road Equipment Request form shall meet the replacement guidelines for age stated in Figure 9-3. Units not meeting the replacement criteria established are eligible for replacement if supporting documentation describing the unit's condition and reason for early replacement is provided and approved by Fleet Management.

Documentation. All documentation for equipment sold prior to replacement guidelines will be retained by the Maintenance Operations - Fleet Management group and the requesting district. Documentation shall consist of but not limited to the justification for early disposal and equipment repair records.

Purchasing Schedule. A purchasing schedule is developed from the district equipment requests and the units listed on the 5-year plan. This schedule is distributed to the districts for informational purposes. The purchasing of equipment should be scheduled so the various types of equipment are received prior to the seasonal use of the equipment.

Purchasing Responsibilities. The purchasing responsibilities of the equipment fleet are divided between the districts and the Headquarters Maintenance Operations Section. Each District and Maintenance Operations will be responsible for specifying and obtaining quotations for equipment based on the value of the total purchase amount.

Maintenance Operations. Maintenance Operations administers all vehicle and equipment specifications and purchase requests required by the Department. Maintenance Operations equipment staff will be responsible for the specification development, and purchasing of all equipment types in which the total value of the statewide equipment procurement will exceed \$10,000.00 unless delegated to the Districts by the Maintenance Operations Manager. Although a single District purchase may not exceed this value, the value of all district purchases shall be used to determine if Maintenance Operations or District staff is responsible.

Maintenance Operations will complete the requisition process for all Road Equipment purchases regardless of the value of the purchase.

Districts. The District Equipment Manager may be requested to develop bid specifications and soliciting bid quotations for road equipment with a value less than \$10,000.00. The District shall obtain quotations and forward the quotations to Maintenance Operations.

Standard Vehicle Equipment

All passenger type vehicles and trucks will be equipped with air conditioning, cruise control, tilt wheel, power windows, power door locks, back up cameras, backing warning sensors, all-season tires, and split bench or bucket front seats to reduce driver fatigue and improve driver safety. Aftermarket window tinting is only allowed on striping truck front and rear cab windows. All other types of equipment will utilize the manufacture provided tint. All standard equipment listed above is subject to availability and cost. Other vehicle options may be specified if it has

been determined by the Maintenance Operations Section that it would be in the best interest of the Department in terms of cost and benefits to the operator.

Construction equipment such as motor graders, articulated loaders, backhoes, crawler tractors, farm type tractors, self-propelled brooms, skid-steer loaders and forklifts will be equipped with operator cabs that include heater and air conditioning.

Automatic transmissions will be purchased in all light-duty vehicles including sedans, pickups, vans, and trucks. All on-highway trucks will be equipped with automatic transmissions.

All Wheel Drive Vehicles. The purchase of all-wheel drive vehicles such as pickups, sport utility vehicles, and similar specialty vehicles shall be the standard configuration for all ITD vehicles unless otherwise requested by the end user. Justification for the purchase of non all-wheel drive must be provided at the time of request/order.

Snowplow Truck Fleets

Snowplow trucks have been identified as ITD's most critical type of equipment. Replacement of these trucks will take priority over all other types of equipment to insure snowplow trucks are operated in the most efficient manner possible, reducing ITD's overall cost. 6 x 4 snowplow trucks will be purchased on a District fleet basis, with ½ of each District's fleet of 6 x 4 snowplow trucks purchased each fiscal year based on the following schedule starting in FY-17:

- District 5
- District 1
- District 6
- District 2
- District 3
- District 4

Purchasing 6 x 4 snowplow trucks in District fleets has proven to provide many benefits. Some of the benefits are as follows:

- Districts will typically only have two types of trucks in which to maintain and train on.
- Fewer replacement parts have to be inventoried.
- An operator can change from one truck to another and will be familiar with the controls and operation.
- Operators and Mechanics can be trained at a lesser cost.
- All service and preventive maintenance schedules are alike which eliminates confusion.
- The equipment will be replaced on schedule and at the economic life instead of being retained past the economic life.
- The equipment fleet statewide will become more modernized through scheduled replacement.

DISTRICT (D) ROAD EQUIPMENT REQUEST F.Y. 20YY							
CATEGORY	DESCRIPTION	COMPLEMENT	ON-HAND	NO. PURCH. THIS YEAR	UNIT COST	TOTAL COST THIS YEAR	COMMENTS
100	SEDANS	2	2		\$23,000	\$0	
200	PICKUPS SMALL 1/2 T	14	17		\$29,000	\$0	
202	PICKUPS, LARGE 1/2 T	22	27		\$29,000	\$0	
204	PICKUPS 3/4 T	11	12		\$30,000	\$0	
206	TRUCK, POE ROVER				\$27,000	\$0	
207	PICKUPS, SMALL 4x4				\$21,000	\$0	
208	PICKUPS, LARGE 4x4	5	6		\$22,000	\$0	Add \$10k for Diesel
209	TRUCK, UTILITY 4x4	2	2		\$50,000	\$0	
210	VANS, SMALL	2	3		\$21,500	\$0	
211	VANS, FULL SIZE	4	6		\$26,500	\$0	
212	VANS, TESTING				\$27,000	\$0	
214	VANS, PHOTOLOG				\$733,000	\$0	
217	SUV				\$27,500	\$0	
218	SUBURBANS	2	2		\$40,000	\$0	
220	PICKUPS, 1TON REG. CAB				\$23,000	\$0	
221	PICKUPS, 1TON CREW CAB	17	19		\$43,000	\$0	
222	TRUCK, 1TON FLATBED				\$54,000	\$0	Add \$10k for Diesel / Incl box, etc...
223	TRUCK, 1TON UTILITY				\$125,000	\$0	
224	TRUCK, INCIDENT RESPONSE				\$102,500	\$0	
225	TRUCK, LO-PRO UTILITY	1	4		\$100,000	\$0	
226	TRUCK, 1TON DUMP REG. CAB	1	2		\$65,000	\$0	
227	TRUCK 1TON DUMP CREW CAB	11	12		\$65,000	\$0	
228	TRUCK, LO-PRO DUMP	1	2		\$95,000	\$0	
230	TRUCK STEER	1			\$130,000	\$0	
321	4x2 SNOWFLOW TRUCK	6	11		\$165,000	\$0	
324	FLATBED TRUCK	1	1		\$100,000	\$0	
326	CRASH TRUCK	5	1		\$125,000	\$0	
329	SKID TRUCK				\$400,000	\$0	
335	HOT PATCHER TRUCK	2	2		\$90,000	\$0	
336	UTILITY TRUCK	2	2		\$120,000	\$0	
337	WEED SPRAY TRUCK	1	1		\$250,000	\$0	
338	SMALL AERIAL TRUCK	1	1		\$100,000	\$0	
339	LARGE AERIAL TRUCK	1	2		\$235,000	\$0	
340	DIGGER DERRICK TRUCK	1	1		\$300,000	\$0	
342	STRIPING UNIT	1	1		\$550,000	\$0	
347	SCALE/POST DRIVER TRUCK				\$155,000	\$0	
364	ROTARY SNOWFLOW	3	3		\$550,000	\$0	
372	6x4 SNOWFLOW TRUCK	9	26		\$175,000	\$0	
373	6x4 ROCKBED TRUCK	1	1		\$185,000	\$0	
374	6x4 SNOWFLOW TRUCK W/WING	45	23		\$175,000	\$0	
375	COREDRIILL TRUCK					\$0	
376	TRACTOR TRUCK	3	4		\$115,000	\$0	
379	UNDERBRIDGE INSPECTION TRK				\$725,000	\$0	
392	MULTIPURPOSE TRUCK	3	4		\$158,000	\$0	
393	WATER TRUCK	5	7		\$285,000	\$0	
401	BACKHOLE	2	2		\$90,000	\$0	
402	LOADER 1/2 CY, 3/4 CY	5	5		\$75,000	\$0	
404	LOADER, SKID STEER	4	4		\$88,000	\$0	
406	LOADER 1.5 CY				\$145,000	\$0	
407	LOADER 3 CY	10	14		\$146,000	\$0	
408	LOADER 4 CY	4	6		\$190,000	\$0	
424	CRAWLER TRACTOR, MEDIUM	1	1		\$0	\$0	
426	CRAWLER TRACTOR, LARGE				\$0	\$0	
506	MILLING MACHINE (Asphalt Zipper)	1	2		\$165,000	\$0	
508	MOTORGRADER, 6x4	2	2		\$290,000	\$0	
510	MOTORGRADER, 6x6	4	5		\$300,000	\$0	
600	PULL GRADER				\$9,000	\$0	
610	PULL WINDROWER				\$9,000	\$0	
705	UNDERBODY FLOW				\$15,000	\$0	
706	FLOW WING, GRADER MT.	5	6		\$20,000	\$0	
707	FLOW WING, TRUCK MT.	47	36		\$20,000	\$0	
710	FLOW W-TYPE, FIXED				\$23,250	\$0	
711	FLOW W-TYPE, FOLDING	6	6		\$20,000	\$0	
712	FLOW, TOW TYPE				\$150,000	\$0	
713	LOADER MT ROTARY FLOW	1	1		\$25,000	\$0	
714	FLOW ONE-WAY	36	28		\$25,500	\$0	
715	FLOW TWO-WAY	48	44		\$6,300	\$0	
799	COMPRESSOR 0-50 CFM	3	3		\$2,500	\$0	
802	COMPRESSOR 161+ CFM	2	2		\$22,000	\$0	
804	JACK HAMMER				\$4,500	\$0	
805	PAVEMENT BREAKER	1	1		\$2,000	\$0	
806	SANDBLASTER	1	1		\$4,500	\$0	
810	DISTRIBUTOR, SMALL	1	1		\$60,000	\$0	
811	DISTRIBUTOR, LARGE				\$62,000	\$0	
812	HOT PATCHER, TRUCK MOUNT	2	2		\$130,000	\$0	
813	TAR KETTLE	3	4		\$55,000	\$0	
814	CRACK FILLER	2	2		\$45,000	\$0	
815	TAILGATE ATTACHMENT				\$8,000	\$0	
817	HOT PATCHER, TOW TYPE	4	4		\$80,000	\$0	
818	LAYDOWN MACHINE, SELF PROPELLED	1	1		\$101,000	\$0	
819	LAYDOWN MACHINE, FULL TYPE				\$7,500	\$0	

Figure 9-1

DISTRICT (D) ROAD EQUIPMENT REQUEST F.Y. 20YY							
CATEGORY	DESCRIPTION	COMPLEMENT	ON-HAND	NO. PURCH. THIS YEAR	UNIT COST	TOTAL COST THIS YEAR	COMMENTS
826	BOAT	1	1		\$8,000	\$0	
827	BOAT MOTOR	1	1		\$5,500	\$0	
828	BOAT TRAILER	1	1		\$2,000	\$0	
831	CONCRETE MIXER				\$3,000	\$0	
832	MORTAR MIXER	1	1		\$3,000	\$0	
833	CONCRETE SAW	2	2		\$5,500	\$0	
834	CUTOFF SAW	2	2		\$2,000	\$0	
836	CRACK ROUTER	1	1		\$12,000	\$0	
837	MISC. (COMPACTOR, WACKER)	10	17		\$3,000	\$0	
841	EARTH AUGER	1	1		\$3,000	\$0	
844	DIAMOND DRILL				\$85,000	\$0	
846	EARTH AUGER/DRILL	1	1		\$13,500	\$0	
847	FORKLIFT, TRUCK MT.	1	1		\$65,000	\$0	
848	FORKLIFT, SMALL				\$25,000	\$0	
849	FORKLIFT, MEDIUM	1	1		\$55,000	\$0	
850	FORKLIFT, LARGE	1	1		\$120,000	\$0	
851	YARD CRANE				\$55,000	\$0	
852	YARD TUG	1	1		\$16,500	\$0	
853	ELECTRIC WAREHOUSE EQUIP.				\$26,000	\$0	
860	SCREENER PLANT				\$140,500	\$0	
861	BELT LOADER	2	2		\$125,000	\$0	
864	LAWN TRACTORS	1	1		\$20,000	\$0	
866	SICKLE MOWER	3	4		\$24,000	\$0	
867	ROTARY MOWER				\$25,000	\$0	
868	BRUSH CHIPPER	4	4		\$50,000	\$0	
869	SLOPE MOWER	1	1		\$50,000	\$0	
870	FLAIL MOWER	2	2		\$60,000	\$0	
872	WATER PUMP UP TO 3-1/2"		1		\$2,000	\$0	
873	WATER PUMP 4" AND UP	1	3		\$19,000	\$0	
880	SMALL VIBRATING ROLLER	2	5		\$50,000	\$0	
881	LARGE VIBRATING ROLLER				\$80,000	\$0	
885	SANDER, 5 CY SLIDE-IN	2	1		\$28,000	\$0	
886	SANDER, 5 CY TRUCK MT.		5		\$30,000	\$0	
887	SANDER 9 CY TRUCK MT.	48	38		\$31,000	\$0	
887	SANDER 9 CY TRUCK MT.		5		\$30,500	\$0	
888	SANDER 9 CY SLIDE-IN				\$26,500	\$0	
889	SANDER/DE-ICER COMBO UNIT				\$68,000	\$0	
902	EXCAVATORS (Mini)	3	3		\$62,000	\$0	
902	EXCAVATORS	2	2		\$275,000	\$0	
905	TRENCHER				\$65,000	\$0	
906	TRUCK MOUNT BROOM	1	2		\$22,500	\$0	
907	MECHANICAL STREET SWEEPER	1	1		\$280,000	\$0	
908	TOW TYPE SWEEPER				\$15,000	\$0	
909	SELF-PROP BROOM	7	10		\$68,000	\$0	
910	VACUUM STREET SWEEPER	2	2		\$265,000	\$0	
911	1000/1600 GALLON DEICER TANK	14	15		\$23,000	\$0	
912	2500 GALLON DEICER TANK	3	5		\$115,000	\$0	
913	WEED SPRAYER TANK				\$15,000	\$0	
915	SEMI LOW-BOY	4	4		\$100,000	\$0	
916	SEMI BELLY-DUMP				\$30,000	\$0	
917	SEMI TANKER TRAILER	2	2		\$100,000	\$0	
919	OFFICE AND TEST	6	6		\$33,500	\$0	
920	TILT, RAMP 10 TON	5	5		\$33,000	\$0	
921	UTILITY 921	17	18		\$9,000	\$0	
922	SIGN	4	7		\$5,000	\$0	
923	MESSAGE	9	8		\$20,000	\$0	
924	TRAILER ATTENUATOR	7	6		\$20,000	\$0	
926	LIGHT PLANT	5	4		\$9,000	\$0	
927	WARNING SIGN, TRUCK MOUNT	14	12		\$8,500	\$0	
930	GENERATORS	4	11		\$2,700	\$0	
931	WELDER	4	7		\$4,000	\$0	
932	SKID-MOUNT GENERATOR	1	1		\$16,500	\$0	
953	GRAIN DRILL/HARROW				\$6,000	\$0	
956	HYD PAVEMENT BREAKER	9	9		\$0	\$0	
958	MISC. YARD EQUIPMENT	3	4		\$5,000	\$0	
963	HYDRO-SEEDER/MULCHER	1	1		\$25,000	\$0	
965	MINI-STRIPER		1		\$50,000	\$0	
966	HAND STRIPER				\$7,000	\$0	
967	SIGN WASHER	2	2		\$3,500	\$0	
971	STRIPER REMOVER	2	2		\$5,500	\$0	
972	ATV 4-WHEEL				\$14,000	\$0	

Figure 9-1 (Cont'd)

Buy-Back Methodology

Purchasing equipment with a buy-back contract is utilized on equipment with a high volume of sales in the contractor/construction market. Purchasing equipment with a buy-back has been successfully used to purchase motor graders, loaders, backhoes, mini-excavators, and tractor trucks.

The buy-back method of determining the low responsive bid offers the bidder an opportunity to repurchase road equipment that was sold to the Idaho Transportation Department at a guaranteed value on a specific date. At the time of the bid, the bidder submits a bid proposal stating the selling price of the equipment and a guaranteed price the bidder is willing to pay to repurchase the equipment at a specified date.

Using this method of purchasing equipment offers ITD many advantages. Reduced ownership and maintenance costs are realized as well as several intangible benefits. Some of these benefits are less downtime for repairs and locating parts, fewer mechanics are required due to reduced workload, operator fatigue is reduced, employee morale is higher, and newer equipment is more efficient.

This form of equipment purchasing is effective due to the fact that ITD and the bidders are able to take advantage of municipality concessions on pricing and the absence of federal taxes that are not charged on equipment being purchased by municipalities. The bidder is able to repurchase the equipment after a short duration of time from ITD at a cost that is below the current market value of new units. The bidders are able to quickly sell equipment with low hours, extended warranties to the contractor/construction market at a fair price with a fair profit.

Buy-Back Bid Evaluation Process. The goal of the buy-back bid process is to reduce the ownership costs associated with the equipment fleet. The bid evaluation process evaluates the monthly ownership cost of both direct purchase and purchase with buy-back proposals to determine the low responsive bid.

When purchasing equipment via the buy-back method, full disclosure of the bid evaluation process is detailed within the specifications. The method for calculating the ownership cost is detailed along with the calculations for loss of interest on the purchase price. As part of the specifications, all buy-back bid responses are required to obtain a surety bond in the amount of 10% of the buyback amount. This protects ITD in the event the vendor is not able to repurchase the units at the specified date.

For direct purchase bid responses, the annual cost is calculated utilizing straight-line depreciation over the useful life of the equipment, and a 20% salvage value. A salvage value of 20% is utilized in the equipment analysis to provide a more accurate account of market value at the end of its useful life.

Buy-back bid responses are evaluated by taking the purchase price of the unit and subtracting the buy-back offer. The amount is then divided by the respective number of months that ITD will

own the unit to arrive at the monthly cost of ownership. This resultant value is then compared to the monthly depreciation cost calculated for all direct purchase proposals. The bid proposal that offers ITD the lowest monthly cost is awarded the bid.

Refer to Figure 9-2.

Figure 9-2

MINI-EXCAVATOR

	Western States Equipment Company	Honnen Equipment	Arnold Machinery	Intermountain New Holland	Barry Rental
Direct Purchase Price	\$ 59,092.22	\$ 63,671.63	\$ 62,350.00	\$ 67,394.85	\$ 59,600.00
Annual Depreciation	\$ 3,939.48	\$ 4,244.78	\$ 4,156.67	\$ 4,492.99	\$ 3,973.33
Monthly Depreciation	\$ 328.29	\$ 353.73	\$ 346.39	\$ 374.42	\$ 331.11
Delivery Date	April 30, 2015	April 14, 2015	April 29, 2015	April 30, 2015	April 30, 2015
Buy-Back Date	October 31, 2016	October 31, 2016	April 29, 2018	October 31, 2016	October 31, 2016
Months of Ownership	18	18	36	18	18
Buy-Back Purchase Price	\$ 59,092.22	\$ 62,529.63	\$ 61,055.00	\$ 63,858.85	\$ 59,600.00
Buy-Back Amount	\$ 71,300.00	\$ 45,000.00	\$ 32,466.00	\$ 70,000.00	\$ 70,000.00
Monthly Cost	\$ (678.21)	\$ 973.87	\$ 794.14	\$ (341.18)	\$ (577.78)
Loss of Interest (Purchase Price)	\$ -	\$ 14.32	\$ 8.18	\$ 19.86	\$ 2.12
Monthly Cost for Ownership with Buy-Back	\$ (678.21)	\$ 988.19	\$ 802.32	\$ (321.31)	\$ (575.66)
Lowest Total Monthly Cost for Direct Purchase or Buy-Back	\$ (678.21)	\$ 353.73	\$ 346.39	\$ (321.31)	\$ (575.66)

Bid and Award

Bid specifications are submitted to the Business Support and Management (BSM) Section for the bid process. BSM and the Division of Purchasing (DOP) are responsible for responding to all questions regarding the bid and the opening of the bids at the stated time.

After the bids have been received and opened, they are then returned to Maintenance Operations for evaluation. The Maintenance Operations-Fleet Management staff will make recommendations to BSM as to the successful responsive bidder. BSM notifies the DOP and/or responding bidders of the intent to award and issues the Purchase Order for the equipment. BSM will then create a Purchase Order in the ITD financial system.

After the award of the bid and the creation of the purchase order, the Maintenance Operations-Fleet Management staff manage the work defined within the specifications. During this phase, all changes, modifications, or purchase order amendments must be processed through BSM and DOP authorizing any work or the modifications. The purchase order amendment document must be completed, submitted to the Maintenance Operations Manager for approval, and then submitted to BSM. BSM and DOP will complete the purchase order amendment and provide a notice to proceed on the requested changes or modifications.

Equipment Delivery and Inspection

As part of the bid specifications, the Maintenance Operations-Fleet Management staff will determine the delivery location of the vehicles and equipment. All light duty vehicles and truck

cab and chassis will be delivered to headquarters so that licensing can be accomplished. All equipment that is to be accompanied with operator training will be delivered to the district requesting the equipment.

Headquarters. All equipment delivered to Headquarters will be inspected by Maintenance Operations-Fleet Management staff for specification compliance. If the units meet specifications, the equipment will then be tagged with the appropriate district and equipment number. The district will be notified when the unit is ready to be picked up and transferred to their location

Districts. Equipment that is delivered to the district will be inspected by the District Equipment Manager or Shop Manager for specification compliance. The district is required to contact Maintenance Operations for a copy of the bid specifications so the inspection can be performed. Inspection time can be charged to M685 on the timesheet or shall be charged to Activity EB84 using the TAMS FMS. The district is required to affix the proper equipment number.

Once it has been determined the unit complies with the specifications, the individual inspecting the unit is required to complete the Receiving Report in the Transportation Asset Management System (TAMS) Fleet Module. Once completed, the receiving report is automatically forwarded to HQ personnel to initiate the payment process.

All equipment will be inspected within 14 days of receipt or sooner. If it is determined the equipment provided does not meet specifications, immediately contact Maintenance Operations-Fleet Management staff and provide a complete list of the specification deviations. Maintenance Operations will work with BSM to properly notify the vendor of the specification deviations and the non-compliance. It is crucial this step must be completed within the 14 day period following delivery of the equipment.

BSM will contact the vendor, inform them of the non-compliance, and the units will not be paid for until all deviations are corrected. Depending upon the delivery location, either the Districts or Maintenance Operations will make the final determination as to when a new unit of equipment is specification compliance.

Air Quality

The Department will purchase vehicles and road equipment that can provide reduced vehicle fuel consumption and emissions. The reduction in fuel use and emissions will be accomplished by purchasing alternative fueled vehicles that can operate on alternative fuel sources that are readily available within the infrastructure of Idaho. Vehicles equipped with bi-fuel engines capable of running on both 100% gasoline and E-85 (85% ethanol and 15% gasoline) will be purchased when available. These will include sedans, and ½ ton pickups and others as they are developed. When E-85 is locally available, department personnel should refuel using this product in bi-fuel vehicles.

Hybrid gas/electric vehicles will also be purchased when applicable. Sedans have been identified as an applicable use of this technology. Maintenance Operations shall continue to evaluate other applicable uses for these types of vehicles.

The Department will purchase diesel powered units that can operate on B20 Fuel consisting of 20% bio-diesel fuel and 80% diesel fuel. The purchase and use of these types of vehicles will also assist the Department in meeting the requirement of the Energy Policy Act.

Unnecessarily idling of vehicles increases vehicle emissions and fuel consumption. Vehicle operators shall restrict vehicle idle times to no longer than ten (10) minutes except for those vehicles that require engine power to run auxiliary equipment such as aerial lift trucks, and etc. Vehicles and equipment equipped with idle shutdown timers will have those timers activated and set at twenty (20) minutes maximum. Vehicles and equipment will be equipped with low amperage draw warning lights so that idling is not required to prevent battery draw down.

As vehicle emissions are the not only source of degrading air quality, the Department will also specify and purchase PM-10 certified road sweeping equipment. This equipment will be purchased on an as needed replacement basis and existing equipment will not be retrofitted at this time.

Transportation Asset Management System (TAMS) Fleet

The Transportation Asset Management System (TAMS) Fleet system is the Department's system to manage fleet operations. The system provides information on all phases of the equipment life cycle, e.g., labor charges, parts, supplies, and fuel usage. Data is gathered from the supply system, accounting system, automated fuel systems and equipment maintenance areas.

Output reports aid in determining replacement schedules and selecting equipment types. Other reports indicate utilization and downtime, which aid in complement determination. Various reports are used to track budget expenditures for operating and owning equipment. Reports on high and low costs for equipment use will aid in determination of disposal lists.

The system is intended to provide shop management information and aid in developing a needs-oriented budget for all phases of equipment management within the Department.

Management System Identification

Vehicles and equipment are identified in the Transportation Asset Management System (TAMS) Fleet by Category, and Equipment Number. Maintenance Operations is responsible for assigning this information at the time bid specifications are developed for these units. This information is entered into the TAMS along with a description of the equipment, and the acquisition cost of the equipment as it is received. Refer to Figure 9-3 for a listing of the various equipment Categories of equipment.

FIGURE 9-3
EQUIPMENT CATEGORIES, REPLACEMENT LIFE CYCLE

Category	Type	Description	Utilization	Replacement Life	
			Type	Years	Mileage/ Hours
100	Primary	Automobiles	Miles	10	120,000
102	Primary	Automobiles, Electric	Miles	10	120,000
200	Primary	Pickup <6200 GVW, Small	Miles	10	120,000
202	Primary	Pickup <6200 GVW, Large	Miles	10	144,000
204	Primary	Pickup, 6300-9000 GVW	Miles	10	144,000
206	Primary	Truck, POE Rover	Miles	10	150,000
207	Primary	Pickup 4 x 4, Small	Miles	10	120,000
208	Primary	Pickup 4 x 4, Large	Miles	10	144,000
209	Primary	Truck, 4 x 4, Utility	Miles	10	120,000
210	Primary	Vans, 4 x 2, Small	Miles	10	120,000
211	Primary	Vans, 4 x 2, Full Size	Miles	10	120,000
212	Primary	Vans, 4 x 2, Testing	Miles	10	180,000
214	Primary	Vans, 4 x 2, Photolog	Miles	10	200,000
217	Primary	SUV, Small	Miles	10	120,000
218	Primary	SUV, Large 4 x 4	Miles	10	120,000
220	Primary	Pickup, >9000 GVW, Reg. Cab	Miles	10	150,000
221	Primary	Pickup, >9000, Crew Cab	Miles	10	150,000
222	Primary	Truck, >9000, Flatbed	Miles	10	150,000
223	Primary	Truck, 9000 - 15,000 GVW Utility	Miles	10	150,000
224	Primary	Truck, Incident Response Unit	Hours	6	300,000
225	Primary	Truck >15,000 GVW Utility	Miles	10	150,000
226	Primary	Truck, <15,000 GVW, Reg. Cab, Dump	Miles	10	150,000
227	Primary	Truck, <15,000 GVW, Crewcab, Dump	Miles	10	150,000
228	Primary	Truck, >15,000 GVW Dump	Miles	10	150,000
230	Primary	Stencil Truck	Hours	10	150,000
		TRUCKS, 20-35,000 LB GVW			
321	Primary	4 x 2 Snowplow Truck	Miles	12	7,200
324	Primary	Flatbed 4x2 Truck	Hours	24	5,000
326	Primary	Crash Attenuator Truck	Hours	24	5,000
327	Primary	Water Truck - Diesel	Hours	24	5,000
329	Primary	Skid Test Truck	Miles	12	7,200
335	Primary	Hot Patcher Truck	Hours	24	5,000
336	Primary	Utility 4x2, 4x4 Truck	Hours	24	5,000
337	Primary	Sprayer Truck	Hours	12	5,000
338	Primary	Aerial Tower < 30 ft. Truck	Hours	12	6,000
339	Primary	Aerial Tower > 30 ft. Truck	Hours	12	6,000
340	Primary	Digger Derrick Truck	Hours	12	7,200
342	Primary	Striping Unit Truck	Hours	12	200,000
347	Primary	Scale Test/Post Driver-Diesel Truck	Hours	24	5,000
364	Primary	Rotary Snow Plow Truck	Hours	25	

Category	Type	Description	Utilization	Replacement Life	
			Type	Years	Mileage/ Hours
		TRUCKS, 3-AXLE 43 - 65,000 LB			
372	Primary	6 x 4 Snowplow Truck	Miles	12	7,200
373	Primary	6 x 4 Rockbed Truck	Miles	12	7,200
374	Primary	6 x 4 Snowplow Truck w/Wing Plow	Miles	12	7,200
375	Primary	Core Drill Truck	Hours	12	7,200
376	Primary	Tractor Truck	Hours	12	7,200
379	Primary	Snooper Truck	Miles	18	
390	Primary	Distributor > 1300 Gallons Truck	Hours	12	7,200
392	Primary	Multipurpose Truck	Miles	12	7,200
393	Primary	Water Truck >2500 Gallons	Miles	12	7,200
		WHEEL TRACTORS			
401	Primary	Backhoe	Hours	15	3,750
402	Primary	Loader 1/2 C.Y.	Hours	15	2,250
404	Primary	Loader Skid-Steer	Hours	15	3,000
406	Primary	Loader 1-1/2 - 2 C.Y.	Hours	15	4,500
407	Primary	Loader 2 - 3 C.Y.	Hours	15	6,000
408	Primary	Loader 4 C.Y.	Hours	15	6,000
		CRAWLER TRACTOR			
424	Primary	Dozer, Medium	Hours	20	6,000
426	Primary	Dozer, Heavy	Hours	20	6,000
428	Primary	Snow Cat	Hours	When No Longer Serviceable	
		MOTORGRADER			
506	Primary	Milling Machine	Hours	Do Not Replace	
508	Primary	Motor Grader, 6 x 4	Hours	15	6,000
510	Primary	Motor Grader, 6 x 6	Hours	15	6,000
600	Primary	Pull Grader	Hours	15	
		SNOWPLOWS			
705	Attached	Under Body SnowPlow	None	12	
706	Attached	Wing Plow, Grader Mt.	None	15	
707	Attached	Wing Plow, Truck Mt.	None	12	
710	Attached	Snow Plow, V-Type, Fixed	None	15	
711	Attached	Snow Plow, V-Type, Folding	None	15	
712	Primary	Snow Plow, Tow Type	Hours	12	
713	Primary	Rotary Snow Plow, Loader Mounted	Hours	15	
714	Attached	Snow Plow, One-Way	None	12	
715	Attached	Snow Plow, Two-Way	None	12	

Category	Type	Description	Utilization	Replacement Life	
			Type	Years	Mileage/ Hours
		AIR EQUIPMENT			
799	Minor	Compressor 0-50 CFM	Hours	12	500
802	Primary	Compressor 160 + CFM	Hours	15	2,250
		ASPHALT EQUIPMENT			
810	Primary	Distributor < 1300 Gallons	Hours	12	
811	Attached	Distributor > 1300 Gallons	None	Do Not Replace	
812	Attached	Hot Patcher, Truck Mount	None	12	
813	Primary	Distributor, Tow Type	Hours	15	1,800
814	Primary	Crack Filler	Hours	12	1,440
815	Attached	Tail Gate Mixer/Patcher	None	Do Not Replace	
816	Primary	Portable Asphalt Mixer, Tow Type	Hours	12	
817	Primary	Hot Patcher, Tow Type	Hours	15	1,800
818	Primary	Laydown Machine, Self-Propelled	Hours	Do Not Replace	
819	Primary	Laydown Machine, Pull Type	Hours	Do Not Replace	
821	Attached	Pavement Testing Trailers	None	12	
822	Attached	Chip Spreader, Pull Type	None	Do Not Replace	
823	Primary	Chip Spreader, Self-Propelled	Hours	Do Not Replace	
		BOATS AND BARGES			
826	Primary	Boat	Hours	When No Longer Serviceable	
827	Attached	Boat Motor	None	When No Longer Serviceable	
828	Attached	Boat Trailer	None	When No Longer Serviceable	
		CONCRETE EQUIPMENT			
831	Primary	Concrete Mixer	Hours	When No Longer Serviceable	
832	Primary	Mortar Mixer	Hours	When No Longer Serviceable	
833	Minor	Concrete Saw	Hours	When No Longer Serviceable	
834	Minor	Concrete Cutoff Saw	Hours	When No Longer Serviceable	
836	Minor	Crack Cleaner/Router	None	Do Not Replace	
837	Minor	Misc. Compactors (Screed, Trowel, Wacker, Compactor)	None	When No Longer Serviceable	

Category	Type	Description	Utilization	Replacement Life	
			Type	Years	Mileage/ Hours
		EARTH DRILLING EQUIPMENT			
841	Attached	Earth Drilling Auger	None	Do Not Replace	
844	Primary	Diamond Drill	Hours	12	1,200
846	Minor	Abrasive Drill	None	When No Longer Serviceable	
		FORKLIFTS, YARD CRANES			
847	Primary	Forklift, Truck Mount	Hours	15	2,500
848	Primary	Forklift, <4,000 lb.	Hours	20	5,000
849	Primary	Forklift, 8,000 - 10,000 lb.	Hours	20	5,000
850	Primary	Forklift >10,000 lb.	Hours	20	5,000
851	Primary	Yard Crane	Hours	20	5,000
852	Primary	Yard Tug	Hours	20	5,000
853	Minor	Electric Warehouse Equipment	None	20	5,000
		LOADER, CONVEYOR			
860	Primary	Conveyor (Belt) Screener Plant	Hours	Do Not Replace	
861	Primary	Loader, Belt or Bucket	Hours	15	2,250
		MOWERS			
864	Primary	Self-Propelled Lawn Tractor	Hours	15	2,250
865	Minor	Lawn Mower, Push Type/Self-Propelled	None	When No Longer Serviceable	
866	Attached	Road Side Mower, Sickle	None	15	
867	Attached	Road Side Mower, Rotary	None	15	
868	Primary	Chipper, Brush	Hours	15	3,000
869	Attached	Road Side Mower, Slope	None	15	
870	Attached	Road Side Mower, Flail	None	15	
		WATER PUMPS			
872	Minor	Water Pump, Light Duty < 3-1/2	None	When No Longer Serviceable	
873	Minor	Water Pump, Heavy Duty 4 and Up	None	When No Longer Serviceable	
		ROLLERS			
880	Primary	Roller, Small Dual Drum Vibrating Steel	Hours	15	3,000
881	Primary	Roller, Large Single Drum Vibrating Steel	Hours	15	3,750
		SANDERS			
885	Attached	5 C.Y. Slide-In Sander	None	12	
886	Attached	5 C.Y. Truck Mounted Sander	None	12	

Category	Type	Description	Utilization	Replacement Life	
			Type	Years	Mileage/ Hours
887	Attached	9 C.Y. Truck Mounted Sander	None	12	
888	Attached	9 C.Y. Slide-In Sander	None	12	
889	Attached	Combination Spreader/Deicer	None	12	
		SHOVELS			
902	Primary	Excavators	Hours	15	6,000
905	Primary	Vacuum Excavator	Hours	12	3,000
906	Attached	Truck Mount Broom & Attachments	None	12	
		SWEEPERS			
907	Primary	Street Sweeper Mechanical	Hours	10	3,500
908	Primary	Tow-Type Sweeper	Hours	Do Not Replace	
909	Primary	Self-Propelled Sweeper	Hours	12	3,000
910	Primary	Street Sweeper Vacuum	Hours	10	3,500
		WATER TANKS			
911	Attached	<1500 Gallon Skid-Mt De-Icer Tank	None	12	
912	Attached	> 1500 Gallon Skid-Mt Water Tank	None	12	
913	Attached	Weed Sprayer Tank	None	12	
		TRAILERS			
915	Attached	Trailer, Semi Low-Boy (Flatbed)	None	12	
916	Attached	Trailer, Semi Belly-Dump	None	Do Not Replace	
917	Attached	Trailer, Semi Tanker	None	12	
918	Attached	Test Camper	None	Do Not Replace	
919	Minor	Trailer, Test, and Office	None	When No Longer Serviceable	
920	Primary	Trailer, Tilt Bed/Ramp	Hours	12	
921	Primary	Trailer, Utility, 2 & 4-Wheel	Hours	12	
922	Primary	Trailer, Sign, Warning	Hours	12	
923	Primary	Trailer, Message	Hours	12	
924	Attached	Attenuator	None	12	
		MISCELLANEOUS			
926	Primary	Light Plant	Hours	When No Longer Serviceable	
927	Attached	Warning Sign, Truck Mount	None	10	
930	Primary	Generators	Hours	When No Longer Serviceable	
931	Primary	Welder	Hours	When No Longer Serviceable	
932	Minor	Skid Mt. Generator	None	Do Not Replace	
953	Attached	Grain Drill, Harrow	None	When No Longer Serviceable	
956	Minor	Tamper, Hydraulic	None	When No Longer Serviceable	
958	Minor	Misc. Yard Equipment	None	When No Longer Serviceable	

Category	Type	Description	Utilization	Replacement Life	
			Type	Years	Mileage/ Hours
963	Primary	Hydroseed/Mulcher	Hours	When No Longer Serviceable	
965	Minor	Mini-Striper	None	When No Longer Serviceable	
966	Minor	Hand Striper	None	When No Longer Serviceable	
967	Minor	Sign Washer/Sprayer	None	When No Longer Serviceable	
971	Minor	Stripe Remover	None	When No Longer Serviceable	
972	Primary	ATV (4 Wheeler or Motor Vehicle)	Hours	10	1,500

Equipment Cost Accounting

Rental Rate Procedure. Equipment rental rates will be calculated utilizing cost and equipment utilization data from TAMS. Meter reading data will be utilized from both TAMS and the Fuel Management System.

All costs charged to the Equipment Operations Program will be utilized to calculate rates for each Category of Equipment. These costs will include the ownership costs of depreciation and insurance. Direct operating costs of maintenance, preventive maintenance, fuel, tires and direct charges will be included. Indirect costs will be allocated to each Category of equipment based on the pro-rata share of fleet value.

The rental rate base for each category will either be miles or hours as listed in Figure 9-3 above. This will typically be miles for those Categories of Equipment utilizing an odometer and hours for those with an hour meter or no meter at all (i.e – trailers). The total of all costs are summed and then divided by the previous year's utilization for the category to determine the new rental rate.

Attached and Minor Equipment. Attached equipment is equipment that cannot function in a direct manner without the assistance of another piece of equipment. This includes spreaders, snow plows and all other equipment with a Type designation of Attached in Figure 9-3. Minor Equipment is defined as small auxiliary equipment that ITD does not track utilization. All costs associated with attached and minor equipment will be distributed to the various primary units. Refer to Figure 9-4 for the Attached and Minor Equipment Categories and their corresponding Primary Unit Category.

Primary Power Unit. The primary power units are equipment with a Type designation of Primary. As stated above, attached and minor equipment costs are allocated to the various categories that are primary power units for the attached equipment such as dump trucks, and mower tractors.

FIGURE 9-4
RENTAL RATE COST ALLOCATION

Attached/Minor Equip. Category	Primary Category	Attached/Minor Equip. Category	Primary Category
705	372	869	402
706	508, 510	870	402
707	374	872	393
710	508, 510	873	393
711	508, 510	885	321
714	372, 374	886	321
715	372, 374	887	372, 373, 374
799	802	888	372, 373, 374
804	802	889	372, 373, 374
805	802	906	321
806	802	911	321, 372, 374
811	390	912	372, 374
812	335	913	337
815	321	915	376
821	329	916	376
822	823	917	376
827	826	918	204
828	826	919	921
833	831	924	326
834	832	927	204
836	814	932	931
837	880, 881	953	402
841	844	956	321
846	844	958	864
853	850	965	342
865	864	966	342
866	402	967	393
867	402	971	230

Renting Supplemental Equipment

If additional equipment is needed for emergencies or other work, the District Equipment Manager may rent such equipment within the limitations of his budget. Rental charges shall not exceed the maximum shown in the "Equipment Guide Book Company, Rental Rate Blue Book" without approval of the Highways Construction and Operations Administrator. Refer to the Standard Specifications for Highway Construction handbook for application of the "Rental Rate Blue Book" rental rates.

Estimated Equipment Rental Cost Less Than \$100,000/Project. Oral bids shall only be used for equipment rental that is estimated to be less than \$100,000 per project. Oral bids shall be documented through the use of Form ITD 0552, Request for Quotation. The original of this form shall go to Financial Services, the first copy shall go to the Highways Construction and Operations Administrator, and the second copy shall be kept on file by the district or section soliciting the bid.

An Idaho Transportation Department Rental Agreement (ITD 1232) form is required when renting supplemental equipment. An ITD-assigned rental equipment number must be obtained from Maintenance Operations when renting any equipment that falls under the equipment categories listed in Figure 8-5. Equipment operation costs (fuel, oil, repairs, etc., from ITD sources) will be charged to the assigned rental equipment number on the standard ITD forms. Rental equipment usage should be documented in TAMS under the appropriate Work Order for the project the equipment was utilized on.

Estimated Equipment Rental Cost More Than \$100,000/Project. Any required equipment rental that is estimated to be in excess of \$100,000 per project shall be advertised through Contracting Services or Business Support & Management in accordance with standard contract bid procedures. Formal competitive bidding procedures may be waived in favor of oral bidding procedures in the event of emergency conditions upon approval of the Chief Engineer.

Equipment Identification, Licensing and Registration

Definition. Any equipment used for the management and/or maintenance of state highways, that uses fossil fuel and has an initial cost exceeding \$2000 is considered road equipment and will be identified with an equipment number. Class and category numbers will also be assigned for inventory and rental designation purposes.

Equipment Markings. The use of standard colors, decals, and stripes shall be applied in a manner that is uniform to create an image recognized as the Idaho Transportation Department. Specific application details will vary by equipment type, year, and manufacture.

Striping material shall be 3M™ Diamond Grade™. Orange striping shall be 3924S or 3914 Fluorescent Work Zone Series. Blue and yellow/green striping shall be 3990 VIP Series.

Logos and decals shall consist of the 10 inch ITD logo, Mission Ribbon, ITD Logo with Mission Branding bumper decal, and Phone Off decal.

Vehicle Identification. Depending upon the type of vehicle, vehicle and component colors, striping, and decals shall be applied as follows:

Passenger Vehicles. Passenger vehicles are defined as sedans and SUV's not used for construction. Port of Entry (POE) sedans and SUV's are not considered passenger vehicles and are listed separately below. Passenger vehicles shall be painted factory standard fleet white. A 4 inch to 6 inch horizontal reflective orange stripe shall be applied to both sides centered vertically on the flat panel of the door and body. The stripe must extend from behind the front wheel opening to the rear of the vehicle. The same width stripe must extend across the rear of the vehicle. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. The Logo with Mission bumper decal shall be placed on the right side of the rear bumper and the Phone Off decal shall be placed on the left side of the bumper.

Refer to Figure 9-5.

Light Duty Vehicles. Light duty vehicles include all categories of vehicles from Category 200 to 230 except SUV's and those vehicles utilized by Port of Entry operations and Incident Response vehicles. Light duty vehicles shall be painted factory standard fleet white on the cab and factory installed beds. Aftermarket bodies and accessories mounted above the frame and behind the cab shall be painted white to match the truck cab. A 4 inch to 6 inch horizontal reflective orange stripe shall be applied to both sides centered vertically on the flat panel of the door and body. The stripe must extend from behind the front wheel opening to the rear of the vehicle. Vehicles with aftermarket body installations, the stripe must extend from the front to the rear of body along the approximate same plane as the stripe on the vehicle cab. The same width stripe must extend across the rear of the vehicle. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. The Logo with Mission bumper decal shall be placed on the right side of the rear tailgate or body and the Phone Off decal shall be placed on the left side.

Refer to Figure 9-6.

POE Pursuit Sedans and SUV's, and Rover Vehicles. These vehicles equipped with roof mounted warning lights shall be painted factory standard fleet white. A 4 inch to 6 inch horizontal reflective blue stripe shall be applied to both sides centered vertically on the flat panel of the door and body. The stripe must extend from behind the front wheel opening to the rear of the vehicle. The same width stripe must extend across the rear of the vehicle. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. The Logo with Mission bumper decal shall be placed on the right side of the rear tailgate or body and the Phone Off decal shall be placed on the left side.

Incident Response Vehicles. The vehicles shall be painted factory standard white on the cab and factory installed beds. Aftermarket bodies and accessories mounted above the frame and behind the cab shall be painted white to match the truck cab. A 4 inch to 6 inch horizontal reflective yellow/green stripe shall be applied to both sides centered vertically on the flat panel of the door and body. The stripe must extend from behind the front wheel opening to the rear of the cab. Vehicles with aftermarket body installations, the stripe must extend from the front

to the rear of body along the approximate same plane as the stripe on the vehicle cab. The stripe must extend the full length of the unit, front to rear. The same width stripe must extend across the rear of the vehicle. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. The Logo with Mission bumper decal shall be placed on the right side of the rear tailgate or body and the Phone Off decal shall be placed on the left side.

Heavy-duty Trucks. These vehicles include all categories of vehicles from Category 320 to 347 and Category 372 to 393. Truck cab, hood, and fenders shall be factory standard fleet white color. A 6 inch horizontal reflective orange stripe shall be applied to both sides of the cab centered vertically on the flat panel of the door and body. The stripe must extend from behind the front wheel opening to the rear of the cab. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. Painted portions of truck chassis and underbody components shall be painted black in the manufacturer's paint and finish. Other components may be finished according to the factory finish.

Bodies and accessories mounted above the frame and behind the cab shall be painted white to match truck cab or shall remain the raw metal finish if manufactured from stainless steel. Dump bodies and flatbeds shall have a reflective orange stripe of the appropriate width applied to the lower longitudinal rail of the body. Dump body tailgate perimeter shall be outlined with the appropriate width of reflective orange striping.

Street Sweepers, Categories 907 & 910. These vehicles shall be factory standard fleet white color. A 6 inch horizontal reflective orange stripe shall be applied to both sides centered vertically on the flat panel of the door and body. The stripe must extend from behind the front wheel opening to the rear of the cab and sweeper body. The same width stripe must extend across the rear of the vehicle. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. The Logo with Mission bumper decal shall be placed on the right side of the rear of body and the Phone Off decal shall be placed on the left side.

Construction Equipment, Tractors, Mowers, Brooms, etc. This equipment shall be painted the manufacturer's standard color. The 10 inch ITD Logo decal shall be installed on each side of unit.

Rotary Snow Plows. This equipment shall be painted the factory standard safety work zone orange color. A 6 inch horizontal reflective orange stripe shall be applied to both sides of the cab and body centered vertically on the flat panel of the door and body. The stripe must extend the full length of the unit, front to rear. The same width stripe must extend across the front and rear of the unit. The front doors shall have the 10 inch ITD Logo decal placed on the center line of the horizontal stripe with the Mission Ribbon decal placed below the Logo. The Logo with Mission bumper decal shall be placed on the right side of the rear of body and the Phone Off decal shall be placed on the left side.

Snow Plow Blades. Snow plow blades including front mounted and side mounted wings, shall be painted factory standard safety work zone orange color. On front mounted plows the outside top of the plow shall be painted flat black 45 degrees from the vertical plane in each direction creating a flat black panel across the top of the plow. Applicable flags and reflectors as described later in this Chapter shall be installed.

Trailers. Trailers including semi-type, utility, equipment hauling, and box trailers shall be a factory standard fleet white color. A reflective orange stripe of the appropriate width shall be applied to the longitudinal rail or body of the trailer. The same width stripe must extend across the rear of the unit. The Logo with Mission bumper decal shall be placed on each side of the trailer along with on the rear right side of the trailer if there is sufficient room. The Phone Off decal is not required on trailers.

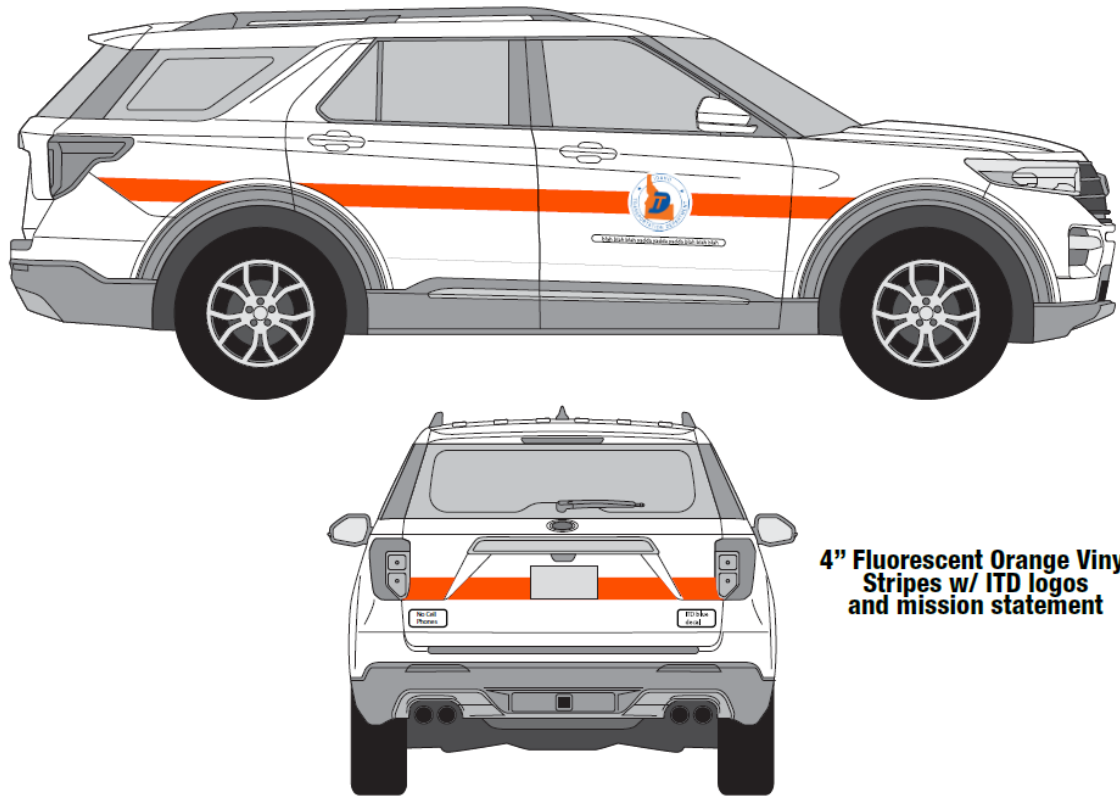
Miscellaneous Equipment. Equipment, such as lawn mowers, generators, water pumps, pavement breakers, and larger equipment that is utilized solely on department grounds such as forklifts, and lawn tractors are exempt from both paint and decal requirements.

Equipment Identification Numbers.

Licensed equipment, except trailers, shall utilize the State of Idaho license number as the equipment identification number. If additional labels are required, they shall be positioned next to the front doors utilizing black decals. For all other equipment and trailers, the equipment number shall be affixed to the unit utilizing decals or painted stencil number, whichever is deemed appropriate.

Titles are held on file in the Maintenance Operations office. A packet containing the vehicle registration, any over legal permits, accident form ITD 0556, accident claim slip and accident instruction slip is issued and will be kept in each vehicle displaying license plates.

Figure 9-5



**4" Fluorescent Orange Vinyl
Stripes w/ ITD logos
and mission statement**

Figure 9-6



Equipment Warning Lights

All department vehicles working or utilized within the right-of-way shall be equipped with at least one amber, LED light bar, LED light, or as described for each type of equipment listed. All warning lights must be LED type and visible from a distance of not less than 1,000 feet in normal sunlight and not less than 2,500 feet under normal atmospheric conditions at night unless otherwise specified. All lights utilized shall meet SAE Class 1 specifications. All lights shall be amber in color unless otherwise noted. Red lights on winter equipment must be rear facing only with no visible red flashing light to the side or front. Light bars must utilize a random variable flash pattern with LED modules on all four sides of the bar ensuring 360 degree visibility. The alternating lights must utilize a minimum of six (6) individual LED's per unit. Tail lamps, stop lamps, and clearance lamps on all vehicles must meet standards specified in applicable sections of the Idaho Code.

The warning light policies described within this revision for equipment other than winter maintenance equipment shall apply to new equipment purchased after the date of this revision. Existing ITD equipment may be modified or retrofitted to current policy standards, but is not required. Equipment warning lights that require repairs shall be repaired to comply with current policy standards at the time of repair.

All winter maintenance equipment shall be retro-fitted with red warning lights to meet the requirements of this lighting revision within six (6) months from the date of this revision. Winter maintenance equipment already equipped with red warning lights are not required to be retrofitted, but it is recommended.

The Maintenance Operations equipment staff is responsible for developing all Warning Light specifications. Only those lights specified and under contract are to be utilized on ITD equipment.

Sedans. Sedans will have two (2) alternating flashing lights mounted to the rear of the body and two (2) in the grill area placed as high as possible. All lights shall be operated by a single switch.

Pickups. Pickups shall be equipped with one (1) 15" LED-light bar above the pickup cab. Two (2) alternating flashing lights shall be mounted to the rear of the body and two (2) in the grill area placed as high as possible. On units equipped with sign boards, either message or Type "B" arrow panels, the warning lights and sign boards shall be mounted in such a manner that warning lights are visible 360 degrees when the sign is stored. When the sign is displayed, the above cab mounted warning light visibility to the rear is not required or preferred. The cab mounted warning light and alternating lights shall have separate switches.

Full Size Vans. All vans shall be equipped with one (1) 15" LED light bar mounted towards the rear of the van body. Two (2) alternating flashing lights shall be mounted to the rear of the body and two (2) in the grill area placed as high as possible. Additionally, Traffic Counted vans will have one (1) a rear facing light mounted in the door jam of each rear door. All lights shall be operated from a single switch.

Sport Utility Vehicles (SUV's). All SUV's shall be equipped with two (2) alternating flashing lights mounted to the rear of the unit placed as high as possible, two (2) alternating flashing lights mounted in the grill area placed as high as possible, and one (1) alternating flashing light mounted in each side rear window. Additionally, two (2) alternating flashing lights can be

mounted in the lower rear hatch edge that will then display rearward when the rear hatch is open or a 15" LED light bar may be installed above the roof of the unit. All lights shall be operated by a single switch.

Service Body and Van Body Trucks. Trucks equipped with service or van bodies shall be equipped with one (1) 15" LED light bars. Those without a canopy roof shall have the light bar mounted above the cab. For trucks with a canopy or van body, the light bar shall be mounted at the rear of body. Additionally, two (2) LED alternating flashing lights shall be mounted to the rear of the body and two (2) alternating flashing lights mounted in the grill area placed as high as possible. The rear alternating lights shall be mounted so that they are visible to the rear with body doors in the open position. All lights shall be operated from a single switch.

Incident Response Trucks. These trucks shall be equipped with four (4) red in color, 15" LED light bars. Two (2) shall be mounted above truck cab and spaced as far apart as possible. Two (2) shall be mounted at the top rear of the canopy, spaced as far apart as possible. In conjunction with the red flashing lights, each truck shall be equipped with a siren. Additionally, four (4) amber LED alternating flashing lights shall be mounted to the rear of the body and two (2) red LED alternating flashing lights shall be mounted in the front grill of truck chassis. Each truck shall be equipped with a variable message board displayed to the rear.

Dump Trucks <20,000 lbs GVW. These vehicles shall be equipped with two (2) 15" LED light bars mounted on the dump body cab guard, side by side and spaced as far apart as possible. Two (2) alternating flashing lights shall be mounted to the rear of the truck chassis and two (2) in the grill area placed as high as possible. Two (2) additional alternating flashing lights shall be mounted on angular brackets facing upwards to the cab guard to provide warning light protection when body is in the dump position. All lights shall be operated by a single switch.

Dump Trucks >20,000 lbs GVW. These vehicles shall be equipped with one (1) 15" LED light bar, mounted in the center of dump body cab guard. Two (2) alternating flashing lights shall be mounted to the rear corner posts of the body and two (2) in the grill area placed as high as possible.

Refer to Figure 9-7.

Flatbed/Scissor Bed Trucks. These vehicles shall be equipped with one (1) 15" LED light bars. Lights shall be mounted above truck cab. Additionally, four (4) alternating LED flashing lights shall be mounted at the rear of the vehicle. Two (2) shall be mounted to the truck frame and two (2) shall be mounted to the rear of body. Two (2) alternating flashing lights shall be mounted in the grill area placed as high as possible. All lights shall be operated by a single switch.

Aerial Device Trucks. These vehicles shall be equipped with two (2) 15" LED light bars mounted above truck cab side by side and spaced as far apart as possible. A minimum of one (1) and a maximum of two (2) 15" LED light bars shall be mounted to the rear of the unit. Additional rear lights shall include a minimum of two (2) and a maximum of four (4) LED alternating flashing lights. These vehicles shall also be equipped with two (2) LED alternating flashing lights mounted on each side to insure 360 degree visibility when working in intersections. Two (2) alternating flashing lights shall be mounted in the grill area placed as high as possible. All lights shall be operated by a single switch.

Vehicles Equipped With Attenuators. Vehicles equipped with an energy absorption attenuator shall have two (2) 360 degree 15" LED light bars visible from both directions of travel. Lights shall be mounted above cab, side by side and spaced as far apart as possible. Additional rear lights shall include a minimum of two (2) and a maximum of four (4) LED alternating flashing lights. Each vehicle shall have a rear facing Type "B" Advanced Warning Arrow Panel, 60" wide x 30" high with 25 bulbs minimum and multi-flash capability (i.e. flash left, flash right, and non-directional flash).

Water Tank Trucks. These vehicles shall be equipped with two (2) 15" LED light bars mounted in the center of the vehicle, one mounted above the operators cab and the other mounted at the rear, above the water tank. Two (2) alternating flashing lights shall be mounted to the rear of the truck chassis and two (2) in the grill area placed as high as possible.

Weed Spray Truck <500 Gallon Capacity. These vehicles shall be equipped with two (2) 15" LED light bars. Both lights shall be mounted above cab, side by side and spaced as far apart as possible. Two (2) alternating flashing lights shall be mounted to the rear of the truck chassis and two (2) in the grill area placed as high as possible.

Weed Spray Truck >500 Gallon Capacity. These vehicles shall be equipped with two (2) 15" LED light bars. These lights can be mounted in either of two configurations. Both lights shall be mounted above cab, side by side and spaced as far apart as possible or both shall be mounted on the vehicle centerline with one light mounted above the operator's cab and the other light mounted above the water tank. Two (2) alternating flashing lights shall be mounted to the rear of the truck chassis and two (2) in the grill area placed as high as possible. Additionally, these vehicles shall be equipped with a rear mounted Type "B" Advanced Warning Arrow Panel, 60" wide x 30" high with 25 bulbs minimum.

Striping Trucks. These vehicles shall be equipped with two (2) 15" LED light bars mounted above cab, side by side and spaced as far apart as possible. Two (2) additional 15" dual rotating LED light bars shall be mounted at the rear of unit beside the variable message/arrow board and two (2) alternating flashing lights mounted in the grill area placed as high as possible. Additionally, these vehicles shall be equipped with either a rear mounted Type "B" Advanced Warning Arrow Panel, 60" wide x 30" high with 25 bulbs minimum or a Variable Message Board. Each paint carriage shall be equipped with a 360 degree LED or strobe light mounted to the top of the carriage.

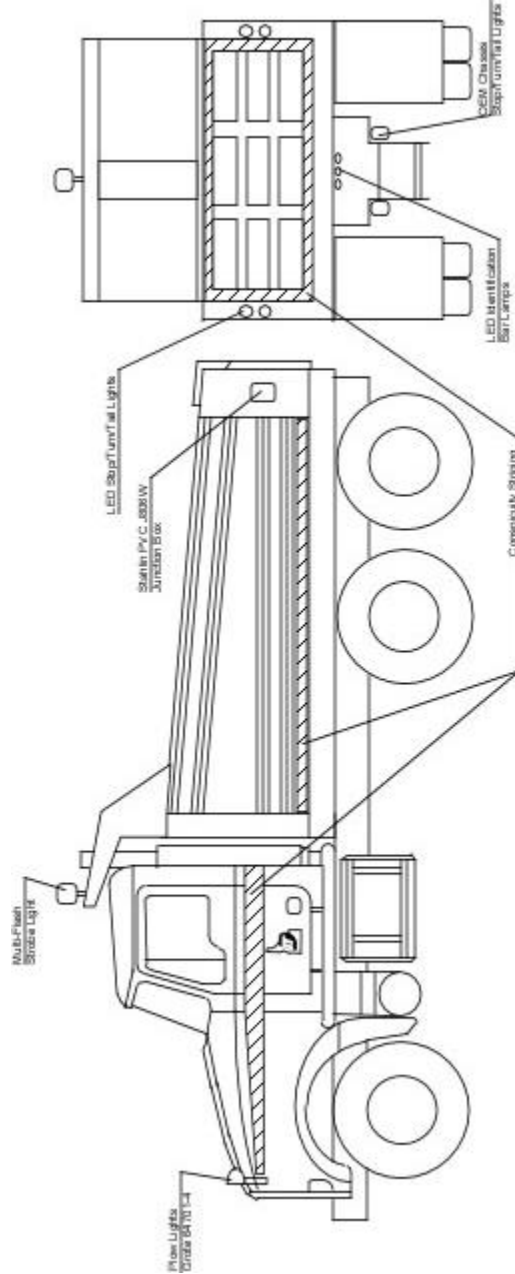
Transport Trucks. These vehicles shall be equipped with two (2) 15" LED light bars mounted above cab, side by side and spaced as far apart as possible and two (2) alternating flashing lights mounted in the grill area placed as high as possible.

Miscellaneous Trucks. All trucks not previously defined shall be equipped with two (2) 15" LED light bars mounted above cab, side by side and spaced as far apart as possible. Additional alternating lights in the front and rear can be added if applicable.

Motor Graders. This equipment shall be equipped with one (1) roof mounted 15" LED light bar. Additionally, four (4) LED alternating flashing lights shall be mounted to the rear of the motor grader. These flashing lights will be operated from a separate switch and will deactivate when the turn signals or brakes are activated. All motor graders shall be equipped with the appropriate size "Slow Moving Vehicle" emblem mounted to the rear.

Figure 9-7

ITD DUMP TRUCK LIGHT MOUNTING



Loaders and Backhoes. These pieces of equipment shall be equipped with one (1) 15" LED light bar mounted on top of operator's cab. Backhoes shall have two (2) 15" LED light bars mounted to the roof panel. One light mounted to the street side with the second light mounted to the curbside of the unit to insure visibility to the rear. This equipment shall also be equipped with the appropriate size "Slow Moving Vehicle" emblem mounted to the rear.

Construction Equipment. This equipment is defined as including the following: Rollers, Excavators, Dozers, Skid Steer Loader, etc. Asphalt pavers are excluded. Rubber tired construction equipment shall be equipped with one (1) 15" LED light bar mounted on top of operator's cab. Non-rubber tired construction equipment shall be equipped with one (1) 360 degree LED light mounted above operator's cab or station.

Tractors. This equipment shall be equipped with one (1) 15" LED light bar mounted above operator's cab. The appropriate sized Slow Moving Vehicle Emblem shall be mounted to the rear of the unit.

Mowers. Rotary, flail, and sickle type mowers mounted to the rear of or pulled by tractors will be equipped with a minimum of two (2) alternating flashing amber lights mounted to illuminate the left and right side of the center/main mower deck. For mowers with multiple fold down decks, an 18" x 18" red or fluorescent orange flag shall be mounted to the furthest outside edge to designate the overall mower width when in the mower position.

Street Pickup Sweepers. These vehicles shall be equipped with two (2) 15" LED light bars mounted in the center of the vehicle, one mounted above the operators cab and the other mounted at the rear. Additional rear lighting shall include four (4) LED alternating flashing lights and two (2) alternating flashing lights mounted in the grill area placed as high as possible. The appropriate sized Slow Moving Vehicle Emblem shall be mounted to the rear of the unit.

Self-Propelled Broom. This equipment shall be equipped with one (1) 15" LED light bar mounted above operator's cab. The appropriate sized Slow Moving Vehicle Emblem shall be mounted to the rear of the unit.

Forklifts. This equipment shall be equipped with an SAE Class 3 warning light as per OSHA requirements. For those units that are utilized on ITD right-of-way, one (1) 15" LED light bar shall be mounted above operator's cab or station.

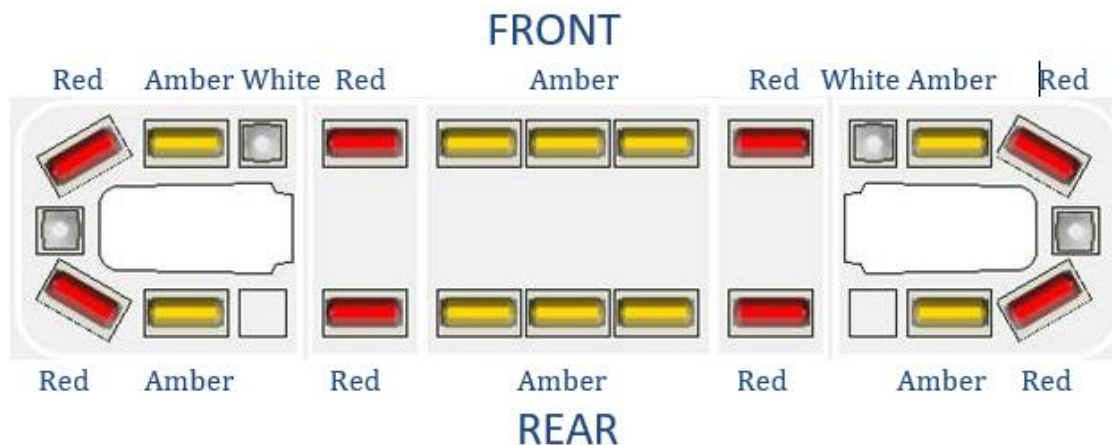
Port of Entry Vehicles. Port of Entry SUV's shall be equipped with a full width interior visor LED light bar mounted at the top of the windshield interior configured as shown in Figure 9-8. Additionally, two (2) LED red alternating lights shall be mounted in the grill. Two (2) alternating LED red lights mounted at the exterior top of rear hatch. Two (2) LED amber alternating lights mounted next to the license plate on the rear hatch. Additionally, two (2) alternating LED red lights shall be mounted inside the rear hatch to provide warning lights with the hatch in the raised position. One (1) LED red warning light shall be mounted in each rear side cargo window to create 360 degree visibility. "Wig-wag" head and tail lights may be installed if the vehicle factory construction allows the installation. All warning lights and siren shall be controlled from a single controller.

Figure 9-8



Port of Entry roving port vehicles shall be equipped with an LED 360 degree roof mounted light bar configured as shown in Figure 9-9. Additionally, two (2) amber/red LED flashing warning lights shall be mounted to the rear tailgate of the truck body. Each vehicle shall also be equipped with “Wig-wag” head and tail lights if the vehicle factory construction allows the installation. An amber light bar utilizing up to twelve (12) LED modules will be installed on the inside of the rear canopy door facing rearward. Two (2) red/white LED alternating flashing lights shall be mounted in the center grill area placed as high as possible. Additionally, two (2) LED amber/red/white alternating lights shall be mounted at the outer edges of the grill. All warning lights shall be controlled from a single controller.

Figure 9-9



Enclosed Box Trailers. These trailers shall be equipped with one (1) 15” LED light bar mounted towards the rear. Two (2) alternating flashing lights shall be mounted to the rear of the trailer visible when the rear door(s) are open. All lights shall be operated by a single switch on the trailer utilizing power from the auxiliary trailer circuit from the towing vehicle.

Miscellaneous Utility Equipment. This equipment shall be equipped with one (1) 360 degree LED light mounted above operator’s cab or station.

Rental Equipment. All rental equipment working or utilized within the right-of-way shall be equipped with at least one (1) 360 degree amber LED light bar or LED beacon warning light meeting SAE Class 1 standards. Temporary mounting of the light utilizing magnets or suction cups or other means is acceptable.

Winter Maintenance Vehicle Warning Lights

All department vehicles utilized for winter maintenance (snowplowing, sanding, and/or deicing) shall be equipped with warning lights of the appropriate color as described for each vehicle type. All warning lights must be visible from a distance of not less than 1,000 feet in normal sunlight and not less than 2,500 feet under normal atmospheric conditions at night unless otherwise specified.

Tail lamps, stop lamps, and clearance lamps on all vehicles equipment, must meet standards specified in applicable sections of the Idaho Code.

The Maintenance Operations equipment staff is responsible for developing all Warning Light specifications. Only those lights specified and under contract are to be utilized on ITD equipment.

Snowplow/Sander Trucks. These vehicles shall be equipped with one (1) 15" LED light bar, mounted in the center of dump body cab guard. Two (2) alternating flashing lights shall be mounted to the rear corner posts of the body and two (2) in the grill area placed as high as possible. A 23" 4-head LED light bar shall be mounted to rear of sander body. The 23" light bar rear heads shall be Red with amber heads on the rear corners. Additionally, four (4) LED alternating flashing lights shall be mounted to the rear of the sander. The top left and lower right lights shall be Red and the two remaining lights shall be amber in color. These flashing lights will be operated from a separate switch and will deactivate when the turn signals or brakes are activated.

Trucks equipped with sander bodies may have a lamp that will illuminate the spinner assembly and the rear of the sander. The direct beam of the light from this lamp must not be visible to following vehicles. An additional lamp may be installed to illuminate the top of the sander for loading purposes. The direct beam of this light must face forward and not be visible to following vehicles.

These trucks will also be equipped with amber conspicuity stripes along the upper side rail of the sander body and red/white conspicuity stripes on the rear of the body.

Refer to Figures 9-10 and 9-11.

Snowplow/Sander Trucks Equipped with Wing Plows. In addition to snowplow lighting previously described, the wing plow shall have two (2) alternating flashing lights mounted to the outer most part of wing plow facing rearward. An additional three (3) alternating amber flashing lights may be installed across the top of the wing plow moldboard. The upper light shall be Red and lower light shall be Amber. The wing plow rear push arms and rear facing edge shall have Red/White conspicuity striping.

Wing plows may be illuminated by the use of not more than two (2) amber flood lights mounted to the truck chassis. One light shall illuminate the rear of the wing plow and one light shall illuminate the area in front of the wing plow. All lights shall have separate switches

As an added safety device, all wing plow trucks shall be equipped with a color camera and monitor with the camera focused on the wing plow.

Deicer Application Trucks. Vehicles equipped with liquid de-icing application tanks shall be equipped with one (1) 360 degree LED type light mounted on truck cab guard. A 23" 4 head LED

light bar shall be mounted to rear of tank. The 23" light bar rear heads shall be Red with amber heads on the rear corners. Additionally, four (4) LED alternating flashing lights shall be mounted to the rear of the tank. The top left and lower right lights shall be Red and the two remaining lights shall be amber in color. The alternating lights shall activate only when de-icing application is activated. The alternating lights will deactivate when the turn signals or brakes are activated.

In addition to the warning lights, liquid de-icing application trucks are to be equipped with 48" x 18" "Anti-Icing" signs mounted to the sides of the tank as well as a 48" x 36" "Anti-Icing Caution Liquid Spray" sign, Catalog No. 546619309, mounted to the rear. A flashing arrow board sign of the equivalent size may be substituted for the rear sign.

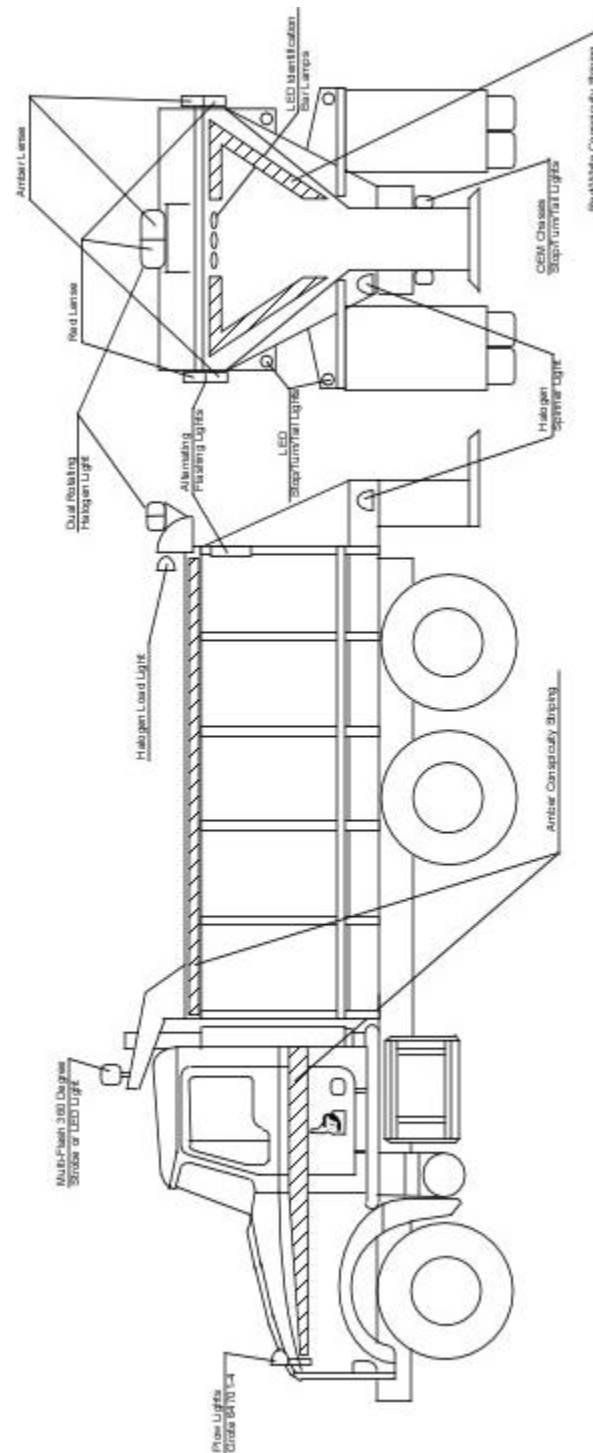
In the event the de-icing application tank is utilized to haul water during other times of the year, the "Anti-Icing" signs and Red warning light lenses are to be removed.

Motor Graders Utilized for Plowing Snow. This equipment shall be equipped with one (1) roof mounted 15" amber LED light bar. Additionally, six (6) LED alternating flashing lights shall be mounted to the rear of the motor grader. Two (2) shall be mounted above the rear window with the street-side light red in color and the curbside light amber in color. The four (4) remaining lights shall be mounted along the rear engine cover. The top left and lower right lights shall be Red and the two remaining lenses shall be amber in color. These flashing lights will be operated from a separate switch and will deactivate when the turn signals or brakes are activated.

If the motor grader is equipped with a wing plow, the wing plow shall have two (2) LED alternating flashing lights mounted to the outer most part of wing plow facing rearward. Three (3) alternating amber flashing lights shall be equally spaced across the top of the wing plow moldboard. The upper light shall be Red and lower light shall be Amber. The wing plow rear push arms and rear facing edge shall have Red/White conspicuity striping.

Rotary Snow Plows. This equipment shall be equipped with three (3) 15" LED light bars. Two (2) shall be mounted on the roof of the cab side by side and spaced as far apart as possible and amber in color. The third light bar shall be mounted on the rear of the engine cover and red in color. Additionally, four (4) LED alternating flashing lights shall be mounted to the rear of the unit. The top left and lower right lights shall be Red and the two remaining lights shall be amber in color. These flashing lights will be operated from a separate switch and will deactivate when the turn signals are activated. All rotary snow plows shall be equipped with the appropriate size "Slow Moving Vehicle" emblem mounted to the rear.

Figure 9-10
ITD SANDER TRUCK LIGHT MOUNTING



Forward Facing Lighting on Snow Removal Equipment

All snow plows trucks shall be equipped with two (2) forward facing hi/low beam halogen headlights mounted a minimum of 66" but no more than 78" above ground. Trucks may be equipped with auxiliary fog or spot type lamps. A maximum of two (2) fog lamps or a maximum of three (3) spot type lamps can be used on the front of snowplow/deicer trucks. Fog or spot type lamps shall be controlled by a separate on/off switch independent of the headlight or dimmer switch of the truck.

Fog lamps shall be mounted on the front of the truck and aimed to that when the vehicle is loaded, none of the high-intensity portion of the light shall be directed to the left of the prolongation of the extreme left side of the vehicle not more than twenty-five (25) feet ahead of the vehicle.

Spot type lamps shall be mounted on the front of the truck and aimed to that when the vehicle is loaded, none of the high-intensity portion of the light shall be directed to the left of the prolongation of the extreme left side of the vehicle not more than one hundred (100) feet ahead of the vehicle. Spot type lamps shall only be used during inclement weather while plowing.

Equipment Lighting Modifications and Testing

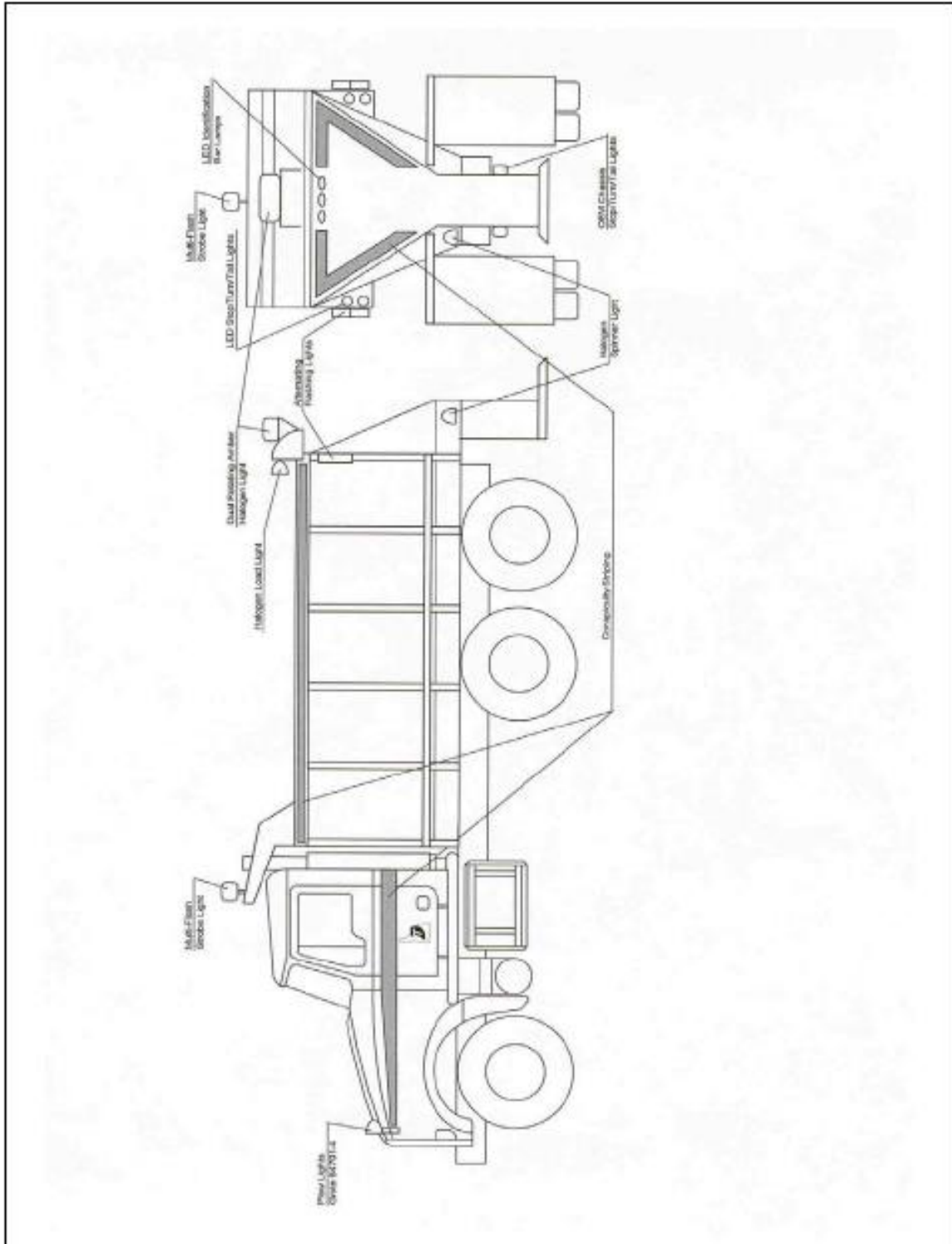
All modifications to this policy, testing of new lighting products, and special operating conditions that require other lighting must be forwarded to the Maintenance Operations and approved by the Equipment Warning Light Committee. All equipment lighting modification or test lighting request must be made in writing using Form ITD-0402.

Implementation Process

The warning light policies described within this revision for equipment other than winter maintenance equipment shall apply to new equipment purchased after the date of this revision. Existing ITD equipment may be modified or retrofitted to current policy standards, but is not required. Equipment warning lights that require repairs shall be repaired to comply with current policy standards at the time of repair.

With the implementation of Red warning lights on Winter Maintenance equipment, all winter maintenance equipment shall be retro-fitted to meet the requirements of this lighting revision within six (6) months from the date of this revision. Equipment determined for surplus within eighteen (18) months from the date of this revision is exempt from retro-fitting.

Figure 9-11
ITD SANDER LIGHT MOUNTING



Reflectors and Flags on Snow Plows

The following guidelines are established to improve the safety of the traveling public and the visibility of our snow plows.

- All snow plows that exceed the width of the truck or power unit they are attached to will be equipped with both bi-directional amber reflectors and 18" x 18" red or fluorescent orange flags on each end of the snow plow.
- The reflectors/flags will be mounted on the top portion in such a manner to designate the extended edges of the snow plow and be visible to both on-coming traffic and traffic attempting to pass the vehicle.

Back Up Alarms

The following guidelines are established for back-up alarms to improve the safety of the individuals working on and around ITD equipment. These guidelines were established as policy for audible ambient self-adjusting back-up alarms on Department equipment.

Back-up alarms are to be installed on all Department pickups, vans, trucks, and construction equipment when the operator cannot see directly behind or out of the rear window and has to use outside mirrors while backing.

All the Department's self-propelled construction equipment (e.g., loaders, graders, backhoes, etc.) will be equipped with an audible ambient self-adjusting back-up alarm, to include equipment used in shops and warehouse areas such as tugs, cranes, and forklifts.

Equipment Training

Operator. ITD has a formalized Equipment Operator Training Program (EOTP) that is administered by ITD's Training and Development Section. The program provides operators with standard initial training and a certification process. Refer to Chapter 2, Equipment Operator Training Program of this manual for further details.

Vendor Provided. As new equipment is purchased, the Maintenance Operations-Fleet Management staff will require as part of the bid specifications that the successful vendor provide a minimum of 4 hours of operation training to Department personnel. Additional hours of training will be required for more technical equipment.

Mechanic. Mechanics and Welder/Machinists have very diverse training needs. A listing of possible courses is contained in the Training Catalog. Additional needs and training request will need to be submitted through the District Training Committee, allowing the Human Resources Training and Development Section to identify possible training sources and needs.

Equipment Roadeo. The Human Resources Training and Development Section in conjunction with Maintenance Operations and District Operations are responsible for the continued development of an Equipment Roadeo program that is to be conducted by each district. All department employees are encouraged to participate at the district level. Each district will organize a Roadeo to be held in the spring of each year. The four (4) highest scoring participants from each district competition will then progress to a statewide Roadeo that will rotate from district to district.

The top two (2) finishers of the statewide Roadeo will be asked to participate in a national competition that is held during the fall of each year.

Equipment Maintenance

Shop Operations. Each district is responsible for performing maintenance on the equipment assigned to the district. The Shop Superintendent is responsible for the daily operation of the shop facility and it is their responsibility to ensure that all equipment is maintained in an efficient and safe manner.

Since the majority of the information that is loaded into the Transportation Asset Management System (TAMS) Fleet Management System (FMS) is derived from shop operations, the accuracy of this information is critical to determining the equipment needs of the district. Therefore, the Shop Superintendent is responsible for making sure that all necessary documentation is completed accurately.

Job Orders. The shop Job Order is the primary document for the TAMS FMS. It documents by unit, specific data such as what repairs were completed, who did the work and the number of hours required. This document is to be completed for all equipment repairs regardless of whether the repair was performed in house or outsourced. This document is used to determine repair hours, type of repair, and downtime.

Repair Privatization. The Shop Superintendent or designee is to determine the most economical approach possible for repairing vehicles and equipment. The Shop Superintendent is to determine if the repair is to be completed by Department personnel or to have the unit repaired by a private vendor. Each repair situation is to be considered on an individual basis, but it is encouraged that the private sector be contacted on a random basis to compare the costs of privatization versus Department performed repairs.

TAMS Activity Codes. The TAMS FMS was designed to help supervisors monitor performance and cost of the equipment fleet without an excess of paperwork. In addition, it will also assist managers in making decisions regarding preventive maintenance, utilization and replacement.

In order for the system to work, fleet information must be collected and summarized. The majority of this information has to come from the field such as which units are being repaired and what types of repairs are being made.

TAMS FMS activity codes are used to describe the kinds of repair and maintenance work being performed on vehicles and equipment. When using the activity codes, remember the following:

1. Review the activities and descriptions. Become familiar with the basic structure and descriptions.
2. Make sure the correct activity code is recorded on the job order and preventive maintenance form. If uncertain, check with the Shop Superintendent.
3. The activity codes are general in nature and may not specifically define the type of work you are performing. Utilize the descriptions to assist you in determining the correct activity.

Accurate reporting is essential to making sound logical decisions regarding the management of the equipment fleet.

Refer to Figure 9-12 and the TAMS Maintenance Operations Procedures (MOP) Manual.

Satellite Mechanics. The Department maintains a full service repair facility in each of the districts. It is at these or commercial facilities that vehicle and equipment repairs are to take place. However, it is recognized that some District Maintenance facilities are located a great distance from the central repair facility. At these locations, a mechanic can be stationed to perform routine maintenance of the vehicles and equipment located at that maintenance facility. All major repairs should be performed at the main district repair facility as these facilities have been equipped to perform this type of work.

Before placing a mechanic at one of these remote locations, the district is to conduct a cost/benefit analysis showing the additional costs to the Department for a mobile shop vehicle and required tooling along with the expected pay-back period.

Traveling Mechanics. As part of its equipment fleet, each district is to maintain a complement of at least one shop service truck. This unit is to be utilized to conduct emergency repairs of equipment at various job sites located in the district. Each vehicle will be equipped with a welder, generator, air compressor, oxy/acetylene system, crane, and stocked with minor repair parts.

It is the responsibility of the Shop Superintendent to determine if these units are to be staffed full time or on a part time basis.

Body and Fender Repair. Clean, well maintained, and nice appearing equipment is essential in maintaining a good public image. All equipment is to be kept painted in accordance with guidance in this chapter.

It is the district's responsibility to ensure that as vehicles and equipment require body and fender repair, that that repair is completed in a timely manner.

Equipment Technician Tools

The Idaho Transportation Department (ITD) will furnish equipment shop employees with hand tools and lockable storage cabinets. Mechanics, Equipment Technicians, and Welder/Machinist classifications will be furnished with the necessary hand tools and storage boxes to perform their assigned work. Mechanics and Equipment Technician classifications will be provided the same tool set, while the Welder/Machinist will have a different set.

The tool lists define the tool sets for Equipment Technician/Mechanic and Welder/Machinist. The lists can be found at the Mechanic Tool Lists link below. The District Shop Superintendents will review the lists on an annual basis and make the necessary modifications to the tool list based on need and technology changes associated with the equipment owned by ITD. As new tools are identified, the District will be responsible for the purchase of the required tools.

Each tool set will be identified with an ITD Property number and tag for inventory purposes. Each specific tool will be laser etched from the manufacture with the specific designated tool set to establish which tools belongs to each set. This will insure that lost or misplaced tools are easily identifiable back to each set. The District Shop Superintendent is responsible for

conducting the annual inventory of the tool sets within their respective Districts. The inventory shall be conducted on a semi-annual basis to insure lost and broken tools are replaced in a timely manner.

Lost, broken and damaged tools will be submitted to the District Shop Superintendent for replacement. The Shop Superintendent will then submit the required paperwork to the District Supply for tool needs.

The District may designate a tool set to be stored or placed permanently in a roving mechanics truck. For those sets, the various hand tools identified for Equipment Technicians/Mechanics will be provided without the lockable storage cabinet.

[Mechanic Tool Lists](#)

Preventive Maintenance

The preventive maintenance program establishes uniform operating procedures throughout the state for the following:

- Lubrication, cleanup, and inspection of vehicles at scheduled intervals. Each supervisor should set a time (two hours a week should be sufficient) to be used for equipment maintenance, cleanup, and safety inspections.
- General service and tune-up of vehicles at scheduled intervals.
- Reporting vehicle and equipment deficiencies.

Theory. An important element of the Maintenance management program is the planning and scheduling of periodic preventive maintenance services on equipment. The purpose of preventive maintenance is to keep equipment in a safe and serviceable condition and to detect and correct minor deficiencies before they develop into costly repairs and costly downtime of crews.

Effective and economic preventive maintenance services require a systematic scheduling program that makes equipment available for mechanical inspections, lubrications, adjustments, and necessary repairs at predetermined intervals, minimizing downtime and resultant costly disruptions of work schedules due to equipment failures. Be aware that there is an economical point, at which the random failure of equipment can be reduced by preventive maintenance. Experience indicates that the optimum ratio is three scheduled services to one emergency repair, excluding tire and battery repair. At this rate, approximately 75 percent of the work can be planned and schedule.

Objectives. The objectives of the preventive maintenance program are to increase utilization and minimize downtime; detect abnormal conditions or deficiencies before breakdown occurs; provide a method for scheduling services and routine repairs; and provide a uniform system for reporting and recording work accomplished.

Responsibilities – Headquarters. Maintenance Services is responsible for providing an efficient, effective and track-able equipment preventive maintenance program for statewide use, and is also responsible for review of the district implementation of the program.

Responsibilities – District. The District Equipment Manager and Shop Superintendent is responsible for implementing the preventive maintenance program as outlined in this chapter.

Figure 9-12
SHOP ACTIVITIES

DESCRIPTION	ACTIVITY CODE	WORK UNIT
<u>CHASSIS</u>		
Brake Repair	E911	Each Labor Hour
Air System Repair	E912	Each Labor Hour
Frame Components	E913	Each Labor Hour
Steering Repair	E915	Each Labor Hour
Suspension Repair	E916	Each Labor Hour
Wheel Components	E917	Each Labor Hour
All Wheel Alignment	E918	Each Labor Hour
Bearing Repair	E919	Each Labor Hour
<u>DRIVE TRAIN</u>		
Axles, All Components	E921	Each Labor Hour
Clutch Repair	E922	Each Labor Hour
Drive Shafts for Vehicle Power Train	E923	Each Labor Hour
Power Take Off (PTO) Components	E924	Each Labor Hour
Transmission Repair, Manual	E925	Each Labor Hour
Transmission Repair, Automatic	E926	Each Labor Hour
Transmission Repair, Misc. Gear Box	E927	Each Labor Hour
<u>ENGINE</u>		
Air Intake System	E931	Each Labor Hour
Cooling System	E932	Each Labor Hour
Exhaust System	E933	Each Labor Hour
Fuel System	E934	Each Labor Hour
Engine Repair and Components	E935	Each Labor Hour
Perform Overhead (Diesel Engines)	E936	Each Labor Hour
Turbocharger, Supercharge	E937	Each Labor Hour
Retarders	E938	Each Labor Hour

Figure 9-12 (Cont'd)

SHOP ACTIVITIES

DESCRIPTION	ACTIVITY CODE	WORK UNIT
<u>ELECTRICAL</u>		
Battery System Repair	E941	Each Labor Hour
Charging System Repair	E942	Each Labor Hour
Cranking System Repair	E943	Each Labor Hour
Ignition System Repair	E944	Each Labor Hour
Equipment Lighting	E945	Each Labor Hour
Engine Belts, Idlers, Pulleys & Adjustments	E946	Each Labor Hour
Emission Control System	E947	Each Labor Hour
Electrical Repairs (Wiring)	E948	Each Labor Hour
<u>CAB & BODY</u>		
Air Conditioning, Heating, Ventilation	E951	Each Labor Hour
Cab/Body, Body Panels Repair/Sandblasting/Painting	E952	Each Labor Hour
Cab/Body, Glass Repair	E953	Each Labor Hour
Windshield Wiper/Washer	E954	Each Labor Hour
Cab/Body, Interior	E957	Each Labor Hour
<u>MISCELLANEOUS</u>		
Sander Specific Repair	E960	Each Labor Hour
Snowplow and Harness	E961	Each Labor Hour
Broom Specific Component Repair	E962	Each Labor Hour
Chains, Sprockets, Belts	E963	Each Labor Hour
Equipment Washing/Cleaning	E964	Each Labor Hour
Crawler Undercarriage	E965	Each Labor Hour
Portable Air Compressor Repair	E966	Each Labor Hour
Hydraulic System Components Repair	E967	Each Labor Hour
Attached Equipment Repair	E968	Each Labor Hour
Asphalt Equipment Repair	E969	Each Labor Hour
Mower Specific Repair	E970	Each Labor Hour
Seasonal Conversion	E971	Each Labor Hour
Shop Equipment Repair	E972	Each Labor Hour
Spray System Repair	E973	Each Labor Hour

Figure 9-12 (Cont'd)

SHOP ACTIVITIES

DESCRIPTION	ACTIVITY CODE	WORK UNIT
<u>MISCELLANEOUS (Con't)</u>		
Paint Striper, Weed Sprayer Maintenance	E974	Each Labor Hour
Tires	E975	Each Labor Hour
Equipment Technician Travel	EA76	Each Labor Hour
Mechanic Transport Time	EV76	Each Labor Hour
Equipment Minor Maintenance	E977	Each Labor Hour
Equipment Abuse/Neglect	E978	Each Labor Hour
Manufacturing	E979	Each Labor Hour
<u>PREVENTIVE MAINTENANCE</u>		
Report Hours on Timesheet	E980	
Engine Oil Change PM Type "A"	EA81	Each Engine Oil change Performed
Transmission Oil Change PM Type "A"	EB81	Each Transmission Oil change Performed
Differential Oil Change PM Type "A"	EC81	Each Differential Oil change Performed
Hydraulic Oil Change PM Type "A"	ED81	Each Hydraulic Oil change Performed
Chassis Lube PM Type "B"	EA82	Each Chassis Lube Performed
Non-Scheduled Equipment Inspection, PM Type "C"	EA83	Each Inspection Performed
Major Equipment Inspection PM Type "D"	EA84	Each Inspection Performed
New Equipment Inspection	EB84	Each Labor Hour
Aerial Equipment Inspection	EC84	Each Unit Inspected
Material Spreader Controller Repair	E840	Each Labor Hour

Types of Service

Preventive maintenance activities for fluid changes and chassis lube (EA81, EB81, EC81, ED81, EA82) are the responsibility of the ITD employees assigned to operate the vehicle and/or equipment. These services can be completed by the employee or outsourced as appropriate.

All preventive maintenance work shall be completed before scheduling an annual vehicle and/or equipment inspection with the shop.

Daily (Pre-Trip) Equipment Inspection. This inspection is completed to insure that ITD equipment is in proper operating condition prior to use. It is the responsibility of the operator to ensure that all equipment is inspected prior to use. Before an employee accepts the assignment to operate a vehicle or unit of equipment for the day, they are to perform a daily inspection of the unit utilizing the applicable form ITD 1423 (Driver's Daily Vehicle Inspection Report), or ITD 1424 (Driver's Daily Snowplow Inspection Report), or ITD 1425 (Operator's Daily Equipment Inspection Report) as a guide for the items to be checked. A pad of Form ITD 1423/1424/1425 is to be kept in every vehicle and/or piece of equipment unless otherwise specified by the Shop Superintendent or Equipment Manager. Complete the form each day the vehicle or equipment is utilized and note any deficiencies on the form. When deficiencies are found, the operator is required to notify the TOTL of the deficiencies and send/scan the white copy of the form to the District Shop Superintendent.

Fluid Change EA81, EB81, EC81, ED81 (PM Type A). Drain and replace vital component fluids at the service levels listed below. This PM (A) service is the responsibility of the ITD employees assigned to operate the vehicle and/or equipment and can be performed by the employee or outsourced as appropriate. This service also requires the employee to perform a full equipment inspection. Form ITD 1740 is to be used as a checklist. When this service is performed, complete the on-line PM Work Order in the TAMS FMS system. Inspect and perform activities listed on form ITD 1740. Note all items needing attention. Forward a copy of the form ITD 1740 to the District shop.

Service Intervals

EA81 - Engine oil drain and filter replacement is to be performed for all ITD units equipped with gasoline and diesel engines at the following specified intervals:

- Gasoline Engines: Every 6,000 miles or 200 hours of operation when using a synthetic oil.
 - Small Horsepower Engines: Manufacturer's recommendation found in the operator's/owner's manual not to exceed 50 hours of operation.
- Diesel Engines:
 - Stationary Application: Manufacturer's recommendation found in the operator's/owner's manual or 100 hours of operation, whichever occurs first.
 - Light-Duty Truck (up to 26,000 GVW): Manufacturer's recommendation found in the operator's/owner's manual or 6,000 miles/200 hours of operation, whichever occurs first.
 - Medium and Heavy-Duty Truck: (> 26,000 GVW) Every 9,000 miles/250 hours of operation.

- All Other Diesel-Powered Equipment: Every 100 hours of operation.
- Buyback Equipment (Non-ITD): Manufacturer's recommendations.

EB81 - Automatic transmission oil drain and filter replacement is to be performed for all ITD light duty and heavy duty units at the following specified intervals:

- Light Duty: Manufacturer's recommendation found in the operator's/owner's manual.
- Heavy Duty Truck: Manufacturer's recommendation found in the operator's/owner's manual.
- Earth Moving/Construction Equipment (including hydrostatic and power-shift design, etc.): Manufacturer's recommendation found in the operator's/owner's manual

EC81, ED81 - All other fluid compartment oil drains are to be performed for all ITD units:

- Truck differentials and manual transmission at the manufacturer's recommendation found in the operator's/owner's manual or 50,000 miles of operation, whichever occurs first.
- Truck hydraulic systems filters shall be changed annually.
- Construction equipment hydrostatic drives, differentials, transmissions, hydraulic systems, gear boxes, etc., at the manufacturers recommended service interval found in the operator's/ owner's manual.
- When a visual inspection indicates a problem.
- At the request of the Highway Equipment Superintendent, Equipment Analyst, Shop Superintendent.

Oil Sampling. Mandatory oil sampling of components is not required. Oil sampling can be a valuable diagnostic tool and should be used as appropriate.

Oil sampling may be required on Buyback equipment per the manufacture's or dealer's requirements. When oil samples are required, use the following guidelines for submitting samples:

- Oil samples taken on buyback equipment are to be submitted to the location contained on the documentation provided with the sample kit. Do not send buy-back samples to the Central Chemistry lab.
- Any required documentation included in the sample kit must be completed and returned with the oil sample.

Chassis Lube EA82 (PM Type B). Inspect and lubricate wear points as specified in the owner's manual and the preventive maintenance lube sheet for the type of unit involved. Inspect and service special equipment and hydraulic systems as necessary including a safety inspection of wear items, leaks and abnormalities.

This PM (B) service is the responsibility of the ITD employees assigned to operate the vehicle and/or equipment and can be performed by the employee or outsourced as appropriate.

Annual Inspection EA84 (PM Type D). The scheduled equipment inspection for licensed on-road powered equipment is performed on a scheduled basis of every twelve months. The maximum amount of time allowed to pass between inspections shall be twenty-four months or 9,000 hours/18,000 miles, whichever occurs first. Form ITD 1741 is used as a checklist for items to be inspected and deficiencies corrected.

This annual inspection is to be performed by trained shop personnel and the time spent is to be recorded on a shop job order using the TAMS FMS. Inspect special maintenance items and service emission control devices as specified by the manufacturer's recommendations. Items needing attention will be scheduled for correction.

Check for PM (A) EA81 and PM (B) EA82 scheduled service and sampling intervals and perform if required. The completed ITD 1741 form shall be attached to the job order when reporting this activity for the District Shop Superintendent to keep in his file.

Equipment Antifreeze Replacement

On or before September 15, the antifreeze solution shall be checked for required freeze protection in all water-cooled vehicles and/or equipment. This annual antifreeze inspection is to be performed by the assigned operator. Time spent performing the check is to be charged to Minor Operator Maintenance E977 or Preventative Maintenance activity E980 on the employee's time sheet.

Additional test requirements include the use of litmus test strips to test the acid content of the antifreeze solution. If the antifreeze is not acidic, it may be used until the next schedule antifreeze check. If the antifreeze is acidic, then the complete cooling system must be drained, flushed, and refilled with a new antifreeze solution mixture of required strength.

If the antifreeze solution has become diluted and does not pass the freezing requirement (but it does pass the litmus strip test), drain a portion of the radiator antifreeze solution and add enough straight antifreeze concentrate to obtain the required freeze protection.

Attach dated radiator tags or write with a marker to provide a record of antifreeze age and strength.

Air Filter Inspection

Proper air filter inspection is essential to the life of an engine. Replacing the air filter too soon instead of when scheduled becomes expensive and can be just as detrimental to the engine as not replacing it enough or not at all. The more times the air intake system is open for inspection, the more chances there are for dirt to enter the engine. Air filter inspection should be conducted according to the manufacturer's recommendation found in the operator's/owner's manual.

- Do not tap or blow into the air filter when checking for dirt. Chances are the air intake system is still open and dirt may enter into the engine.
- Never clean and reuse an air filter. The cost of a new air filter is cheaper than the replacement cost of an engine.
- Before installing a new air filter, always check to make sure the new replacement filter has the same physical dimensions (exact match) as the old filter.

- All diesel engine trucks and off-road earth moving equipment are equipped with an "Air Cleaner Service Indicator."
 - This device allows the operator to monitor and check the condition of the air filter without opening the air intake system.
 - Please review the operator's/owner's manual for the proper use of the Air Cleaner Service Indicator in checking filter condition and testing the operation of the Air Cleaner Service Indicator.

Deficiencies

Report all vehicle and/or equipment deficiencies to either your immediate supervisor or the Shop Superintendent.

Major deficiencies are those items that constitute a hazard to the operator or traveling public or that could result in further damage to the equipment if allowed to operate in that condition. If you discover what you believe is a major deficiency, do not operate the vehicle and/or equipment until the deficiency has been addressed.

Minor deficiencies are those items that are not serious enough to create safety hazards to the extent of grounding the vehicle.

Shared/Traveling Equipment

An equipment inspection is to be performed on all equipment shared throughout the state. Inspections will be performed when that the unit of equipment enters the district and again when it leaves. Use either Form ITD 1422 or ITD 1741 as a check list for items to be inspected and deficiencies corrected. Items needing attention will be scheduled for correction by the District Shop Superintendent.

Preventative Maintenance PM (A) EA81 and PM (B) EA82 activities are to be included and performed by all ITD employees assigned to operate the vehicle and/or equipment.

Permanent Equipment Maintenance Record Form ITD 0778

Equipment is purchased to assist ITD employees to do their jobs more effectively and efficiently over a long period of time. The operators of the equipment are responsible for its safe operation, preventative maintenance and records at prescribed intervals as described in this Chapter and the Operator's manual.

Form ITD 0778, Permanent Equipment Maintenance Record, is to be located in all motorized equipment units and is to be utilized by the operator(s) for a permanent record of any preventative maintenance performed, and fuel used. All ITD personnel are to perform daily checks before driving or operating any vehicle or piece of equipment as outlined above.

The driver or operator is also required to enter the amount of fuel used at each refueling interval. By recording fuel usage, the driver or operator can then verify:

- If the recorded meter/odometer reading is in correct sequence with previously entered meter/odometer readings.

- If the unit is equipped with multiple meters and if the correct meter/odometer is being used to record fuel purchases.
- If the meter/odometer has developed a problem or has quit working altogether.

Record pre-trip inspection information or inspection of specific items that the manufacture has scheduled. Record the information for those items that have been inspected.

Preventive Maintenance Equipment Management

Operators and shop personnel performing services will complete the on-line PM Job Order in the TAMS FMS system. If the vehicle or piece of equipment is outsourced for any preventive maintenance work, it is the responsibility of the individual overseeing and inspecting the work to submit the invoice to the Shop Superintendent or Fleet Manager for data entry into the TAMS FMS.

Vehicle and equipment operators are responsible for notifying their supervisor or Shop Superintendent of any equipment deficiencies or items needing attention.

Scheduling Method

Data from the various reporting forms are entered into the TAMS FMS to update the service records on each vehicle or piece of equipment. The FMS schedules annual major inspections based on the date of the previous inspection. Fluid changes and chassis lube are based on and scheduled according to the mileage or running time accumulated by the vehicle or piece of equipment.

As preventive maintenance services are due, based on either time or mileage, the equipment due for a preventive maintenance service are listed in the "Preventive Maintenance Needs" pane of the Issue window of the FMS. This pane shows the equipment that is due for service and the "PM Schedule Activities" lists the various preventive maintenance services that are due. Review the data and take necessary coordinated action to ensure that preventive maintenance services are accomplished.

PM Scheduling Procedure

All operators will perform the following procedures when scheduling preventative maintenance work:

- Perform a Pre-Trip inspection before operation to ensure the equipment is in a safe, normal operating condition before use.
- Inspect equipment after use for any issues that may have arisen.
- Check the current hour meter/speedometer and date against the repair history in the TAMS FMS or ITD 1422, ITD 1423, or ITD 1424 Daily Inspection Report for when the last type of service was performed.

Equipment Technician performs the following procedures:

- Ensure that the proper forms are available in vehicles/equipment and instruct individuals in the proper use of the forms and reporting preventive maintenance services.

- Review completed preventive maintenance forms and equipment operator reports to ensure that deficiencies recorded thereon are corrected.
- Review TAMS FMS reports on scheduled preventative maintenance activities. In the case of vehicles/equipment reported as overdue for scheduled preventative maintenance, contact supervisory personnel assigned to the equipment and verify that a required service is performed or schedule an appointment in accord with the last service date or mileage/hours shown on the report.

Supervisory personnel assigned the equipment perform the following procedures:

- Assure that assigned equipment is serviced in compliance with the prescribed service intervals.
- When PM services are performed by ITD personnel or commercial stations, see that TAMS FMS Work Orders and the proper forms are completed.
- Contact the Shop Superintendent when a scheduled inspection or repair is necessary. Schedule the work in advance, if possible.

Servicing State Owned Vehicles

Fuel, oil products and vehicle parts paid for by department will be used only in or on a vehicle that has a license plate or other identification designating the vehicle as owned or leased by the state of Idaho. The only exception to this requirement is for small quantities of fuel, oil, or other minor cost items that are provided to stranded motorists. Each incident where department supplies are provided to the public in the interest of public safety shall be appropriately documented and submitted to the employee's supervisor.

All state-owned agency vehicles (marked or unmarked), are authorized to obtain services at the six District offices during regular business hours. Unmarked vehicles must be identified as state owned by plate on dash, or inside the trunk lid or other identification prior to receiving service. District Engineers may, at their discretion, allow state agency vehicles to receive service at other department facilities upon request from the state agency.

When delivering state owned vehicles and equipment to the District Shop for repair or preventive maintenance services, it is the operator's responsibility to insure the vehicle is clean, ready for service and all personal property and trash removed from the vehicle/equipment. The Shop Superintendent has the authority to reject vehicles/equipment that are not cleaned prior to delivery to the shop.

Whenever feasible, fuel stops for ITD vehicles should be made at ITD facilities or department contracted commercial fueling stations.

State vehicles that are damaged in accidents shall not be repaired until the accident number is on the Job Order.

State-owned airport courtesy cars shall be maintained by the assigned airport and used in accordance with the signed Courtesy Car Agreement on file with the Aeronautics Division. Airport courtesy cars should not refuel at department facilities without prior agreement by the District Engineers and the Aeronautics Administrator.

Equipment Tire Maintenance

A regular program of inspecting tires is essential for providing the longest tire life for the lowest possible cost and in the prevention of rapid air loss resulting in subsequent tire failure. Tire inspections are to be performed by ITD employees assigned to operate the vehicle and/or equipment. As a minimum, tires should be inspected during the pre-trip inspection and at the time of the regular preventive maintenance checks. More frequent checks are required during cold weather periods.

The correct procedure in checking tires is to always check tire inflation pressures when tires are cold. Adjust tire pressures in compliance with the manufacturer's printed tire pressure information located on the sidewall of tire or the door mounted decal. Never bleed air from hot tires to relieve normal pressure build-up or to adjust tire pressure. Do not allow tires to become under inflated.

For truck applications operators are required to maintain at least 6/32" of tread groove depth on the front tires and 4/32" remaining tread depth on the other wheel positions. Light duty vehicles shall maintain a minimum of 4/32" tread depth on all wheel positions.

Make sure mated dual tires are at equal pressure levels. Use sealing-type valve caps. It is necessary to closely match tire revolutions per mile with tandem drive axle units coupled directly together, as when an inter axle differential does not exist or is locked out. The difference in circumference of the tires on a dual assembly should never exceed 1-1/2 inches.

When mounting duals on a truck, there will generally be some difference of the two tires (within the limits described above). Mount the small tire on the inside. The outside tire wears faster than the inside tire. When mounting the duals on a vehicle, locate the two valves diametrically opposite.

Retreaded Tires on Highway Vehicles. Since it is becoming more and more difficult to dispose of used tires, the need to recycle tires is greater now than in previous years. Therefore, all on-highway tires with a 16 inch wheel diameter or larger will be submitted for retreading/recapping. Used tires with a wheel diameter of less than 16 inches and those with a wheel diameter of 16 inches and larger that are not suitable for retreading/recapping will be stored and sold at public auction.

Retreaded/recapped tires are to be utilized on drive axle and trailer axles only.

Retreaded/recapped tires are not to be utilized on steering axles.

Studded Snow Tires. It is ITD management policy that the only vehicles allowed to operate with studded tires are Incident Management service patrol trucks and rotary snowplows. All other types of equipment shall not to be equipped with studded tires.

Equipment Modifications

Modifications, whether electrical, mechanical or a hydraulic function directly affecting the performance, operation or safety of any vehicle or unit of road equipment shall be conducted by Shop Personnel under the direction of the Shop Superintendent only. Operators/users are not to be performing equipment modifications.

Broken Meters

It is the responsibility of the operator to ensure that hour meters and odometers are working properly. All deficient hour meters and odometers are to be reported to the Shop Superintendent as soon as the deficiency is discovered.

Upon receiving information that a unit has a malfunctioning hour meter or odometer, the District Shop is to repair the meter within fifteen (15) working days. The Shop Superintendent is to document the meter replacement in the TAMS FMS.

Operation and Utilization

Equipment Design Limits. It is illegal to operate Department vehicles on public highways if weight or size exceeds the established legal limitations as set forth in Idaho Motor Vehicle Laws, Title 49, Chapter 10, of the Idaho Code.

Department vehicles are designed and procured to meet the legal allowable weight and size limits and the Districts are responsible for controlling these limits on their assigned vehicles. Department vehicles are not exempt from laws governing size and weight. Operators can be issued and are responsible for any overweight/oversize citations.

Under special circumstances when Department vehicles are loaded in such a manner that the legal allowable weight and size limits are exceeded, the District Fleet Manager will contact the Over-Legal Permit Section of Motor Carrier Services to obtain a permit.

Utilization Reporting Procedures

Proper reporting of equipment and vehicular utilization is the responsibility of all ITD employees. For all Operations personnel, equipment utilization reporting will be accomplished using the associated work orders in the Transportation Asset Management System (TAMS) by TAMS users. Improper reporting misrepresents the true utilization and cost of operating the equipment fleet which may lead to loss of such equipment and/or disciplinary actions by the supervisor.

Equipment Utilization Standards. Figure 9-13 contains the utilization standards adopted by the Department for each category of equipment. All equipment within the District and Headquarters inventories, which includes shared units is required to meet and support the Department's mission, vision, goals, and accomplish essential functions.

Equipment shall be maintained at the optimal complement level to ensure highway maintenance can be performed at the level of service to meet the Department's customer needs and shall include standard complement, special function equipment and other equipment that can be justified to meet the vision and goals of the Department and at no less than a minimum to perform the necessary and ordinary functions of the Department including emergency response. This includes work that is performed exclusively by the Department to maintain highways and is supported by equipment that is unique, customized and serves to support a mobile, safe, and reliable highway system.

Each category of equipment has been classified to indicate the Department's long range plans for evaluating the need, use, and retention for the equipment within the category. The following Classifications have been defined:

- Utilization – This includes equipment the Department has a substantial financial investment and regular use of the equipment is required for retention within each District’s fleet.
- Complement – This includes equipment that is needed to support daily operations, emergency response, essential winter operations, and typical highway maintenance work that is not readily available for rent. This also includes equipment with low initial financial investment.

Examples:

- Specialized Trucks
- Snow plows
- Miscellaneous Equipment
- Forklifts
- Attachments/Mowers
- Spreaders
- Fifth Wheel Trailers
- Special Function – Equipment that either supports a unique ITD program such as incident response or work zone safety equipment, such as crash attenuators, warning boards and signs. This designation also includes equipment that is needed to maintain a unique circumstance, work type, structure or condition. While items in this classification may be found in all Districts, they are not part of the standard compliment but instead address special conditions such as Winter Operations.
- Sunset – Equipment that can be rented or the functional need no longer exists to the extent that equipment should not be replaced.

The Annual Utilization Target values represent the Department’s average utilization for each unit by category with a Utilization classification. These utilization values are used to determine replacement cycles for equipment, District complement levels, and to evaluate units for disposal that are not meeting the standards established.

The District’s average utilization per unit for equipment within each Utilization Classification category shall be greater than or equal to the Annual Utilization Target. If the District’s category average utilization is less than the Annual Utilization Target standard, individual units shall have a three year average utilization greater than 85% of the target utilization and a single year utilization greater than 50% of the target utilization. Units not meeting these mileage/hour utilization standards will be evaluated on the quantity of days used against the Days Utilization Target listed. All units failing to meet all of the standards listed will be declared surplus and disposed as outlined later in this chapter.

Figure 9-13

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
100	Automobiles	Miles	6,000	5,100	3,000	90	Utilization
102	Automobiles, Electric	Miles	6,000	5,100	3,000	90	Utilization
200	Pickup <6200 GVW, Small	Miles	6,000	5,100	3,000	90	Utilization
202	Pickup <6200 GVW, Large	Miles	6,000	5,100	3,000	90	Utilization
204	Pickup, 6300-9000 GVW	Miles	12,000	10,200	6,000	144	Utilization
206	Truck, POE Rover	Miles	2/District				Complement
207	Pickup 4 x 4, Small	Miles	6,000	5,100	3,000	90	Utilization
208	Pickup 4 x 4, Large	Miles	12,000	10,200	6,000	144	Utilization
209	Truck, 4 x 4, Utility	Miles	10,000	8,500	5,000	144	Utilization
210	Vans, 4 x 2, Small	Miles	6,000	5,100	3,000	90	Utilization
211	Vans, 4 x 2, Full Size	Miles	6,000	5,100	3,000	90	Utilization
212	Vans, 4 x 2, Testing	Miles	15,000	12,750	7,500	144	Utilization
214	Vans, 4 x 2, Photolog	Miles					Special Function
217	SUV, Small	Miles	6,000	5,100	3,000	90	Utilization
218	SUV, Large 4 x 4	Miles	6,000	5,100	3,000	90	Utilization
220	Pickup, >9000 GVW, Reg. Cab	Miles	As Needed				Complement
221	Pickup, >9000, Crew Cab	Miles	12,000	10,200	6,000	144	Utilization
222	Truck, >9000, Flatbed	Miles	10,000	8,500	5,000	100	Utilization
223	Truck, 9000 - 15,000 GVW Utility	Miles	10,000	8,500	5,000	100	Utilization
224	Truck, Incident Response Unit	Hours	District 3 Only				Special Function

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
225	Truck >15,000 GVW Utility	Miles	10,000	8,500	5,000	100	Utilization
226	Truck, <15,000 GVW, Reg. Cab, Dump	Miles	12,000	10,200	6,000	144	Utilization
227	Truck, <15,000 GVW, Crewcab, Dump	Miles	12,000	10,200	6,000	144	Utilization
228	Truck, >15,000 GVW Dump	Miles	12,000	10,200	6,000	144	Utilization
230	Stencil Truck	Hours	1/District				Complement

TRUCKS, 20-35,000 LB GVW

321	4 x 2 Snowplow Truck	Hours					Special Function – Winter Operations
324	Flatbed 4x2 Truck	Hours	6 Statewide				Complement
326	Crash Attenuator Truck	Hours					Special Function - Safety
327	Water Truck - Diesel	Hours					Special Function
328	De-Icer Truck	Miles					Sunset
329	Skid Test Truck	Miles					Special Function
335	Hot Patcher Truck	Hours					Complement 2/District
336	Utility 4x2, 4x4 Truck	Hours	450	383	225	70	Utilization
337	Sprayer Truck	Hours	300	255	150	100	Utilization
338	Aerial Tower < 30 ft. Truck	Hours	550	468	275	144	Utilization
339	Aerial Tower > 30 ft. Truck	Hours	250	215	150	100	Utilization
340	Digger Derrick Truck	Hours	1/District				Complement
342	Striping Unit Truck	Hours					Special Function
347	Scale Test/Post Driver-Diesel Truck	Hours	200	170	100	70	Utilization
364	Rotary Snow Plow Truck	Hours					Special Function - Winter Operations

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
TRUCKS, 3-AXLE 43 - 65,000 LB							
372	6 x 4 Snowplow Truck	Miles					Special Function - Winter Operations
373	6 x 4 Rockbed Truck	Miles					Special Function - Winter Operations
374	6 x 4 Snowplow Truck w/Wing Plow	Miles					Special Function - Winter Operations
375	Core Drill Truck	Hours	2 Statewide				Complement
376	Tractor Truck	Hours	600	510	300	144	Utilization
379	Snooper Truck	Miles					Special Function
390	Distributor > 1300 Gallons Truck	Hours					Sunset
392	Multipurpose Truck	Miles	450	380	225	70	Utilization
393	Water Truck >2500 Gallons	Hours					Special Function - Winter Operations

WHEEL TRACTORS

401	Backhoe	Hours	250	213	125	50	Utilization
402	Loader 1/2 C.Y.	Hours	150	128	75	20	Utilization
404	Loader Skid-Steer	Hours	200	170	100	30	Utilization
406	Loader 1-1/2 - 2 C.Y.	Hours					Special Function - Winter Operations
407	Loader 2 - 3 C.Y.	Hours					Special Function - Winter Operations
408	Loader 4 C.Y.	Hours					Special Function - Winter Operations

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
CRAWLER TRACTOR							
424	Dozer, Medium	Hours	300	255	150	30	Utilization*
426	Dozer, Heavy	Hours	300	255	150	30	Utilization*
428	Snow Cat	Hours					Special Function - Winter Operations
MOTORGRADER							
506	Milling Machine	Hours	100	85	50	30	Utilization
508	Motor Grader, 6 x 4	Hours	250	213	125	30	Utilization*
510	Motor Grader, 6 x 6	Hours	250	213	125	30	Utilization*
600	Pull Grader (Rock Rake)	Hours	As Needed				Complement < \$5,000
* If Utilized for Winter Operations, Utilization Standards do Not Apply							
SNOWPLOWS							
705	Under Body SnowPlow	None	As Needed				Complement
706	Wing Plow, Grader Mt.	None	1/Grader or Less				Complement
707	Wing Plow, Truck Mt.	None	1/Truck or Less				Complement
710	Snow Plow, V-Type, Fixed	None	1/Dozer				Complement
711	Snow Plow, V-Type, Folding	None	1/Grader or Less				Complement
712	Snow Plow, Tow Type	Hours	As Needed				Complement
713	Rotary Snow Plow, Loader Mounted	Hours	As Needed				Complement
714	Snow Plow, One-Way	None	714 & 715 Combined, 1/Truck + 1/Shed + 5 Spares				Complement < \$5,000
715	Snow Plow, Two-Way	None					Complement

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
AIR EQUIPMENT							
799	Compressor 0-50 CFM	None	As Needed				Complement < \$5,000
802	Compressor 160 + CFM	Hours	150	128	75	25	Utilization
804	Jackhammer/Rockdrill	None					Sunset
805	Breaker (Pavement), Tamper	None					Sunset
806	Sandblaster	None					Complement
ASPHALT EQUIPMENT							
810	Distributor, Slide-In	Hours	120	102	60	25	Utilization
811	Distributor, Truck Mount	None					Sunset
812	Hot Patcher, Truck Mount	None	1/Cat 335				Complement
813	Distributor, Tow Type	Hours	120	102	60	25	Utilization
814	Crack Filler	Hours	120	102	60	25	Utilization
815	Tail Gate Conveyor	None					Sunset
816	Mastic Mixer, Tow Type	Hours	120	102	60	25	Utilization
817	Hot Patcher, Tow Type	Hours	120	102	60	25	Utilization
818	Laydown Machine, Self-Propelled	Hours	120	102	605	25	Utilization
819	Laydown Machine, Pull Type	Hours	120	102	60	25	Sunset
821	Pavement Testing Trailers	None					Special Function
822	Chip Spreader, Pull Type	None					Sunset
823	Chip Spreader, Self-Propelled	Hours	50	43	25	15	Utilization/Sunset

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
BOATS AND BARGES							
825	Barge	Hours					Sunset
826	Boat	Hours					Special Function
827	Boat Motor	None					Special Function
828	Boat Trailer	None					Special Function
CONCRETE EQUIPMENT							
831	Concrete Mixer	None	1/District				Complement < \$5,000
832	Mortar Mixer	None	1/District				Complement < \$5,000
833	Concrete Saw	None	1/Foreman or Less				Complement < \$5,000
834	Concrete Cutoff Saw	None	2/District				Complement < \$5,000
836	Crack Cleaner/Router	None					Sunset
837	Misc. Compactors (Screed, Trowel, Wacker, Compactor)	None	As Needed				Complement < \$5,000
EARTH DRILLING EQUIPMENT							
841	Earth Drilling Auger	None					Sunset
844	Diamond Drill	Hours	100	85	50	20	Utilization
846	Abrasive Drill	None	As Needed				Complement < \$5,000

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
FORKLIFTS, YARD CRANES							
847	Forklift, Truck Mount	Hours	1/Striping Crew			Complement	
848	Forklift, <4,000 lb.	Hours	As Needed			Complement	
849	Forklift, 8,000 - 10,000 lb.	Hours	2/District or Less			Complement (Additional Based on Utilization)	
850	Forklift >10,000 lb.	Hours	1/District			Complement	
851	Yard Crane	Hours	1/District			Complement	
852	Yard Tug	Hours	1/District			Complement	
853	Electric Warehouse Equipment	None	2 Statewide			Complement	
LOADER, CONVEYOR							
860	Conveyor (Belt) Screener Plant	Hours	150	128	75	30	Utilization/Sunset
861	Loader, Belt or Bucket	Hours					Complement
MOWERS							
864	Self-Propelled Lawn Tractor	Hours	As Needed			Complement	
865	Lawn Mower, Push Type/Self-Propelled	None	As Needed			Complement < \$5,000	
866	Road Side Mower, Sickle	None	866, 867, 869 & 870 Combined, 1/Cat 402 Tractor + 1 Spare			Complement	
867	Road Side Mower, Rotary	None				Complement	

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
869	Road Side Mower, Slope	None					Complement
870	Road Side Mower, Flail	None					Complement
868	Chipper, Brush	Hours	150	130	75	20	Utilization

WATER PUMPS

872	Water Pump, Light Duty < 3-1/2	None	As Needed				Complement < \$5,000
873	Water Pump, Heavy Duty 4 and Up	None	As Needed				Complement

ROLLERS

880	Roller, Small Dual Drum Vibrating Steel	Hours	200	170	100	20	Utilization
881	Roller, Large Single Drum Vibrating Steel	Hours	200	1703	100	20	Utilization

SANDERS

885	5 C.Y. Slide-In Sander	None	885 & 886 Combined. 1/Cat 321 & 326 Truck or Less				Complement
886	5 C.Y. Truck Mounted Sander	None					Complement
887	9 C.Y. Truck Mounted Sander	None	887, 888, & 889 Combined, 1/Cat 372,373,374 Trucks or Less				Complement
888	9 C.Y. Slide-In Sander	None					Complement
889	Combo Unit	None					Complement

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
SHOVELS							
902	Excavators	Hours	350	298	175	60	Utilization
906	Miscellaneous Attachments	None	As Needed				Complement
SWEEPERS							
907	Street Sweeper Mechanical	Hours	200	170	100	30	Utilization
908	Tow-Type Litter Machine	Hours	120	102	60	20	Utilization
909	Self-Propelled Sweeper	Hours	120	102	60	20	Utilization
910	Street Sweeper Vacuum	Hours	200	170	100	30	Utilization
WATER TANKS							
911	<1500 Gallon Skid-Mt De-Icer Tank	None					Special Function - Winter Operations
912	> 1500 Gallon Skid-Mt Water Tank	None					Special Function - Winter Operations
913	Weed Sprayer Tank	None	As Needed				Complement
TRAILERS							
915	Trailer, Semi Low-Boy (Flatbed)	None	As Needed				Complement
916	Trailer, Semi Belly-Dump	None					Sunset/Complement

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
917	Trailer, Semi Tanker	None	As Needed				Complement
918	Test Camper	None	As Needed				Complement
919	Trailer, Test, and Office	None	5/District				Complement
920	Trailer, Tilt Bed/Ramp	Hours	100	85	50	30	Utilization
921	Trailer, Utility, 2 & 4-Wheel	Hours	100	85	50	30	Utilization
922	Trailer, Sign, Warning	Hours					Special Function - Safety
923	Trailer, Message	Hours					Special Function - Safety
924	Attenuator	None					Special Function - Safety
926	Light Plant	Hours					Special Function - Safety

MISCELLANEOUS

927	Warning Sign, Truck Mount	None					Special Function - Safety
930	Generators	Hours	As Needed				Complement < \$5,000
931	Welder	Hours	As Needed				Complement < \$5,000
932	Skid Mt. Generator	None	As Needed				Complement
953	Grain Drill, Harrow	None	1/District				Complement < \$5,000
954	Chain Saw	None					Sunset
956	Tamper, Hydraulic	None	As Needed				Complement
958	Misc. Yard Equipment	None	As Needed				Complement < \$5,000
963	Hydroseed/Mulcher	Hours	50	43	25	10	Utilization
965	Mini-Striper	None	District 1 & 4				Complement
966	Hand Striper	None	As Needed				Complement < \$5,000

EQUIPMENT CATEGORY UTILIZATION STANDARDS & TARGETS

Category	Description	Type	Annual Utilization Target	3-Year Average Target	Single Year Target	Days Utilization Target	Classification
967	Sign Washer/Sprayer	None	As Needed				Complement < \$5,000
971	Stripe Remover	None	As Needed				Complement < \$5,000
972	ATV (4 Wheeler or Motor Vehicle)	Hours	150	128	75	50	Utilization

Utilization Review. At the conclusion of each fiscal year, Maintenance Operations will provide each District Engineer and the Chief Operating Officer with a report detailing the amount of utilization for each category and unit of equipment. The District Engineer or designee shall review the report to ensure that all equipment is being utilized to stated department standards per Figure 9-13. For those units of equipment that were not utilized to department standards, a written justification shall be provided to the Chief Operations Officer. Justification shall include:

- A description of the vehicle's intended use and estimated annual mileage
- A detailed plan describing how the vehicle will meet standards at the next review.
- A compelling business case for keeping the vehicle (i.e., similar equipment cannot be rented, etc)

All units failing to comply with minimum utilization standards and complete justification will be declared surplus and disposed.

Motor Pool Operations

ITD Headquarters and each district may maintain a motor pool of automobiles and other general use equipment for Department business.

Headquarters Motor Pool. Maintenance Operations-Fleet Management group is responsible for administration and supervision of the Headquarters motor pool. Day to day operations and task assignments will be the responsibility of the Highway Equipment Analysts. Maintenance of vehicles, PM services, and inspections are completed as necessary or at designated intervals. Vehicles will be inspected, serviced and cleaned as needed.

Reservation for motor pool vehicles is accomplished using the "HQ Motor Pool Car Reservation" application from The Transporter SharePoint page. Maintenance Operations-Fleet Management group will make vehicle assignments on a 'first come, first served' basis and by vehicle use type. Request for specialized vehicles will be on a case by case basis. Keys for vehicle assignments will be available in the Maintenance Operations office in the Operations Annex.

Vehicle User Responsibilities. When checking out a vehicle, vehicle users must:

- Perform a walk-around inspection of the vehicle and note any damage or mechanical needs on reservation envelope.

When returning a vehicle, vehicle users must:

- Fuel vehicle at the nearest convenient commercial fueling station.
- Wash vehicle at nearest automated car wash facility. All motor pool vehicles are equipped with RFI tags allowing the vehicle user to wash the vehicle at no charge to the employee.
- Clean interior of vehicle of personal property, trash, and debris.
- Return vehicle to the Headquarters motor pool vehicle lot.
- Document odometer reading of vehicle on envelope attached to keys.
- Deposit keys and envelope in the Key Drop box located in the motor pool lot.
- Report any mechanical issues or vehicle damage.

Users must notify Maintenance Operations-Fleet Management group if they have a change of plans and no longer require a vehicle or require it for a longer period of time. If motor pool

vehicles are left in poor condition or unreported damage is identified, the employee's supervisor will be notified.

If motor pool vehicles are not available, transportation is available through the statewide commercial rental agencies of Enterprise and Hertz.

When returning a unit of equipment, users must:

- Fuel the vehicle or equipment.
- Clean the unit and make ready for use.
- Return the unit to the location as directed by the Equipment Manager.
- Document the use of the unit in TAMS on the appropriate work order.
- Report any mechanical issues or damage to the Shop Superintendent.
- Notify the Equipment Manager.

Personal Auto Use

Employees, who conduct Department business at a location other than their assigned duty station may use their personal vehicle rather than Department motor pool vehicles when the use is convenient for the employee and economical for the Department. Use of personal vehicles requires pre-approval by the supervisor. Various modes of travel, more than one employee making the same trip, time factors, etc. must be considered before personal vehicle usage can be approved. The employee shall complete form ITD 0633, Travel Cost Comparison and Approval, before using their personal vehicle.

For those trips that are approved by the supervisor, the employee shall record business mileage on an ITD 0103, Individual Expense Account form. Reimbursement for usage of the personal vehicles shall be at the current mileage reimbursement rate at the time of travel and is based on the standard ground mileage between the employee's duty station and the destination point(s) of the trip.

Vehicle Speed Limits

Employees operating state owned vehicles are to obey all traffic laws including the posted speed limit. Traffic laws are also to be observed when using personal vehicles on department business.

Although Idaho law restricts trucks with 5 or more axles to a maximum speed of 70 MPH, the general public believes that all trucks are restricted to this speed. In order to promote a positive perception by the public, minimize fuel consumption and tire wear, and increase safety, all ITD trucks will be restricted to a maximum speed of 70 MPH. Trucks with computer controls will have the manual full throttle control set at a maximum of 72 MPH while the maximum cruise control setting will be set at 68 MPH.

Rental of Department Vehicles and/or Equipment to Other Government Agencies

Any District considering renting/loaning vehicle(s) or equipment to another government agency for emergency or piece work must evaluate the vehicle/equipment complement within the District to ensure that the District's needs during the rental period can be met. Department vehicles or road equipment may be rented to other government agencies by using the following rules:

The other Government Agency shall:

- For a State Agency: Agree that any damage losses that might occur will be reported against that particular agency's loss history. For a Non-State Agency: Provide certificates of insurance, verifying liability and physical damage coverage for the vehicle or equipment; and worker's compensation coverage or other suitable medical coverage for all occupants of the vehicle or equipment.
- Provide a statement of how the vehicle or equipment will be used and by whom. Identify any others who will be transported in the vehicle/equipment and certify that they will be covered by medical insurance.
- Verify that all drivers have a valid Idaho driver's license or other appropriate operator's license and a good driving record.
- Pay the department's established rental rate for the vehicle/equipment and pay for fuel during the rental period.
- Pay equipment damage, other than normal wear, and including any applicable deductibles.
- Pay an additional 7% administrative fee.
- Notify the department's designated official with all pertinent information, in the event of an accident involving the vehicle or equipment, or any other situation that may result in a claim.

Idaho Transportation Department shall:

- Complete an Intergovernmental Rental Agreement ITD 1234 that details the terms and conditions of the agreement prior to providing the vehicle or equipment.
- Verify that the other agency is completely responsible for any losses (claims) to third parties, that their insurance is primary, and that the certificate of insurance is in effect.
- Provide a vehicle or equipment that is in good operating condition and has a full tank of fuel.
- Provide all preventive maintenance (oil changes and servicing) and all repairs due to normal use of the vehicle or equipment.

Whenever equipment is rented to another agency, an ITD accounts receivable project number shall be assigned. The District Equipment Manager will create a Work Order in TAMS Road Maintenance. The District Equipment Manager will be responsible for documenting the utilization of the equipment and completing the Work Order. When the vehicle/equipment is returned to ITD, a copy of the Work Order Summary report and Form 1234 shall be submitted Financial Services' Revenue Operations Unit so that an interagency billing can be created.

Any questions on the appropriate rental rate for equipment should be directed to the Department Fleet Manager or District Equipment Manager.

Questions related to insurance or driving records should be directed to the department's Employee Safety/Risk Management office.

The District must review and either reissue or terminate the Intergovernmental Rental Agreement at least annually on the date that the agreement is signed.

Towing and Hauling of Department Vehicles and/or Equipment

Trucks will be equipped with a towing rope, chain or cable in good condition and of sufficient capacity to pull vehicles without breaking. Towing of vehicles with towing rope, chain or cable will be limited to only assisting vehicles that are disabled or stuck.

All ITD vehicles and equipment that need to be towed or transported shall be hauled on an approved tow trailer. Properly sized safety chains and/or binders/tie-downs will be used whenever any vehicle or trailer is transported from one location to another by another ITD vehicle.

Towing of Public Vehicles. A towing device will be used only to remove a public vehicle from a hazardous location, when obstructing traffic, aiding law enforcement, opening lane(s) of traffic, or when endangering the traveling public, and only far enough to be parked in a place that will not obstruct traffic. Prior to towing the vehicle, have the owner/operator sign an ITD-1993, Emergency Assistance Release.

Slide-In Liquid Deicer/Spreader Securement

Slide-in liquid deicer tank and spreader securement must meet current Federal Motor Carrier Safety Regulations (FMCSR). The working load limits of the tie downs used to secure the deicer/spreader must be equal to the weight of the deicer/spreader when fully loaded. The working load limit of straps are 1,000 lbs. for each inch of width unless marked with the working load limit. Turn buckle type tie downs are not rated and shall not be used to secure deicer/spreaders. Lever type binders can be used, but must be rated at 4,000 lbs. or greater. Deicer/spreaders must be secured using a minimum of four (4) tie down points. 4 inch straps are to be used at the front of the deicer spreader. The rear of the deicer/spreader can be tied down by using 4 inch straps, or by using the tailgate locks, if they are bolted shut. Using just the air lock on the tailgate does not comply with FMCSR.

Fuel and Oil Additives

Department employees utilize various types of equipment while completing their assigned tasks. The fuel to power this equipment and the oils and lubricants utilized are provided via state contracts and commercial suppliers. The Department goes to great lengths to purchase the highest quality fuel and lubrication products. Fuel and lubrication products are specified to meet the requirements designated by equipment manufactures.

As all lubrication products utilized by the Department are specified to meet manufacturer's standards and requirements, the need for lubrication additives is not required. Therefore, the use of lubrication additives is prohibited in Department vehicles and equipment.

The Department purchases fuel via supply contracts for our private sites and from various commercial vendors. Fuel purchased for our private sites is specified to meet ASTM standards for unleaded gasoline, and No.1 & No. 2 diesel. Department fuel contracts also require diesel fuel suppliers to provide either blended diesel or chemical anti-gelling agents for use in cold weather.

Since all fuel products purchased by the Department meet both equipment manufacturer and ASTM requirements, the use of fuel additives in bulk fuel storage tanks is prohibited.

Since cold weather is not always predictable, the Department may experience fuel gelling in vehicle and equipment fuel tanks prior to receiving winter blended diesel fuel. To combat this issue, personnel are authorized to utilize anti-gelling additives in vehicle fuel tanks as needed. All other fuel additives are prohibited.

Equipment Abuse/Neglect Evaluation Procedure

Definitions.

Abuse is defined as any situation where the vehicle or equipment was utilized in a manner not consistent with its design, used past the tolerances set by the manufacture's specification, or when the amount of stress far exceeds the amounts needed to perform the job. This may also include damage and improper use.

Neglect is defined as not performing scheduled preventive maintenance, failure to keep exterior/interior reasonably clean or well preserved, or any action that serves to depreciate the vehicle/equipment faster than the process of normal wear and tear. Additional examples of neglect include lack of lubrication, excessive wear of components, lack of adjustments, dirty filters, unapproved modifications, and bald tires.

Working days are defined as actual shop time, i.e. the time the equipment is being worked on. Time waiting on the line prior to work commencing will not be counted, but time waiting on parts will.

Preventable Incidents. Incidents of equipment abuse/neglect will be handled on a case by case basis that considers the degree of severity of the incident, the degree of negligence involved, and any mitigating circumstances surrounding the incident. In case of an equipment abuse/neglect incident, Equipment Abuse/Neglect Incident Report Form ITD 1231, Incident Report Form ITD 0556, a copy of Job Order Summary and copies of all supporting documents will be forwarded to the District Human Resource Officer.

Rating Criteria.

Degree of Severity

Low: Repair requires Shop or mechanic labor time of 4 hours or less, or monetary value equal to or less than \$1,000.

Medium: Repair requires Shop or mechanic labor time of 4 – 8 hours, vehicle down time of 1 – 2 days, or monetary value up to \$5,000.

High: Repair requires Shop or mechanic time over 8 hours, vehicle/equipment down time of more than 2 days, or monetary value over \$5,000.

Equipment Disposal

Surplus Equipment. Once a unit of road equipment is determined surplus to the Department, the District Equipment Manager or Maintenance Operations-Fleet Management Staff will initiate the disposal process as outlined below:

- For the specific unit of equipment, update the Admin Unit in the FMS to appropriate District Disposal. This will auto generate a report to each District notifying them of the intent to dispose of the unit of equipment.
 - 199A – D1 Disposal
 - 299A – D2 Disposal
 - 399A – D3 Disposal
 - 499A – D4 Disposal
 - 599A – D5 Disposal
 - 699A – D6 Disposal
 - 999A – D9 Disposal
- If the equipment is not needed by another District, declare the unit on the State Controller's Office (SCO) website. Declaration of road equipment can only be done the second and fourth Tuesday of each month.
- Request applicable vehicle and equipment titles from Maintenance Operations-Fleet Management staff.
- Complete the "Disposal Authorization Form" on the SCO website and assign a Disposal number. Disposal numbers are to be unique for each form completed and utilize the following format: "FDYYXX"
 - F – Fleet
 - D – District (1, 2, 3, 4, 5, 6, or 9)
 - YY – Calendar Year (19, 20, 21, etc.)
 - XX – Sequence Number (01, 02, 03, etc.)
- The Disposal Authorization Form is approved by the Fleet Manager. The Fleet Manager will provide a copy of the approval Disposal Form back to the requestor.
- For equipment not sold to other tax supported entities via the declaration process, post an advertisement in the local paper two weeks before placing equipment on the on-line auction website.
- Post equipment to the SCO approved on-line auction website, www.publicsurplus.com
- Sales proceeds from tax supported entities shall be processed in accordance with ITD financial procedures.
- Sale proceeds for units of equipment sold via the on-line auction service, will be submitted directly to Financial Services. The requesting District will provide proper documentation per financial procedures.

Equipment identified for disposal shall meet the replacement criteria described earlier in this chapter.

When preparing equipment for sale, remove the decals, license plates, and any other department identification markings except reflective striping. All units shall be sold as is without repainting.

Snowplow trucks are equipped with telematics and a data recorder as part of the spreader and hydraulic controls. The data from these devices are communicated through a WiFi to ITD's technology network. When snowplow trucks are ready for disposal, complete the following steps in preparation for disposal:

- Remove the WiFi communication bridge located on the cab back window.

- Remove the embedded IP address from the spreader controller.
- Contact Maintenance Operations to have the truck removed from ITD's list of reporting snowplow trucks. ITD pays a license fee for each truck and removing the truck from list deletes the license for allowing the truck to communicate.

Equipment Cannibalization/Scrap. Equipment with a value of less than \$100 can be scrapped without attempting to sell the unit of equipment. Additionally, some equipment will provide more value to the Department by cannibalization and using the parts and components to repair other like equipment. The District Equipment Manager has the authority to make this determination. Equipment to be cannibalized must still be processed through a disposal process in order to retire the equipment number as an asset in ITD's financial system.

The process for cannibalization follows:

- For the specific unit of equipment, update the Admin Unit in the FMS to appropriate District Disposal. This will auto generate a report to each District notifying them of the intent to dispose of the unit of equipment.
- Complete the "Disposal Authorization Form" on the SCO website and assign a Disposal number. Disposal numbers are to be unique for each form completed and utilize the following format: "FDYYXX"
- The Disposal Authorization Form is approved by the Fleet Manager. The Fleet Manager will provide a copy of the approval Disposal Form back to the requestor.
- The equipment and Vehicle Identification numbers must be removed.
- After the removal of all usable component parts, the remainder of the unit can be sold as scrap, demolished or disposed.

Chapter 10

Fuel Management

Fuel Site Management

The management of the equipment installed at Idaho Transportation Department (ITD) fuel sites is divided between the six districts and the Maintenance Operations Section. Each district and the Maintenance Operations Section are responsible for separate duties.

Administration: Headquarters. Statewide administration of the program will be provided by the Fuel Systems Project Coordinator within ITD's Headquarters Maintenance Operations Section. The goal of the section is to provide an integrated system of equipment and software to manage the full spectrum of functions from fuel storage and dispensing to fuel data processing and contract administration. Additionally, the objective is to provide equipment that is economical, safe and durable. The Fuel Systems I Project Coordinator is assigned administrative, financial, purchasing and technical services duties.

The Fuel Systems Project Coordinator will:

- Administer the Fuel Program Budget for fuel site hardware maintenance and replacement.
- Administer program policies and procedures.
- Provide and administer fuel site equipment specifications and purchase requests.
- Monitor industry innovations.
- Monitor the performance of contract vendors.
- Provide and maintain asset inventory.
- Provide training.
- Administer Quality Assurance program.

Administration: Districts. The District Engineer or designee is responsible for ensuring the equipment in the district is operated and maintained in accordance with established policies and procedures. The District Engineer will provide personnel to serve as a coordinator for the program. The District Fuel Site Coordinator will:

- Provide information, clarification and appropriate assistance to fuel site personnel.
- Provide information as requested from the Fuel Systems Project Coordinator.
- Provide assistance to fleet card and reconciliation process personnel.
- Coordinate equipment failure reporting.
- Within 30 days of employment in this position, must complete and pass the Department of Environmental Quality Class B Underground Storage Tank Operator Training and update DEQ contact information for the district.
- Maintain an updated list of each fuel sites Class B and Class C Underground Storage Tank Operators, edit the DEQ contact list and provide an updated list to the HQ Fuel Systems Project Coordinator as changes are made.

Fuel Site Equipment Definition

Each ITD maintenance facility fuel site is equipped with several components required to operate and maintain a safe and efficient fuel site. Each component or equipment type has a specific function and may or may not be connected to all other components.

Fuel Storage Tank.

Underground Storage Tank (UST) – An UST is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground.

Above ground Storage Tank (AST) – An AST is a tank and any piping connected to the tank that has more than 90 percent of its combined volume above ground level.

Tank Monitor. A tank monitoring system is a combination of hardware (console, probes, sensors, floats) and software used to monitor UST and AST functions such as inventory control, in-tank leak detection, interstitial leak detection and in-tank water volume.

Fuel Dispenser. A fuel dispenser is a combination of pump, pulser, meter and hose hardware used to safely and accurately measure the amount of fuel dispensed from the bulk fuel storage tank. The dispenser can have one or two hoses and each hose is equipped with an automatic nozzle colored according to fuel type dispensed by that nozzle. A two hose fuel dispenser can dispense the same fuel type from both hoses or two different fuel types.

Card Reader. A card reader system is a combination of a terminal installed at the fuel island and a console and/or modem installed in the office of the maintenance facility. The card reader is used to authorize card and PIN information, activate the appropriate fuel dispenser, store transaction data and send transaction data to the card provider for processing. The card reader system is also used to secure the fuel site from unauthorized fuel use.

Fuel Site Equipment Identification

Each piece of fuel site equipment is identified by location and type. The Fuel Systems Project Coordinator is responsible tracking the individual fuel site equipment inventory. The data is used to track fuel site asset inventory and determine appropriate equipment replacement schedules.

Preventive Maintenance

The Fuel Site Preventive Maintenance Program and personnel responsibilities are identified in the following sections.

Objectives. The objectives of the Fuel Site Preventive Maintenance Program are:

- To keep ITD fuel site facilities and their associated equipment in the best possible condition.
- To monitor ITD fuel site equipment to ensure proper maintenance and repair.
- To perform these tasks economically and within the allocated budget.
- To minimize emergency repairs.
- To prevent equipment failure and ITD fuel site down time.
- To ensure maximum compliance of ITD fuel site facilities with State and Federal environmental, safety and fire codes.

- To ensure that an annual inspection and evaluation of each ITD fuel site and related equipment is performed.
- To develop a fuel site equipment maintenance program whereby major equipment replacement needs can be predicted and planned.
- To maintain a record of fuel site equipment maintenance activities performed.
- To ensure that personnel know what to look for during inspections and what follow-up actions to take.
- To complete all required DEQ inspections with the exception of the DEQ Monthly Walk Through Inspection.

Preventative Maintenance Inspections and Service. The Operations Team Leader is responsible for the daily operation of the fuel site. It is the Operation Team Leader's responsibility to ensure that all equipment is operated and maintained in a safe and efficient manner. Certain weekly and monthly inspections are required to be performed by ITD personnel to meet Department of Environmental Quality and Federal Environmental Protection Act Regulations.

Weekly Fuel Site Inspection

Automatic Tank Gauge/Leak Detection Monitor System

- The power is on
- The printer has paper and is in working condition
- There are no warning or alarm lights blinking or lit
- There is a liquid measurement for each tank and the reading appears accurate
- Weekly inventory reports are sent to the appropriate district inventory contact. The Weekly Fuel Worksheet contains an acknowledgement the above was completed.

Monthly Fuel Site Inspections. The EPA and Idaho Department of Environmental Quality (DEQ) require fuel sites with Underground Storage Tanks (UST's) to complete a monthly walk through inspection of the fuel site. The inspection must be recorded on a form prescribed by DEQ and maintained at the fuel site in the DEQ compliance binder for no less than 24 months. The form must be made available to the EPA or DEQ upon request.

Automatic Tank Gauge

- The power is on
- The printer has paper and is in working condition
- The ATG is currently not showing any warnings or alarms
- There is a liquid measurement for each tank and the reading appears accurate
- Tank passing 0.2 gph leak test was printed (must have one passing test each 30 days), must be kept in the DEQ Compliance Binder for no less than 24 months.
- The signed DEQ Monthly Walk Through inspection form is to be kept in the DEQ Compliance binder for no less than 24 months.
- If tests or inspection are not acceptable, documentation showing corrective actions taken must be kept on file no less than 24 months with the inspection reports. These copies are kept on file by the Fuel Program Coordinator at HQ and will be forwarded to the fuel site.

Piping Release Detection Equipment

Electronic Leak Detection Monitor (2 gph)

- The power is on
- The printer has paper
- Currently not showing any alarms or warnings
- There have been no reports of “slow flow” to indicate a problem
- The system is properly vented, the vent tube is not kinked or twisted
- There is an annual passing report dated in the past 24 months in the DEQ Compliance binder

Mechanical Line-Leak Detection (3 gph)

- The power is on
- The printer has paper
- Currently not showing any alarms or warnings
- There have been no reports of “slow flow” to indicate a problem
- The system is properly vented, the vent tube is not kinked or twisted
- There is an annual passing report dated in the past 24 months in the DEQ Compliance binder

Continuous Interstitial Monitoring (0.2 gph)

- The power is on
- The printer has paper
- Currently not showing any alarms or warnings
- Sensor Properly positioned
- Interstitial space is open in containment sump with active sensors
- Interstitial space is closed and continuous to containment sump with active sump sensor
- There are the previous 24 months of passing test reports printed and filed in the DEQ Compliance Binder

Electronic Line Leak Detector (0.2 gph)

- The power is on
- The printer has paper
- Currently not showing any alarms or warnings
- There are the previous 24 months of passing test reports printed and filed in the DEQ Compliance Binder

Line Tightness Testing

- There is an annual passing test dated within the past 24 months on file in the DEQ Compliance binder

Tank Fill Area

- Fill cover is present, is not broken or damaged
- Fill covers are identified by color and are located on the correct tank

Spill Bucket/Spill Containment Manhole

- Identify the location, note the tank number, product type
- The spill bucket is free from any damage, cracks or separation
- Spill bucket is free of liquids (water, fuel), trash and debris
- The cap is fitted tightly on the riser pipe
- The fill pipe is free of obstructions
- The fill cap is in good condition and seals tightly
- Below-grade containment manhole properly latched (if present)
- Below-grade containment manhole contains oil absorbent material
- Drain Valve in spill containment manhole is in good condition

All Tanks

- All Grade Level Covers are present, in good condition and seated firmly on the correct tank
- Tank Gauge Stick can be clearly read, is not warped or broken
- No water is present in the tank
- Tank vent cap is present, vent pipe solidly supported and vertical

Drop Tube

- Standard drop tube smooth, no ragged edges, in good condition
- Top edge of coaxial drop tube smooth, round, slightly below the top edge of the fill pipe

Vapor Recovery

- Cover is present, colored orange, sealed firmly at grade, is not broken, chipped, cracked or damaged
- If spill containment manhole is present, there is no dirt, trash, water or product
- If spill containment manhole is present, there are no cracks, bulges or holes
- The Vapor Recovery cap is present and seals tightly
- Poppet of vapor recovery adaptor seals tightly

Corrosion Protection

- Records volt and amp readings, reading consistent with prior months
- Records hour meter reading (if present). Reading increases approximately 700 hours each month.
- Observation Well Cover is properly identified and secure.

Emergency Power Generator Inspection (To be completed by trained personnel)

- Start the emergency generator and run for approximately 10 minutes.
- Connect generator to the electrical system using power cord provided and verify that the generator will accept the electrical load.
- Verify that the leak detection monitoring system ~~(if any)~~ for the generator is functioning properly.

Fuel Pumps

- Visually inspect all dispensers for leaks at hose connections, swivels, nozzles and breakaways. If repairs are necessary, contact the Fuel Program Project Coordinator.

- Unlock and remove dispenser doors, examine sump condition, piping leaks, fuel odors,
- Verify dispenser is securely anchored to the island.
- Inspect dispenser displays for cracked or broken glass and fogging. If repairs are necessary, contact the Fuel Program Project Coordinator.
- Inspect dispenser trim for sharp corners or sharp edges.

Replace pump filters on all dispensers as needed.

Observation Well Cover is properly identified and secure.

Corrosion Protection

- Records volt and amp readings, reading consistent with prior months
- Records hour meter reading (if present). Reading increases approximately 700 hours each month.

Preventive Maintenance Privatization. The annual preventive maintenance duties listed on the following forms shall be completed by private vendors contracted by Business Support and Management. The Contractor is required to submit a completed form documenting the results of each preventive maintenance inspection (Figure 400-4). The completed forms will be retained by the Fuel Systems Project Coordinator for a minimum of two (2) calendar years.

- It is important that Contract Preventive Maintenance Services be monitored by ITD fuel site personnel to assure that all tasks are completed and precautions are followed including immediate cleanup of any fuel spill

Underground Storage Tank Fuel Site Preventative Maintenance Checklist

Location: _____

Task	Yes	No	Repair	Replace	Comments
Manhole cover fit and integrity are correct					
Spill container has water or debris					
Drain valve is free of obstructions and operable					
The fill caps shows signs of damage or deterioration					
Turbine enclosure lid is damaged or deteriorated					
Turbine enclosure sump shows signs of leakage					
Pump valve seals or gaskets are leaking					
Turbine closure sump leak detector is installed					
Fill pipe is damaged or not capped					
Overfill protection is working					
Emergency generator is working					
Emergency generator can accept an electrical load					
Emergency generator will operate fuel system					
Dispensers are damaged or deteriorated					
Dispenser hanging hardware (hose, swivel, nozzle and breakaway) is damaged or deteriorated					
Dispenser belts are cracked or worn					
Dispenser sump contains fluid					
Dispenser piping shows signs of leakage					
Dispenser screen is obstructed					
Dispenser lighting is working					
Dispenser display is readable					
Dispenser(s) are operable in "manual mode"					
Current Totalizer reading – Diesel					
Current Totalizer reading – Unleaded					
Tank Monitor console is damaged or is not secure					
Tank Monitor battery working					
Tank Monitor printer is working					
Tank Monitor status report indicates water in tank(s)					
Tank Monitor probe(s) are working					
Tank Monitor product floats are working					
Tank Monitor water floats are working					
Tank Monitor overfill alarm is working					
Tank Monitor volume programming is correct for tank size and dimensions					

Card reader/pedestal is damaged or is not secure					
Card reader interior shows signs of leakage					
Card reader display is difficult to read					
Card reader network connection is secure					
Card reader boards are damaged					
Card reader wiring connections are secure					
Emergency stop switch is working					
Emergency stop switch is legible from island					
Absorbent material is available and sufficient					
Fire Extinguisher is sufficient and available					
Electrical panel surge protector is working					
Disconnect the phone line at the FMU					
Change the TMU Back up battery (Odd Numbered Years Only)					
IF the FMU display is hard to read please adjust the LCD contrast					
If the dispenser totalizer is hard to read please resolve					
Check for correct overfill protection, note lack of overfill protection					
Check for and remove water if present in the tank					
Serial Numbers (if located)					
Diesel Tank					
Unleaded Tank					
Diesel Pump					
Unleaded Pump					
Veeder Root					

Signature: _____

Printed Name: _____

Company: _____ Date: _____

Aboveground Storage Tank Fuel Site Preventative Maintenance Checklist

Location:

Task	Yes	No	Repair	Replace	Comments
Tank Surface shows signs of leakage					
Tanks are damaged, rusted or deteriorated					
Tank supports are deteriorated or buckled					
Tank foundations have eroded or settled					
Level gauges or alarms are working					
Vents are free from obstructions					
Pump valve seals or gaskets are leaking					
Pipeline supports are damaged or deteriorated					
Stains or leaks are evident around piping					
Unloading areas show evidence of spills					
Fill pipe connections are damaged or not capped					
Secondary containment is damaged or stained					
Dike drainage valves are closed					
Overfill protection is working					
Emergency generator is working					
Emergency generator can accept an electrical load					
Emergency generator will operate fuel system					
Emergency generator has operational leak detection system					
Dispensers are damaged or deteriorated					
Dispenser hanging hardware (hose, swivel, nozzle and breakaway) is damaged or deteriorated					
Dispenser belts are cracked or worn					
Dispenser sump contains fluid					
Dispenser piping shows signs of leakage					
Dispenser screen is obstructed					
Dispenser lighting is working					
Dispenser display is readable					
Dispenser(s) are operable in "manual mode"					
Current Totalizer reading – Diesel					
Current Totalizer reading – Unleaded					
Tank Monitor console is damaged or is not secure					
Tank Monitor battery is working					
Tank Monitor printer is working					
Tank Monitor status report indicates water in tank(s)					
Tank Monitor probe(s) are working					
Tank Monitor product floats are working					
Tank Monitor water floats are working					
Tank Monitor overfill alarm is working					

Tank Monitor volume programming is correct for tank size and dimensions					
Card reader/pedestal is damaged or is not secure					
Card reader interior shows signs of leakage					
Card reader display is difficult to read					
Card reader network connection is secure					
Card reader boards are damaged					
Card reader wiring connections are secure					
Emergency stop switch is working					
Emergency stop switch is legible from island					
Absorbent material is available and sufficient					
Fire Extinguisher is sufficient and available					
Electrical panel surge protector is working					
Disconnect the phone line at the FMU					
Change the TMU back-up battery (Odd Numbered Years Only)					
If the FMU display is hard to read please adjust the LCD contrast					
If the dispenser totalizer is hard to read please resolve					
Check for the correct overfill protection-Note lack of overfill protection or incorrect overfill valves in AST					
Check for and remove water if present in tank					
Serial Numbers (if located)					
Diesel Tank					
Unleaded Tank					
Diesel Pump					
Unleaded Pump					
Veeder Root					

Signature _____

Printed Name: _____

Company: _____ Date: _____

Equipment Repair

The District Engineer shall designate a fuel site coordinator. The Coordinator shall report all fuel site equipment problems or failures to the Fuel Project Coordinator in a timely manner.

The Fuel Project Coordinator is responsible for obtaining a detailed description of the fuel site equipment problem from fuel site personnel to determine the correct course of action to resolve the problem. The Fuel Project Coordinator will contact the contract repair vendor to dispatch a technician for all fuel site equipment failures.

Fuel site equipment repair invoices shall be processed for payment by the Fuel Project Coordinator. Fuel site equipment repair invoices sent to the district shall be forwarded to the Fuel Project Coordinator at headquarters for processing and payment.

Repair Privatization. All fuel site equipment repair duties shall be completed by a private vendor contracted by ITD. The contract vendor is required to arrive at the fuel site no later than 24 hours following dispatch notification from the Fuel Project Coordinator. It is important that the contract repair services be monitored by responsible fuel site personnel to assure that all precautions are followed including immediate fuel spill cleanup if necessary.

Equipment Upgrade

The Fuel Project Coordinator shall monitor industry innovations and determine the most cost effective equipment or software for upgrade of existing fuel site elements.

Equipment Replacement

Fuel site equipment replacement shall be accomplished on a rotating schedule based on the following criteria.

- The age of equipment with relation to expected useful life for that equipment type.
- Replacement to avoid fuel site failure based on repair history for the equipment.
- Fuel usage at the site with respect to volume and emergency response requirements.

All bidding and awards for purchase and installation of fuel site equipment will be done through Business Support and Management. The Fuel Project Coordinator will coordinate all purchasing, equipment descriptions and bid specifications. All equipment purchased through the bidding process will be delivered FOB to the district fuel site and installed by contract vendor. Payment for the equipment and installation services will be made by the Fuel Project Coordinator.

Equipment Disposal

District Supply personnel shall be responsible for fuel site equipment disposal. Fuel site equipment shall be disposed of according to department standards and EPA regulations with regard to hazardous material disposal.

Budget Process

Budget Requests. The Maintenance Operations Section submits a list of fuel site equipment that will be at or beyond the determined economic life for such equipment as a part of the sections Capital Equipment budget requests. This list is accompanied by the estimated cost of replacement for each unit to develop a proposed budget for fuel site equipment replacement.

Budget Allocation. The final approved fuel site equipment repair and preventative maintenance budget is allocated to the headquarters Maintenance Maintenance Operations Section. The Fuel

Project Coordinator determines the amount of money needed to fund the repair and preventative maintenance contracts.

District Budget Allocation. Allocated money for additional fuel sites shall be the responsibility of the district.

Fuel Data Program

General Fuel Card Use. An ITD Fuel card and Prokee shall be issued and accessible for each vehicle or unit of equipment owned and operated by ITD. The assigned fuel card will be located in the front cover of the Permanent Equipment Maintenance Record Book, (ITD form 0078) that is distributed with all equipment and vehicles placed into service. Prokees are attached to the equipment's key ring.

Commercial Fuel Card. The fleet card used to fuel ITD vehicles and equipment at commercial stations is provided by a statewide contract bid by the Idaho Division of Purchasing. The Fleet Card contract administration for ITD is the responsibility of the Fuel Project Coordinator. District personnel, as designated by the District Engineer, will set PIN's for district personnel and shall be responsible for ordering fuel cards for vehicles and equipment delivered to the district. The Fuel Project Coordinator will set up PINS for HQ personnel and order fuel cards for vehicles and equipment delivered to HQ regardless of the assigned district.

Fuel credit cards are to be used only to purchase fuel and Diesel Exhaust Fluid. No other purchase is authorized.

Fuel Card Types. ITD utilizes various graphics on the fuel credit cards to distinguish vehicle and equipment cards from Miscellaneous cards. Credit cards are ordered as "On Road Vehicles" in WEX (plastic type field) unless otherwise noted:

- **Rental Equipment Cards-** Equipment number format is T8XXD (XXX=Equipment Category, D=District) – Rental cards should be assigned for each **category** of equipment (can have more than one for a category). The driver is given a card for the appropriate category of equipment at the time of rental. When a rental piece of equipment is returned, the card shall be returned for use with the next piece of equipment rented in that category. The Fuel System Project Coordinator will assign Rental Equipment Cards due to the programming table maintenance required.
- **Slip Tank Cards-** Equipment number format is TR0XXX (XXX=old sub-supply number) Fuel Systems Project Coordinator will assign and order slip tank cards because of the table maintenance required for slip tank transfer transactions to process through inventory. Information sent to HQ for Slip Tank Cards includes the location of the tank (i.e. Rigby, District Incident Response Vehicle), fuel type(s), tank capacity, and license plate number of the truck the slip tank is in.
- **Equipment with Auxiliary Engines-** All equipment that is identified as having an auxiliary engine has a single equipment number for both the primary and auxiliary engine (i.e., rotary snow blowers, mechanical or vacuum street sweepers, etc.). One fuel card is issued for this type of equipment even if the primary and auxiliary engines use different fuel types. The primary engine odometer reading is used when purchasing fuel but both tanks can be filled.

- POE Vehicle, Motor Vehicle Investigator Vehicles - Vehicles used by DMV employees located in the districts are Headquarters vehicles. Fleet cards will be ordered by the Fuel Systems Project Coordinator at Headquarters.
- Aeronautics and Aero Courtesy Vehicles – Vehicles used by Division of Aeronautics personnel are accounted for as Headquarters vehicles in the fuels programs. Fleet cards will be ordered by the Fuel Systems Project Coordinator.
- Miscellaneous Equipment Cards- Miscellaneous cards are used to fuel items such as chain saws and gas cans. The card shall use an equipment number format of T9000D (D=District) followed by a description of the location. (i.e. T90002 MISC -240 MOSCOW, T90004 MISC -450 CAREY). No more than two (2) miscellaneous cards per location will be issued unless there is a valid reason for more. The credit cards are ordered with the “Off Road” graphic to assist in distinguishing them from vehicle credit cards. Due to the table maintenance involved in creating Miscellaneous cards, all MISC cards will be ordered by the Fuel Systems Project Coordinator.
- Miscellaneous credit cards are authorized to purchase 10 gallons of fuel per transaction, no more than 3 transactions per day.

ITD Prokee Transactions. Fuel cards are not used at ITD fuel sites by ITD personnel; instead a Prokee is assigned to each vehicle and piece of equipment to track that equipment’s fuel use and mileage. Embedded in each Prokee is a programmable solid state memory chip. This chip allows storage of important information chosen by the system operator. Information such as mileage, hours in service, vehicle type, identification numbers, etc. may be encoded onto the keys and used in a variety of ways, such as justifying equipment retention and replacement. Do not use a Prokee that is not assigned to the vehicle or equipment being fueled.

ITD utilizes various colors of Prokees to distinguish Prokee use.

- **Black Prokee: Regular Equipment, Equipment with Auxiliary Engines and Rental Equipment-** Most equipment is identified with a “T” and a series of numbers. Equipment that is identified as having an auxiliary engine has a single equipment number for both the primary and auxiliary engine (i.e., rotary snow blowers, mechanical or vacuum street sweepers, etc.). One Prokee is issued for this type of equipment even if the primary and auxiliary engines use different fuel types. The primary engine odometer reading is used when purchasing fuel but both tanks can be filled. The Rental Equipment number format is T8XXD (XXX=Equipment Category, D=District). Rental cards should be assigned for each category of equipment (can have more than one for a category). Rental Equipment is updated first in TAMS and then in the Fuel System prior to a Prokee being created. When a rental piece of equipment is returned, the Prokee shall be returned for use with the next piece of equipment rented in that category.
- **Blue Prokees: Test** – The equipment number format is TTESTD (D=District). Blue Prokees are used to test ITD fuel site equipment when the fuel pumped will be returned to the storage tank. These keys will be assigned by The Fuel Program Coordinator.
- **Orange Prokees: Miscellaneous Equipment Cards-** The equipment number format is T9000D (D=District) followed by a site or function description (i.e. T90002 MISC -240 MOSCOW, T90003 MISC -312 SPECIAL CREW). No more than two (2) miscellaneous Prokees per location will be issued. Because of the table maintenance required for miscellaneous transactions to process through inventory, the Fuel Systems Project

Coordinator will first create the table data in the fuel database and then notify the district when the Prokee may be created.

- **Green Prokee: Slip Tank Prokees-** The equipment number format is TROXXX (the first "x" is the district number). Because Slip Tank Transactions must also process through AMS, the slip tank will be named by the AMS Program Systems Specialists. The number is assigned by the Fuel Systems Project Coordinator. The equipment record is created in the fuels database. After the records in AMS and Fuels are reviewed, the Fuel Systems Project Coordinator will notify the district when the Prokee may be created. Information needed to create Slip Tanks includes the location of the tank (i.e. Rigby, Powell), fuel type(s), tank capacity and license plate number of the truck the slip tank is in. The TROXXX number assigned should somehow be affixed to the slip tank.
- **Red Prokee-** Used to troubleshoot programming in the card reader. DO NOT USE unless instructed how to do so.

Personal Identification Numbers, Fuel PIN

Other State, County and Local agencies may use ITD fuel sites. The agency must use the commercial vendor system awarded by State contract. The commercial fleet credit card and PIN will be used to authorize access to the fuel pumps.

Fuel PINS are not automatically created for each employee. If an ITD employee's duties include use of ITD vehicles, an ITD supervisor needs to complete a request for a Fuel PIN for the employee via a PASS request. This is the same system used to authorize building and computer access. The Fuel Systems Project Coordinator will complete Fuel PIN requests for Aeronautics and Headquarters employees, including Port of Entry, Motor Vehicle Investigators and Inmate Labor situations. The Districts will complete Fuel Pin requests for their respective employees. The Fuel Systems Project Coordinator will serve as a backup as needed.

Employees should be cautioned that Fuel PINs are to be kept confidential and not shared. Each employee is accountable for fuel transactions completed using their unique PIN.

The Fuel Systems Project Coordinator is responsible for removal of all terminated employee PIN information from the fleet card system. Notification is made via email by Human Resources staff.

Fuel credit card issue and Personal Identification Number (PIN) issue training is provided by the Fuel Systems Project Coordinator to designated district contacts as needed.

Data Processing. Accurate fuel transaction and odometer data is essential for equipment management, fuel inventory control, fuel budgeting and a tool to show equipment usage to justify replacement.

Fuel transaction data is collected electronically from the contract Fleet Card provider and ITD fuel site card reader. It is processed into a format compatible with various systems within the Department.

Electronic ITD fuel site data is loaded into the department's Inventory and Financial Management System (Advantage) to adjust computer inventory balances. Electronic commercial fuel data is loaded into Advantage Accounts Payable system for monthly payment reconciliation and processing.

All electronic fuel data (commercial and ITD site transactions) is loaded into the FuelMaster Plus database and into the TAMS system for fleet management purposes.

The Fuel Project Coordinator is responsible for monitoring electronic fuel transaction data to ensure the software is functioning correctly and data integrity is maintained.

Manual Fuel Transactions

The ITD 0007 Fuel Report – ITD Vehicles Only form (aka the ‘A-7’), shall be utilized to record fuel transaction information for ITD vehicles and equipment from an ITD slip tank and/or from ITD fuel pumps any time the card reader installed at a fuel site is not functioning. A copy of the completed A-7 form shall be submitted to the District Supply section each week with the Weekly Fuel Worksheet. Data entry of the transactions must be completed by midnight Saturday in order for the information to be included in the Monday Fuel Inventory.

Manual Fuel Transactions: Other Agency Fuel Purchases. The ITD 0006 Fuel Report – Other Agency Fuel Purchases form (aka A-6), shall be utilized to record fuel transaction information for vehicles and equipment belonging to agencies other than ITD any time the card reader installed at an ITD fuel site is not functioning. A copy of the completed A-6 form shall be submitted to the Supply section each week with the Weekly Fuel Worksheet.

Fuel Slip Tank Use. Mobile fuel tanks, also known as slip tanks, are used to transport fuel from the point of purchase (ITD fuel site or commercial station) to equipment at a job site when equipment such as loaders or graders cannot easily travel to re-fuel. . Each slip tank is assigned a unique equipment number beginning with TR0 that is either painted or engraved on the tank and used as the “fuel site” number in the fuel system programs. To ensure accurate fuel transaction data for equipment management and inventory control, department staff shall adhere to the following procedure:

- Fuel shall be dispensed FROM the point of purchase TO the slip tank utilizing the commercial fuel credit card or Prokee assigned to the slip tank.
- Fuel dispensed FROM the slip tank TO ITD equipment shall be recorded on the ITD 0007 Fuel Report – ITD Vehicles Only form (A-7) utilizing the equipment number of the equipment receiving the fuel.
- A copy of the completed A-7 form shall be submitted to the Supply section each week with the Weekly Fuel Worksheet.

Fuel Reconciliation Process. The Fuel Inventory reconciliation duties are performed at the district level under the direction of Supply. In the case of underground fuel storage tanks, districts and ITD are required by federal law to keep inventory control records on site. In addition to UST requirements, the purpose of weekly fuel reconciliation is:

- Accurate inventory control
- To Detect equipment failure
- To Detect processing failure

The individual responsible for the fuel site shall complete the equipment sections of the Weekly Fuel Worksheet Form (figure 10-7) on Monday of each week (Tuesday if Monday is a holiday). The completed form shall be sent to designated Supply personnel electronically whenever possible or hand delivered when not. . To meet internal and legislative audit requirements, the completed and signed original form must be filed on site for two calendar years.

Designated supply personnel shall complete the inventory section of the form. District Supply personnel shall make any necessary adjustments to electronic fuel balances according to the Supply Services Section procedures once all possible errors have been explored and corrected. Designated supply personnel shall report all on-going discrepancies to Fuel Systems Project Coordinator.

Figure 10-7

Weekly Fuel Worksheet

Site name:		Date: 1/0/1900	
------------	--	----------------	--

PUMPS	Diesel	Unleaded
Present Pump Meter	0.00	0.00
(Subtract) Previous Pump Meter	0.00	0.00
Pump Totals (A)	0.00	0.00

MONITORING SYSTEM / STICK	Diesel	Unleaded
Previous TC Volume Tank Monitor	0.00	0.00
(Add) Fuel Delivery / Date:		
PO # Subtotal	0.00	0.00
(Subtract) Present TC Volume	0.00	0.00
Tank Monitor Total (B)	0.00	0.00
(Subtract) Pump Total (A)	0.00	0.00
Pump / Monitor Variance (A - B)	0.00	0.00

Bulk Tank Manual Transactions	Diesel	Unleaded
Transactions, Must Attach A7 form	0.00	
Manual Transaction Subtotal (C)	0.00	0.00
(Subtract) Pump Totals (A)	0.00	0.00
Variance (C-A)	0.00	0.00

COMMENTS (Note any problems, testing, or service work):

☐ Monthly: The Monthly Fuel Site Inspection described in Ch 10 of the Operations Manual has been completed.

☐ Monthly: Sites w/ Underground Storage Tanks have completed the required DEQ inspection and have placed a signed copy in the DEQ B

☐ Quarterly: The generator has been tested, it will run the fuel site equipment in an emergency. If not it needs addressed.

Signature: _____

DO NOT WRITE BELOW THIS LINE. SUPPLY PERSONNEL ONLY.

SUPPLY INVENTORY	Diesel	Unleaded
Previous Supply Inventory Balance (AMS)		
(Add) Previous Week Fuel Delivery		
PO # Date:		
(Less) Current Supply Inventory Balance		
(Less) Manual Transactions (Form A-7)		
Supply Inventory Balance (D)	0	0
B)	0.00	0.00
Variance (B - D)	0.00	0.00
Current Supply Inventory Balance	0	0
FuelWeb Unprocessed Transactions	0	0
Total	0	0

Physical Inventory

Designated district personnel shall conduct annual physical inventory of all district fuel on hand at the direction of the District Supply Operations Supervisor. The District Supply Operations Supervisor shall notify each district fuel site in advance, provide dated inventory forms and additional instruction as necessary.

The Operations Team Leader or designee at each fuel site shall first disable all slip tanks and fuel pumps and keep them disabled (no fuel in or out, approximately three (3) business days until told otherwise, then dip the tanks, complete the inventory forms provided and return the inventory forms to the District Supply Section immediately.

The District Supply Operations Supervisor or designee shall complete the physical inventory process in accordance with Supply Services Section procedures.

Once the AMS Program Systems Specialist at Headquarters has verified all inventory has been adjusted in AMS, the fuel sites can then be put back into use.

Fuel Storage Tanks: Spill Containment

Spill Prevention Control and Countermeasure (SPCC). The SPCC Plan is a spill prevention program that minimizes the potential for discharges. The SPCC Plan, written by the district for each fuel site, must address all relevant spill prevention, control, and countermeasures necessary at the specific fuel site. These requirements are outlined in the Code of Federal Regulations.

A copy of the ITD Spill Prevention Control and Countermeasure (SPCC) plan shall be posted and readily available at each fuel site and a copy stored electronically by the Fuel Program Coordinator.

Leaking Fuel Storage Tanks. The Maintenance Operations Manager, the Maintenance Service Manager or the Fuel Program Coordinator shall be notified immediately when a leak is discovered at an ITD fuel storage facility. If the tank is insured with the Petroleum Storage Tank Fund (PSTF), the entire process of cleanup and mitigation shall be administered by the PSTF. Contact with the insurer will be made in writing by the Maintenance Services Manager. If the tank is not insured with the PSTF, cleanup and mitigation will be done by state and/or contract forces. The Maintenance Services Manager will request the assistance of the Environmental Section Supervisor and the Consultant Agreement Administrator and other resources as required.

Insurance. The Department of Environmental Quality (DEQ) oversees and establishes rules regulating Underground Storage Tank Systems (IDAPA 58.01.07) that include financial responsibility requirements related to underground storage tank insurance. Each District shall comply with the DEQ financial responsibility requirements. The Department of Insurance, through the State of Idaho Petroleum Storage Tank Fund (PSTF) insures petroleum fuel storage tanks. Each District shall use the following criteria to determine insurance needs for fuel storage tanks that are owned and operated by the Department.

- Fuel Oil and tanks acquired during project development shall be exempt from insurance considerations.

- Fuel storage tanks that contain gasoline, diesel and used oil shall be considered for insurance using the following :
 - 1) All underground fuel storage tanks shall be insured with the PSTF.
 - 2) Any aboveground fuel storage tank may be insured with the PSTF. The decision to insure or not to insure aboveground fuel storage tanks shall be determined by the District Engineer.

State Registration Requirements. All underground fuel storage tanks with the exception of tanks used to storing heating fuels) must be registered with the State of Idaho Department of Environmental Quality (DEQ). Report any updates to reflect changes or repairs to all fueling systems to the Fuel System Project Coordinator. The FSPC will work as the department's liaison with the DEQ.

Leak Detection. Leak detection shall be performed weekly for each fuel storage tank owned and operated by the department. Fuel sites equipped with a tank monitoring system capable of automated leak detection testing shall retain all printed test results from the tank monitoring system in the DEQ Compliance Binder located at each fuel site. Each site must show one passing leak detection test per month.

Additionally, each site must conduct a monthly walkthrough inspection to prevent and detect fuel releases and leaks and document that inspection on the DEQ Walkthrough Inspection Form. Equipment required to be inspected per the DEQ includes spill buckets and fill pipes. Site specific electronic blank forms can be obtained from Headquarters.

Reporting of Suspected Leak for all Fuel Storage Tank Systems. Notification must be made within twenty-four (24) hours to the Department of Environmental Quality for any of the following conditions:

- A fuel release on the site or in the surrounding area such as the presence of free product or dissolved product in nearby surface water or ground water or vapors in soils, basements, sewer or utility lines.
- Unusual operating conditions observed such as the erratic behavior of product dispensing equipment, the sudden loss of product, or an unexplained presence of water in the system, unless the system equipment is found to be defective but not leaking, and is immediately repaired or replaced.
- Monitoring results detect a release that may have occurred if the monitoring device is not defective. If monitor is found to be defective, immediately repair, recalibrate or replace and perform additional monitoring to confirm the initial result.

Figure 10-8
Storage Tank Inspection Form

Storage Tank Inspection Form			Location: _____
	Yes	No	Description or Comments:
Tank surfaces show signs of leakage	<input type="radio"/>	<input type="radio"/>	_____
Tanks are damaged, rusted or deteriorated	<input type="radio"/>	<input type="radio"/>	_____
Tank supports are deteriorated or buckled	<input type="radio"/>	<input type="radio"/>	_____
Tank foundations have eroded or settled	<input type="radio"/>	<input type="radio"/>	_____
Level gauges or alarms are inoperative	<input type="radio"/>	<input type="radio"/>	_____
Vents are obstructed	<input type="radio"/>	<input type="radio"/>	_____
Pump valve seals or gaskets are leaking	<input type="radio"/>	<input type="radio"/>	_____
Pipeline supports are damaged or deteriorated	<input type="radio"/>	<input type="radio"/>	_____
Stains or leaks are evident around piping	<input type="radio"/>	<input type="radio"/>	_____
Unloading areas show evidence of spills	<input type="radio"/>	<input type="radio"/>	_____
Fill pipe connections are not capped	<input type="radio"/>	<input type="radio"/>	_____
Secondary containment is damaged or stained	<input type="radio"/>	<input type="radio"/>	_____
Dike drainage valves are open	<input type="radio"/>	<input type="radio"/>	_____
Fencing, gates or lighting are non-functional	<input type="radio"/>	<input type="radio"/>	_____
Remarks:_____			

Signature:_____Date:_____			

Leak Investigation and Confirmation Steps. Unless corrective action is initiated, immediately investigate and confirm all suspected releases of fuel within seven (7) days of discovery using one (1) of the following steps:

1. Conduct tightness tests that determine whether a leak exists in any portion of the Petroleum Storage Tank system.
 - Repair, replace or upgrade the system, and begin corrective action if the test results for the system, tank, or delivery piping indicate that a leak exists.
 - Verify that the environmental contamination is not from the fuel system.
2. Sample for a leak where contamination is most likely to be present.
 - If leak has occurred, begin corrective action.
 - If test results for the system do not indicate that a leak has occurred, further investigation is not required.

Leak Response and Corrective Action. Upon confirmation of a petroleum leak a release from the fuel system is identified, follow the initial response actions below within twenty-four (24) hours:

- Identify and mitigate fire, explosion and vapor hazards;
- Take immediate action to prevent any further release of petroleum into the environment
- Report the release to the Department of Environmental Quality.

Documentation

Underground Storage Tank (UST) Record Keeping. ITD is required by federal law to maintain the following records. This information should be readily available for inspection at the fuel site, at district headquarters and HQ. Unless otherwise noted, records needing to be maintained are:

Leak Detection.

- Certification of recent compliance with release detection requirements (including manufacturer's performance claims and calibration and maintenance records) for five (5) years minimum.
- Monthly logs of leak detection activity for two (2) year minimum.
- Tightness test results for two (2) year minimum.

Corrosion Protection Monitoring.

- Documentation of operation of corrosion protection equipment.
- Or documentation of equipment installation methods that preclude corrosion protection equipment.

Repairs to UST Systems. Documentation of any UST system repairs (e.g., addition of spill and overfill equipment, line leak detector testing/replacement).

Results of Site Investigation for Tank Closure. Results of any site investigations conducted for any post 1988 tank closure.

Changes in Operations. Records pertaining to any change in fuel site status must be maintained on site, with a copy on file at HQ, including the following:

- New installations.
- Closures.
- Reports of suspected release investigations.
- Corrective actions.

Above Ground Storage Tank (AST) Record Keeping. ITD is required by federal law to maintain the following information on site, at the District Headquarters and at HQ.

Leak Detection.

- Monthly logs of leak detection activity for two (2) year minimum.
- Tightness test results for two (2) year minimum.

Reconciliation. Reconciliation records for two (2) year minimum.

Operations and Maintenance Manuals. Keep all manuals and manufacturer's specifications on file. Refer to them for specific maintenance requirements.

As-Built Drawings. Keep all As-Built drawings on file at the district office. Refer to them for specific inspection requirements.

Fuel Quality

If bulk fuel purchased is suspected to be below contractual or industry standards, please contact the Fuel Program Coordinator for instructions on fuel sampling and testing. -

Air Quality

Whenever possible the department will purchase alternative fuels that can provide reduced vehicle emissions. The alternative fuel program is a means of actively participating in the effort to increase air quality standards.

Commercial purchase of Ethanol blended fuel is acceptable and encouraged in all flexible fuel vehicles owned and operated by the department. These vehicles include sedans, ½ ton pickups and others as they are developed and made available. The Department does not purchase E-85 fuel or bio-diesel fuel.

Safety

The Uniform Fire Code requires a clearly labeled manually operated pump master switch to be located within 75 feet, but not closer than 15 feet, to the fuel dispenser. Where such master switch is not visible from all dispensers, the location shall be indicated by approved signs. Signs identifying the dispenser master switch shall be labeled EMERGENCY PUMP SHUTOFF. The master switch on all individual pump circuit switches shall be in the "off" position before closing the motor vehicle fuel-dispensing station for business at any time. Install appropriate signage if it does not already exist.

A fire extinguisher with a minimum rating of 2-A, 20-B:C is to be provided and located not more than 75 feet from any pump, dispenser, or fill pipe opening.

Absorbent material shall be provided in a clearly labeled container at each fuel site. Any employee causing a small fuel spill is required to use absorbent material provided to clean up the fuel and to properly dispose of used material immediately.

ITD personnel shall not dispense fuel into any container not approved for that use. Personnel shall transport or distribute fuel in a manner that does not endanger themselves, fellow employees, the traveling public or the environment.

Training

The Training and Development Section in conjunction with the Maintenance Operations Section is responsible for development of a training program for fleet card use, Prokee use and operation of fuel site equipment.

Fuel site equipment training will coincide with the training requirements of the Transportation Technician Operations Series and in accordance with the guidelines in the Learning Hub.

Fuel card issue and Personal Identification Number (PIN) issue training is provided to designated district personnel as needed.

Fuel inventory reconciliation training is provided to designated district personnel by Supply Services.

Chapter 11

Dispatch Procedures

Emergency Assistance and Abandoned Vehicles

If a vehicle is hindering emergency, maintenance, or highway operations, you may offer emergency assistance. Use good judgment when making this decision. If you decide to lend assistance, have the motorist sign an "Emergency Assistance" form (ITD 1993) before moving the vehicle. Then move the vehicle so it no longer interferes with emergency, maintenance, or highway operation-no farther.

According to the state statute, 49-1301, (see Pages 5, 6), the driver of any vehicle involved in an accident ... resulting only in damage to a vehicle shall immediately stop (without obstructing traffic more than is necessary) the vehicle at scene of the accident, or as close as possible and shall remain at the scene of the accident until they have fulfilled the requirements of law.

For any accident, the vehicle shall be made safe by moving the vehicle into a safe refuge on the shoulder, emergency lane or median whenever such moving of a vehicle may be done safely and the vehicle is capable of being normally and safely driven, does not require towing, and may be operated under its own power in its customary manner without further damage or hazard to itself, to the traffic elements or to the roadway and shall be made without obstructing traffic more than is necessary.

In a non-injury accident, the driver or any other person who has removed a motor vehicle from the main-traveled part of the road as provided in this subsection before arrival of a law enforcement officer shall not be considered liable or at fault regarding the cause of the accident solely by reason of moving the vehicle pursuant to this subsection.

Use the following procedures to remove abandoned vehicles from the highway:

1. Notify the State Comm upon discovery of any parked vehicle on state highway right-of-way, outside of the city limits, that ;
 - The vehicle poses an immediate threat to the life and safety of the traveling public,
 - If left in place, could cause a future traffic hazard,
 - Or does not impact traffic but has not been moved for more than 24 hours since discovery.
2. Make a diary record and submit the following information to the state police or sheriff's office:
 - The make, year, model, color, and license plate number of the vehicle.
 - The approximate location of the vehicle (by route and milepost).
 - When requested in writing, you may assist law enforcement officials in removing abandoned vehicles.

At the Scene of an Incident

When arriving at the incident scene, it is important for first responders to act quickly, decisively, and safely. Initial responders at the emergency scene must take immediate control of the situation while exercising appropriate caution. The following initial steps should be considered:

- Size up the scene to be sure that hazards present are recognized, that the scene is safe for responders, and that hazardous materials are not present. ***(Note: If the incident appears to be HAZMAT-related, refer to the HAZMAT manual and contact the State Comm Center immediately at 1-800-632-8000 or 846-7610.)***
- If necessary notify State Comm for directions on how to provide initial medical care and emergency response support as necessary; assist those in immediate danger and distress; request additional emergency services.
- Set up temporary traffic control using flares or cones until adequate traffic control equipment arrives on the scene.
- Obtain critical vehicle information from each vehicle involved in the incident (e.g., make/model, color of vehicle, vehicle condition, gross vehicle weight, etc.)
- Contact the State Comm or ISP dispatch to arrange for tow/wrecker service.
- Work toward establishing temporary traffic control according to standards prescribed by the Manual on Uniform Traffic Control Devices (MUTCD) if the incident is expected to last more than two hours. Use appropriate tapers, cones/barricades, and flaggers (if needed). Heavy-duty tow companies are additionally required to be able to perform traffic control at scenes where the recovery operation lasts longer than one hour.
- Review alternate route options and/or set up detours (if needed).

Emergency Call-out of ITD Personnel

The following situational criteria requires the appropriate personnel to be contacted immediately after notification. ITD personnel are “required to respond”.

1. Hazardous materials spills on Interstate, US, and State Right of Ways.
Call appropriate District Hazardous Material Coordinator and Area Foreman.
2. Critical signs:
 - A. Stop Signs
 - B. “Do Not Enter” signs for interstate ramps
 - C. “Wrong way”
 - D. “Critical Curve” warning signs
 - E. Signals
3. Winter operations for snow and ice conditions
4. Obstructions in roadway that are too large or in such quantity that it cannot be removed by the notifying officer. Please ask notifying officer to stay with the obstruction to notify traffic until ITD can get to the scene.
5. Crashes

- A. Lane blockage or closure
- B. Damage to ITD Property that presents a safety concern for the traveling public. i.e. guard rail, structures, bridges, etc.
- C. Fuel spillage from vehicle
- D. Directly involved ITD equipment

All calls, other than Hazardous Material Spills, should follow the general call priority below or call schedule specified by **district protocol (See Section A)**:

- 1. TOTL for the problem area or on-call maintenance worker
- 2. If TOTL is unavailable
 - District operations engineer
 - District engineer

ITD Standard Operating Procedure	Title: Closed Circuit TV Camera Use and Control	
Issue Date: 11/7/2011	Revision: 0	Page 1 of 2

PURPOSE

This SOP establishes the required procedures for control of CCTV (closed circuit television) video cameras within the ITD highway corridors.

The purpose of CCTV monitoring of highway corridors by dispatch personnel is to identify and respond to incidents and minimize the impacts to the safety and efficiency of Idaho highways and assist law enforcement in protecting the safety and property of the traveling public.

SCOPE

This procedure is to be used by personnel authorized to control the ITD CCTV video cameras for promoting safety and mobility

RESPONSIBILITIES

The Idaho Transportation Department is solely authorized to oversee and coordinate the use of ITD CCTV camera operations on the state highway system.. All other agencies using ITD's CCTV camera feeds are responsible for implementing this policy in their respective operations. The ITD has primary responsibility for disseminating the policy and assisting other agencies in implementing the policy and procedures.

- The ITD has the responsibility to authorize all CCTV monitoring for any purpose..
- The Idaho Transportation Department or its dispatch contractor have overriding camera control authority on the state highway system above all other users and reserves the right to preempt any video dissemination mode, or access to any party, anytime, for any reason.
- All operators and supervisors involved in video monitoring of state highways will perform their duties in accordance with the Code of Practice consistent with this policy.

Video recording:

- ITD will not record CCTV video except for infrequent equipment diagnosis purposes and training. Snapshots can be recorded and shared on the Idaho 511 System

PROCEDURE

In order for the camera control operator to fulfill the purpose and goals of this procedure, they must follow the procedures below:

- Camera control operators will conduct video observation of areas only in plain view of others situated in the dispatch area realizing all video is potentially viewable to the public.

- Camera control operators will be trained in the technical, legal and ethical parameters of appropriate camera use. In general, operators shall not use the cameras to view private property, shall not track individuals, and shall respect the privacy of the public.
- Camera control operators will receive a copy of this policy and provide written acknowledgment that they have read and understood its contents.
- Camera control operators will not monitor individuals based on characteristics of race, gender, ethnicity, sexual orientation, disability, or other classifications protected by the Non-Discrimination laws. Camera control operators will monitor based on highway operating conditions, not individual characteristics or community attractions.
- Camera control operators will not spot and continuously view personal inappropriate behavior.
- Camera control operators must understand that media outlets monitor and potentially broadcast all video feeds and shall interrupt the media data feeds if it becomes necessary to view graphic scenes or incidents in order to perform the dispatch functions.
- Camera control operators will not specifically view private property or buildings.
- Because of the probability of multiple agencies attempting to simultaneously control a camera, there will be a priority that will be followed:
 - a. Highway Traffic/Public Safety Emergency
 - b. Highway Related Incident
 - c. Highway Congestion

(The Idaho State Police (ISP) shall not be required to provide notice to the other camera operators before taking control in the event of an emergency; provided, however, that the override will simultaneously provide notice to the other camera operators that an override has occurred.)

DOCUMENTATION

Attachments

Attachment

Signature

I _____ (print name) have read, understand the contents, and agree to follow this **State of Idaho Transportation Department Closed Circuit TV Camera Use and Control SOP**.

Signature_____

ITD Standard Operating Procedure	Title: Chain Requirement (For All Non-Exempt Commercial Vehicles) TRAVELIQ 511 Entry	
Issue Date: 7-29-11	Revised: 9/1/2023	Page 1 of 2

PURPOSE

This SOP establishes the recommended procedure for ensuring a TRAVEL IQ (condition acquisition reporting system) entry and/or DMS/CMS activation is created when there is a chain requirement for non-exempt commercial vehicles on:

District 1

- I-90 Fourth of July Pass (Eastbound: MP 23.7-33.0, Westbound: MP 32.0-24.0)
- I-90 Lookout Pass (Eastbound: MP 69.3-73.9, Westbound: MP 73.7-69.2)

District 2

- US-12 Lolo Pass (MP 169.00-174.37)

If advanced notice is provided, a TRAVELIQ entry will be created ahead of time.

SCOPE

This guide is to be used by State Communication Center personnel involved in dispatching for ITD.

REFERENCES

Idaho Statute 49-948.

PROCEDURE – CHAIN REQUIREMENT ESTABLISHED**Authority to require chains on non-exempted commercial vehicles**

The District Engineer is authorized to determine, at any time, that Lookout Pass or Fourth of July Pass on I-90 in District One, or Lolo Pass on US-12 in District 2, is of an unsafe condition so as to require chains on commercial vehicles (except those exempted by Idaho Statute 49-948). This authority is delegated through the District Maintenance / Regional Engineer to the area Maintenance Foreman.

PROCEDURE

When it is determined chains are required on any of these passes, action shall be taken in the following order:

- On-site personnel will assess the conditions. They will alert State Comm that the district is going to require chains (activate the chains-required flashers) and the official time the requirement takes effect. In addition, as a minimum, the following information should be reported to State Comm: highway number, mountain pass name, beginning and ending mileposts of the chain requirement and if known, the estimated duration of chain requirement.

- State Comm staff will enter information into the TRAVELIQ software.
- If the chain-up requirement is on I-90 Fourth of July Pass or I-90 Lookout Pass, State Comm staff will activate roadside dynamic message signs. (Currently there are no roadside dynamic message signs to activate in the area of US-12 Lolo Pass.)
- If the chain-up requirement is on I-90 Lookout Pass or US-12 Lolo Pass, State Comm staff will notify Montana DOT.

PROCEDURE – CHAIN REQUIREMENT LIFTED

When it is determined chains are no longer required, action shall be taken in the following order:

- On-site personnel will alert State Comm that the district is going to lift the requirement for chains (de-activate the chains required flashers) and the official time the requirement will be lifted. Also, as a minimum, the following information should be reported to State Comm: highway number and mountain pass name.
- State Comm staff will either enter the end time for when the chain requirement will be lifted (if the time is in the future) or delete the TRAVELIQ entry.
- State Comm staff will turn off the roadside dynamic message signs they turned on when the chain requirement was established and notify Montana DOT if appropriate.

For additional information regarding procedures for the operation of roadside dynamic message signs, refer to the “Dynamic Message Sign (DMS/CMS) Operating Procedure.”

ITD Standard Operating Procedure	Title: Complaints and Property Damage (Tort Claim Procedure)	
Issue Date: 10-7-11	Revision: 5	Page 1 of 1

PURPOSE

This SOP establishes the recommended procedure for handling complaints from the public as well as the tort claim procedure in the event a citizen has sustained damage to his/her vehicle/property or person due to what they feel the state was responsible.

SCOPE

This guide is to be used by State Communication Center personnel involved in dispatching for ITD.

PROCEDURE**Tort Claim**

If a citizen has sustained damage to their property/vehicle or person and they feel that the state was negligent and responsible, they have the right to file a claim against the state. The dispatcher shall refer the citizen to the district in which the event occurred. The Dispatcher will send an email notification of the events to the District EEO/Safety office and the Operations Manager of the details involved of the event notification. The district has the responsibility to help the citizen by providing the forms needed to file a claim.

Complaint

General complaints from citizens shall also be entered into log book and referred to the appropriate District office during regular business hours. However, if the nature of the complaint is one which could cause a safety hazard, the dispatcher shall record as much information as possible on a "Highway Incident Report" and the appropriate ITD employee on duty shall be notified (see Accident Reporting).

ITD Standard Operating Procedure	Title: Dynamic Message Sign (DMS)/CMS Operating Procedures	
Issue Date: 10-7-11	Revised: 9/1/2023	Page 1 of 4

PURPOSE

This SOP establishes the recommended procedure for operation of the roadside dynamic message signs (DMS/CMS).

SCOPE

This guide is to be used by State Communications, ACHD TMC (on US and state routes within Ada County only), and ITD dispatch personnel involved in dispatching for ITD.

REFERENCES

Chapter 2L. Changeable Message Signs, of the 2009 MUTCD with Revisions 1, 2, and 3, July 2022
MUTCD – Official Ruling No. 2(09)-174 (I) – Uses of and Nonstandard Syntax on Changeable Message Signs
Idaho Statue 67-2920
Idaho Statue 67-2922

PROCEDURE

The DMS/CMS can be an effective tool to provide real-time traffic regulatory, warning, or guidance information to the traveling public. In most cases, the messages displayed on DMS/CMS are related to traffic delays, travel times, lane closures, rerouting due to traffic incidents, and similar strategies to manage traffic actively on the highway system. With few exceptions, the MUTCD limits the use of DMS/CMS to the display of traffic operational, regulatory, warning, and guidance information. Chapter 2L of the MUTCD contains information on all the general types of messages allowed on the DMS/CMS.

A determination of whether a specific DMS/CMS message is suitable begins with consideration of the fundamental principles common to all official traffic control devices. **Traffic control devices or their supports shall not bear any advertising message or any other message that is not related to traffic control.**

Generally, units of information should be used when creating a DMS/CMS message, the problem, the location, and the action. (See Pre-Approved Messages for DMS/CMS attachment)

DMS/CMS AUTHORITY

The District Engineer has the authority over messages posted on the dynamic message signs and has delegated the authority to post pre-approved messages to State Comm staff. All other message requests must be approved as outlined below. *MUTCD guidance is required for pre-approved messages.*

Exception 1: The State Maintenance Operations Manager or Emergency Management Program Manager has the authority over the safety campaign, Pathfinder (Advanced

Weather warning) information or relevant (notification of Traffic Section and SLT/ELT member for review) messages statewide.

Exception 2: Specific Coordination. The Oregon DOT TOC has approval authority for messages pertaining to incidents within Oregon, posted on Sign #3-1, on I-84 at Caldwell. The Utah DOT has approval authority for messages pertaining to incidents within Utah, posted on I-84 at Snowville, and on I-84 at Tremonton. Montana DOT has approval authority to turn on Sign #6-11 on US 20 near West Yellowstone. Non-incident message requests still require ITD approval prior to posting within proximity of the border. (New DMS/CMS/CMS may be added in the future)

Exception 3: The ITS software support administrator is authorized to post test messages and work with ITD and contracted technicians to ensure they are functioning properly.

POSTING PROCEDURE

All DMS/CMS activations and deactivations will be documented in the Dynamic Message Signs Incident screen in the State Communications dispatch system, ACHD, or the Dynamic Message Signs Incident hard copy form (See Attachments). Testing by Maintenance Operations and its technicians, not involving State Communications staff, will not be reported. DMS/CMS shall be referred to by the sign numbers or nicknames listed on the DMS/CMS List by District and Route (See Attachments).

Determine if the request is for an “incident” or a “non-incident” message.

Pre-Approved Incident Request (See Attachments)

The District Engineer has delegated the authority to post pre-approved messages to State Comm staff, (and the ACHD TMC for non-Interstate US and State route signs in Ada County).

Emergency Response agencies, ITD, ACHD, Law Enforcement personnel, Public Health officials, and personnel from other State Departments of Transportation (Washington DOT, Oregon DOT, Utah DOT, etc.), can request pre-approved incident messages to be posted to the DMS/CMS without approval (Notification to the area District foreman is mandatory if from a non ITD entity). Any incident message requests received from other agencies will follow the Pending Incident Request procedure explained below.

Pending Incident Request

In an emergency, State Communications may use discretion and post pending incident messages, and then call the district maintenance manager/TSEA or the district operations manager (same person except for D3) for notification and approval. The authorizing district person may advise to have the message modified or removed, at which time State Communications staff will follow the guidance provided. If a requesting party proposes a pending message that is similar to a pre-approved message, State Communications personnel may suggest posting the pre-approved message and avoid the need to gain approval.

If the incident message needed is not on the pre-approved list and it is not an emergency, State Communications staff will follow the *Non-Incident* protocol below.

Non-Incident Request

Non-Incident message requests from ITD, various agencies, and other state departments of transportation (Washington DOT, Oregon DOT, Utah DOT, Montana DOT, etc.) must be granted approval prior to posting. State Communications personnel will forward the request to the District Operations Engineer or the District Operations Manager. The district personnel will then gain proper approval and message timeframe and will notify State Communications when the message is approved, at which time State Communications will post the approved message for the prescribed timeframe. *These messages should comply with the MUTCD standards.*

Exception 1: Statewide safety campaign messages are requested by the Highway Safety Program Manager, and do not require district approval (*Coordination is highly encouraged*) (Also notification of Traffic Section and SLT/ELT member for review is required). If Traffic Section and the SLT/ELT are unavailable, the request may be made by the Maintenance Operations Manager or the Emergency Management Program Manager.

Exception 2: Due to the ***time-critical nature of*** AMBER Alerts, prior ITD approval is **not** required.

AMBER Alert –Once State Comm personnel have verified the alert, AMBER Alerts will be posted on the Idaho 511 Advisories ribbon and will display the official statement provided to State Comm. AMBER Alerts will be posted on the DMS/CMS statewide for eight (8) hours unless cancelled. The alert can be in 2 phases if needed. The AMBER Alert message will be posted on the DMS/CMS in the following format:

FRAME 1: AMBER ALERT

FRAME 2: COLOR MAKE MODEL (CLR MAKE MODEL)

FRAME 3: STATE LICENSE PLATE #12345678 (ST LP #12345678)

Exception 3: The following alerts have been extrapolated from the AMBER Alert concept. These alerts are time critical in nature and do not require prior ITD approval, but they will **not** be treated the same as the AMBER Alert. Alerts will not be displayed on ITD's Utah and Washington DMS/CMS. Emergency information messages (i.e. Road Closed messages, detour, etc.) have priority over exception 3 alerts.

Blue Alert – Once State Comm personnel have verified the alert, Blue Alerts will be posted on the Idaho 511 Advisories ribbon and will display the official statement provided to State Comm. The alert **shall not** be posted automatically statewide and will be posted **only** in the geographic area in which the suspect is believed to be in, in accordance with Idaho Statue 67-2920. The alert will be posted to DMS/CMS **only** if there is a vehicle and license plate associated with the alert. If there is no vehicle information provided, it **will not** be posted to the DMS/CMS. The alert will be displayed for eight (8) hours unless cancelled.

If there is a need for the geographic area to be expanded, State Comm personnel may activate additional DMS/CMS and can display the expanding alert for eight (8) hours unless cancelled. Idaho 511 Advisories may display the updated information provided to State Comm.

The alert can be in 2 phases if needed. The Blue Alert message will be posted on the DMS/CMS in the following format:

FRAME 1: BLUE ALERT

FRAME 2: COLOR MAKE MODEL (CLR MAKE MODEL)

FRAME 3: STATE LICENSE PLATE #12345678 (ST LP #12345678)

Endangered Missing Person Alert (EMPA) – When requested by ISP, EMPA will be posted on the Idaho 511 Advisories ribbon and will display the official statement provided to State Comm. The alert **shall not** be posted automatically statewide and will be posted **only** in the geographic area in which the missing person was last seen or believed to be in accordance with Idaho Statue 67-2922. The alert will be posted to DMS/CMS **only** if there is a vehicle and license plate associated with the alert. If there is no vehicle information provided, it **will not** be posted to the DMS/CMS. The alert will be displayed for eight (8) hours unless cancelled.

If there is a need for the geographic area to be expanded, State Comm personnel may activate additional DMS/CMS and can display the expanding alert for eight (8) hours unless cancelled. Idaho 511 Advisories may display the updated information provided to State Comm.

The alert can be in 2 phases if needed. The EMPA messages will be posted on the DMS/CMS in the following format:

FRAME 1: MISSING PERSON

FRAME 2: COLOR MAKE MODEL (CLR MAKE MODEL)

FRAME 3: STATE LICENSE PLATE #12345678 (ST LP #12345678)

Acceptable abbreviations for the above terms for color of vehicle

Beige = BG	Brown = BN	Orange = OR	White = WT
Black = BK	Gray = GY	Red = RD	
Blue = BL	Green = GN	Silver = SL	

Acceptable abbreviations for the above terms for make of vehicle

Acura = ACUR	GMC = GMC	Kia = KIA	Nissan = NISS
BMW = BMW	Honda = HOND	Lexus = LEXS	Ram = RAM
Chevrolet = CHEV	Hyundai = HYUN	Mazda = MAZD	Subaru = SUBA
Ford = FORD	Jeep = JEEP	Mercedes-Benz = MERZ	Toyota = TOYT

Posting Removal

Road opening messages shall be posted for maximum of eight hours. Additional time may be requested.

After a pre-approved incident message or a non-incident message has been removed from the DMS/CMS, State Communications will provide a copy of the DMS/CMS Incident Report to the associated district office.

After a “pending incident” message that required approval from ITD has been removed, State Communications will notify the District Operations Manager/TSEA or the District Operations Manager (same person except in D3) of the incident completion and provide a copy of the DMS/CMS Incident Report to the District Office.

After removing another state’s message from the DMS/CMS, State Communications staff will follow the steps above and then contact the Transportation Operations Center (TOC) of that respective state and indicate the message has been removed (Contact listed in the Road Closure Procedures notification lists).

If any problems are encountered, such as a failure to communicate with the signs, contact the ITD ETS Service Center. If the Service Center is unavailable, contact ITD’s ITS Systems Administrator or the Emergency Management Program Manager. Note: After duty hours follow established protocol.

Backup Activation Procedures

The State Communication Center is the primary contact for posting messages to the DMS/CMS. If for any reason the State Comm can’t accomplish the work, the districts and the ITS software support administrator can post messages to a DMS/CMS and shall follow the same procedures stated above.

Off-system Sign Activation Procedures

If circumstances require coordinated activation of off-system DMS/CMS on the ACHD road system, the State Communications may request the TMC (traffic management center) to post messages to complement what is being posted on the state routes. Off-system sign activation may be approved by the ACHD Congestion Management Supervisor or appointee. **Only:** HWY 55-Eagle Road, Locust Grove-I84(EB/WB) and Gowen Road I-84 Ten mile?

When requesting off-system activation, inform the TMC of the following:

- Purpose of the message
- Which signs to display the message on
- The intended message
- Duration of the message needed, if known in advance
- Person requesting approval

After the incident has been cleared or the purpose of the message is no longer needed, contact the ACHD TMC and indicate the message can be removed.

DOCUMENTATION

State Communications shall e-mail logs and incident forms to the associated ITD District office by the next business day and forward monthly activity reports to the ITD SCAT office the **15th of each month**.

Pre-Approved Messages for DMS/CMS

The following are the ONLY pre-approved messages for all ITD DMS/CMS. These are single line entries, they can be mixed and matched on one/two screens maximum, as needed. This allows for messages combinations and gives flexibility for ITD and Law Enforcement field staff to create messages that DO NOT require approval.

Exceptions: the (route) CLOSED messages, DO require prior ITD approval per Road Closure Procedures.

Generally, *Units* of information should be used when creating a DMS/CMS message. The information units communicate a Problem; a Location; and an Action; and should normally be in that order.

Problem	Location	Action
Test System	All	XXX YYY ZZZ
ICE	INTERSTATE XX	CHAINS ADVISED
SNOW	US XX	ONE LANE TRAFFIC
SLUSH	ID XX	REDUCE SPEED
LOW VISIBILITY	_____ TO _____	WINTER DRIVING CONDITIONS
WATER OVER ROAD	NEXT XXX MILES	USE CAUTION
SLICK ROADS	XX MILES NORTH	EXPECT DELAYS
STRONG CROSS WINDS	XX MILES SOUTH	PREPARE TO STOP
DRIFTING SNOW	XX MILES EAST	FOLLOW DETOUR
SNOW EXPECTED	XX MILES WEST	KEEP RIGHT
WATER OVER ROAD	(ANY STATE OR NATL MONUMENT)	KEEP LEFT
LANDSLIDE	(ANY STATE OR NATIONAL PARK)	MERGE LEFT
ROCK SLIDE	(ANY MOUNTAIN PASS)	MERGE RIGHT
BRUSH FIRE	(ANY CITY NAME)	USE ALT ROUTE
GRASS FIRE	(ADJACENT STATE NAME)	CALL 511
FOREST FIRE	(ANY GEOGRAPHIC LOCATION)	BY ANY ROUTE
MUD SLIDE	BEYOND XXX ROAD	
WILDLIFE/ANIMALS	BEFORE XXX ROAD	RT LN OPEN
CONGESTION	AHEAD	LFT LN OPEN
CRASH	AFTER	NO ACCESS TO
X RT LANES BLOCKED		
HIGH PROFILE VEHICLES	XXX MILES AHEAD	CHAINS REQUIRED
X LFT LANES BLOCKED	OVERNIGHT	ALL NON-EXEMPT
REDUCE TO X LANES	____ (DAY) _____ PM	COMMERCIAL VEHCLS
(ROUTE) CLOSED	____ (DAY) _____ AM	
SHOULDER CLOSED		
DEBRIS	All	DEBRIS ON ROAD
ROUGH ROAD	NEXT XX MILES	REDUCE SPEED
SMOKE	NEXT XX MILES	CAUTION or LIMITED VISIBILITY
CONTROLLERD BURN	NEXT XX MILES	USE CAUTION
PATHFINDER		
HEAVY SNOW EXPECTED	____ Day and ____ Time	CHECK 511
DRIFTING SNOW EXPECTED	____ DAY and ____ TIME	ADJUST COMMUTE

HEAVY FOG	____ DAY and ____ TIME	ENGAGE YOUR DRIVE
FREEZING FOG OR RAIN	____ DAY and ____ TIME	PLAN AHEAD
EXTREME LOW VISIBILITY	____ DAY and ____ TIME	

***ACHD is not authorized to post route as "Closed" on Interstate/State routes.**

The following is a TRAVELIQ 511 related message that is pre-approved.

- Travel Info Dial 511

The following are construction-related messages that are pre-approved.

BRIDGE REPAIR	SHOULDER CLOSED	MERGE LEFT/RIGHT
XX RIGHT LANE(S) CLOSED	REDUCE SPEED	REDUCED LANES (REDUCED TO XX LANE(S))
XX LEFT LANE(S) CLOSED	WATCH FOR WORKERS	MOWING AHEAD

Acceptable abbreviations for the above terms (per MUTCD).

Freeway = FWY	Highway = HWY	Road = RD	Street = ST
Junction = JCT	Lane LN	Miles = MI	Heavy - HVY
North = N	South = S	West = W	East = E
Left = LFT	Right = RHT	Center = CNTR	RTE = Route

(Variations must be approved by the district)

NOTES:

- Refrain from using generic or industry terms. i.e. "mile post"
- The messages should be brief – **avoid long messages.**
- If using a 2-phase message, each message must be independently understandable to motorists
- DMS/CMS Messages will not be used to notify motorist of normal congestion

Dynamic Message Signs (DMS/CMS) locations

County	Name	Description, 511 Displayed Name	Mile Marker	Road Type	Primary Road	CrossRoad	Dis- trict	MaxLin es	MaxChars PerLine	Sign Type
Ada	DMS 3-3	I-84 at Gowen Rd 511#I-84 W at Boise#	55.6	Interstate	I-84	Gowen Rd	D3	3	17	3
Ada	DMS 3-4	I-184 at WB Connector 511#I-184 W at Boise#	4.1	Interstate	I-184	WB Connector	D3	3	17	3
Ada	DMS 3-12	SH-55 at Eagle Road 511#SH-55 S at Meridian#	12.5	State Highway	SH-55	Pine - Eagle Road	D3	3	17	3
Ada	DMS 3-16	I-84 at Locust Grove 511#I-84 W at Meridian#	44.83	Interstate	I-84	Locust Grove WB	D3	3	17	3
Ada	DMS 3-17	I-84 at Black 511#I-84 E at Blacks Creek Road#	62.7	Interstate	I-84	Blacks Creek Rd	D3	3	17	3
Ada	DMS 3-2	I-84 at Locust Grove 511#I-84 E at Locust Grov	45	Arterial	I-84	Locust Grove EB	D3	3	17	3
Ada	DMS 3-8	SH-21 at Warm Springs 511#SH-21 N at Boise#	8.1	State Highway	SH-21	Warm Springs	D3	3	14	
Ada	DMS 3-13	SH-55 at Shadow Valley 511#SH-55 N at Eagle	50.2	State Highway	SH-55	Shadow Valley	D3	3	14	
Adams	DMS 3-5	US-95 at New Meadows 511#US-95 N before	160.4	U.S. Highway	US-95	New Meadows S End Rd	D3	3	18	3
Adams	DMS 3-6	US-95 at New Meadows 511#US-95 S New Me	161.4	U.S. Highway	US-95	New Meadows Airport	D3	3	18	3
Adams	DMS 3-7	US-95 at New Meadows 511#US-95 N after N	162.4	U.S. Highway	US-95	New Meadows	D3	3	18	3
Adams	DMS 3-14	SH 55 at New Meadows 511#SH-55 N at New	156	State Highway	SH 55	New Meadows Old Scho	D3	3	18	3
Bannock	DMS 5-1	I-86 at Yellowstone 511#I-86 E at Pocatello#	61.8	Interstate	I-86	Yellowstone	D5	3	17	3
Bannock	DMS 5-2	I-15 at Pocatello Creek 511#I-15 N at Pocatell	71.4	Interstate	I-15	Pocatello Creek	D5	3	17	3
Bannock	DMS 5-3	I-15 at Chubbuck Rd 511 (in storage)	73.7	Interstate	I-15	Chubbuck Rd	D5	3	17	3
Blaine	DMS 4-8	US-20 at Timmerman Jct. 511#US-20 W at Be	177.9	U.S. Highway	US-20	Timmerman Jct.	D4	3	14	3
Boise	DMS 3-9	SH-21 at Idaho City 511#SH-21 N at Idaho Cit	39	State Highway	SH-21	Idaho City	D3	3	14	3
Boise	DMS 3-10	SH-21 at Lowman - dialup 511#SH-21 N at Lo	72.7	State Highway	SH-21	Lowman	D3	3	14	3
Boise	DMS 3-15	Banks-Lowman HWY at Banks-Lowman Hwy I	0	Arterial	CH-17 Banks-	SH-55	D3	3	14	3
Bonneville	DMS 6-3	I-15 S at Sunnyside 511#I-15 S at Idaho Falls#	116.5	Interstate	I-15	Sunnyside	D6	3	17	3
Bonneville	DMS 6-5	I-15 at Shelley 511#I-15 N at Shelley#	112.35	Interstate	I-15	Shelley	D6	3	17	3
Bonneville	DMS 6-9	511#US-20 W at Idaho Falls#	303.48	State Highway	US-20	Idaho Falls	D6	3	14	3
Butte	DMS 6-1	US 20 26 at Arco 511#US-20 26 E at Arco#	251.87	U.S. Highway	US 20/26	Arco	D6	3	16	3
Butte	DMS 6-2	US 20 26 at Arco 511#US-20 26 W at Arco#	251.81	U.S. Highway	US 20/26	Arco	D6	3	16	3
Canyon	DMS 3-1	I-84 at Caldwell 511#I-84 W at Caldwell#	25.6	Interstate	I-84	Caldwell	D3	3	21	3
Canyon	DMS 3-18	I-84 at Laster Ln 511#I-84 E at Caldwell#	32	Interstate	I-84	Laster Ln	D3	3	17	3
Cassia	DMS 4-3	I-84 at Burley 511#I-84 E at Burley#	205.67	Interstate	I-84	Burley	D4	3	17	3
Cassia	DMS 4-4	See Utah Below DMS 4-4								
Cassia	DMS 4-5	See Utah Below DMS 4-5								
Custer	DMS 3-11	SH-21 at Stanley 511#SH-21 S at Stanley#	129.3	State Highway	SH-21	Stanley	D3	3	14	3
Custer	DMS 6-7	SH-75 at Challis 511#SH-75 S at Challis#	244.19	State Highway	SH-75	Challis	D6	3	14	3
Elmore	DMS 3-19	I-84 at Mt. Home 511#I-84 W at Mountain Ho	93.15	Interstate	I-84	Mt. Home	D3	3	17	3
Elmore	DMS 3-21	I-84 Bus. at Mtn. Home 511#I-84-Business Su	0.69	Interstate	I-84 Bus.	Mtn. Home	D3	3	14	3
Elmore	DMS 3-22	US-20 at Mountain Home 511#US-20 E at Mou	95.8	U.S. Highway	US-20	Mountain Home	D3	3	14	3
Elmore	DMS 4-1	I-84 at Glenns Ferry 511#I-84 E at Glenns Ferr	122.21	Interstate	I-84	Glenns Ferry	D4	3	17	3
Fremont	DMS 6-8	US-20 at Ashton 511#US-20 at Ashton#	360.29	U.S. Highway	US-20	Ashton	D6	3	14	3
Fremont	DMS 6-11	See Montana Below DSM 6-11								
Jefferson	DMS 6-4	I-15 at Sage Jct 511#I-15 N at Roberts#	140.8	Interstate	I-15	Sage Jct	D6	3	17	3
Jerome	DMS 4-2	I-84 at Twin Falls RA 511#I-84 E at Twin Falls#	171.3	Interstate	I-84	Twin Falls RA	D4	3	17	3
Jerome	DMS 4-9	US-93 at Golf Course 511#US-93 S at Twin Fall	51.65	U.S. Highway	US-93	Golf Course Rd	D4	3	17	3
Jerome	DMS 4-10	I-84 at Skeleton Butte	183.8	Interstate	I-84	Skeleton Butte	D4	3	18	1
Kootenai	DMS 1-1	I-90 to Post Falls 511XI-90 W at Atlas RoadX	10.42	Interstate	I-90	Atlas Rd.	D1	3	17	
Kootenai	DMS 1-2	See Washington State Below DMS 1-2								
Kootenai	DMS 1-3	I-90 at Blue Creek 511#I-90 E at Wolf Lodge B	21.2	Interstate	I-90	Blue Creek	D1	3	17	3
Kootenai	DMS 1-4	I-90 at Wall Hill 511#I-90 W at Cataldo#	35.4	Interstate	I-90	Wall Hill	D1	3	17	3
Kootenai	DMS 1-6	I-90 at Hueter Rd 511#I-90 E at Huetter Road#	9.1	Interstate	I-90	Huetter Rd	D1	3	17	3
Kootenai	DMS 1-7	US-95 at Mica Peak 511#US-95 N at Mica Peak#	424.29	U.S. Highway	US-95	Mica Peak	D1	3	17	3
Kootenai	DMS 1-8	US-95 at Wyoming 511#US-95 S at Hayden#	435.95	U.S. Highway	US-95	Wyoming St	D1	3	17	3
Kootenai	DMS 1-9	I-90 at Elm Street 511#I-90 W at Elm Street#	13.96	Interstate	I-90	Elm Street	D1	3	17	3
Lincoln	DMS 4-7	US-26 93 at Shoshone 511#US-26 E	166.1	U.S. Highway	US-26/93	Shoshone	D4	3	14	3
Lincoln	DMS 4-6	SH-75 at Shoshone 511#SH-75 N at Shoshone	74.1	State Highway	SH-75	Shoshone	D4	3	14	3
Madison	DMS 6-6	US 20 at Rexburg 511#US-20 E at Rexburg#	330.45	U.S. Highway	US 20	Rexburg	D6	3	17	3
Madison	DMS 6-10	511#SH-33 E at Sugar City#	100.09	State Highway	SH-33	Sugar City	D6	3	14	3
Nez Perce	DMS 2-1	US-95 at Lewiston 511#US-95 N riverside at L	311.09	U.S. Highway	US-95	Lewiston	D2	3	17	3
Nez Perce	DMS 2-2	US-95 at Lewiston 511#US-95 S riverside at Le	311.09	U.S. Highway	US-95	Lewiston	D2	3	17	3
Shoshone	DMS 1-5	I-90 at Nuchols Gulch 511#I-90 E at Osburn#	58.21	Interstate	I-90	Nuchols Gulch	D1	3	17	
Washingt	DMS 3-20	US-95 at Weiser 511#US-95 N at Weiser#	82.1	U.S. Highway	US-95	Weiser	D3	3	14	3
Box Elder	DMS 4-4	I-84 at Snowville 511#I-84 W at Snowville#	11.3	Interstate	I-84	Ranch Exit 12	D4	3	17	3
Box Elder	DMS 4-5	I-15 at Tremonton 511#I-15 N	374.3	Interstate	I-15	Bear River at Elwood	D4	3	17	3
Gallatin	DMS 6-11	511#US-20 W at West Yellowstone#	8.6	U.S. Highway	US-20	Iris at West Yellowstone	D6	3	14	3
Spokane	DMS 1-2	I-90 at Washington 511#I-90 E at Liberty Lake	298.37	Interstate	I-90	Washington	D1	3	17	3

ITD Standard Operating Procedure	Title: Emergency Traffic Signal Procedure	Corresponding Operations Manual Chapter: 6
Issue Date: 7-29-11	Revised 9/1/2023	Page 1 of 1

PURPOSE

This SOP establishes the recommendation procedure for handling calls regarding problems with or damage of highway traffic signals or lighting.

SCOPE

This guide is to be used by State Communication Center personnel involved in dispatching for ITD.

PROCEDURE

Each District's Traffic Signal Electrician is responsible for maintenance and emergency repair on the traffic signals listed within each district's "Signal Directory" (see attached).

ITD has Cooperative Maintenance Agreements with a number of cities around the state and in many of the cases, the signals within those cities are the responsibility of the city. Review the District Signal Directory to determine if the signal is ITD's responsibility or the city's. When the signal is the city's responsibility, you will need to notify the local highway agency or local law enforcement.

When you receive a call regarding a problem with a signal, you need to use the Incident Report to obtain the needed information. On the Incident Report fill in the *General Information* and the *Traffic Signal Malfunction* sections with as much of the information as you can obtain. Then call local law enforcement or ISP (depending on the location) and have them verify that there is indeed a problem before calling the appropriate person for repair.

Call out and notification procedures for potential traffic hazards caused by signal:

- For the loss of all signal indications (Dark Signal) with no loss of power in the area – Call out the District Signal Electrician or city jurisdiction 24/7.
- For a damaged signal and/or controller cabinet with exposed wiring – Call out the District Signal Electrician or city jurisdiction 24/7.
- For signals in yellow or green flashing mode – Call out the District Signal Electrician or city jurisdiction 24/7.
- For signals in red flashing mode – Notify the District Signal Electrician during business hours.
- For burned out (red, yellow, green) signal indicators – Call out the District Signal Electrician or city jurisdiction during business hours.

DOCUMENTATION

Attachments: District's Signal Directory
Traffic Signal Incident Forms

District 1 Traffic Signal Emergency Instructions & Directory

City/County	Route	Milepost	Location	Jurisdiction
Rathdrum	SH-41	7.900	SH-41 & SH-53 North	ITD
Oldtown	US-2	0.000	Us-2 & SH-41	WSDOT (ALL ISSUES)
Priest River	US-2	5.846	Us-2 & SH-57	ITD
Sandpoint	US-2	27.711	Us-2 & Division St	Sandpoint
Sandpoint	US-2	28.332	Us-2 & Boyer Ave	Sandpoint
Sandpoint	US-2	28.515	5th Ave & Pine St	Sandpoint
Coeur d'Alene	US-95	430.120	US-95 & Lacrosse Ave (Ped Crossing)	Coeur d'Alene
Coeur d'Alene	US-95	430.336	US-95 & Ironwood Drive	Coeur d'Alene
Coeur d'Alene	US-95	430.578	US-95 & I-90 Eb Ramps (Exit 12)	Coeur d'Alene
Coeur d'Alene	US-95	430.681	US-95 & I-90 WB Ramps (Exit 12)	Coeur d'Alene
Coeur d'Alene	US-95	430.765	US-95 & Appleway Ave	Coeur d'Alene
Coeur d'Alene	US-95	431.212	US-95 & Neider Ave	Coeur d'Alene
Coeur d'Alene	US-95	431.532	US-95 & Bozanko Ave	Coeur d'Alene
Coeur d'Alene	US-95	431.781	US-95 & Kathleen Ave	Coeur d'Alene
Coeur d'Alene	US-95	432.283	US-95 & Dalton Ave	Coeur d'Alene
Coeur d'Alene	US-95	432.786	US-95 & Hanley Ave	Coeur d'Alene
Coeur d'Alene	US-95	433.018	US-95 & Canfield Ave	Coeur d'Alene
Hayden	US-95	433.796	US-95 & Prairie Ave	Hayden
Hayden	US-95	434.300	US-95 & Honeysuckle Ave	Hayden
Hayden	US-95	434.804	US-95 & Hayden Ave	Hayden
Kootenai County	US-95	436.784	US-95 & Lancaster Ave	ITD
Kootenai County	US-95	438.931	US-95 & SH-53	ITD
Kootenai County	US-95	440.013	US-95 & Garwood Road	ITD
Athol	US-95	449.099	US-95 & SH-54	ITD
Sandpoint	US-95	474.242	1st Ave & Pine St	Sandpoint
Sandpoint	US-95	474.507	2nd Ave & Cedar St	Sandpoint
Sandpoint	US-95	474.716	5th Ave & Cedar St	Sandpoint
Sandpoint	US-95	475.000	5th Ave & Larch St	Sandpoint
Ponderay	US-95	475.731	US-95 & SH-200	ITD
Ponderay	US-95	477.098	US-95 & Kootenai Cutoff Road	ITD
Bonn timers Ferry	US-95	506.237	US-95 & Alderson Lane	Bonn timers Ferry
Bonn timers Ferry	US-95	510.371	US-95 & US-2 (Three Mile Junction)	ITD

Use the following procedures for all traffic signal emergency reports**GENERAL**

The District One traffic signal crew provides maintenance and emergency repairs for all traffic signal controllers, poles and signal heads at all locations listed above.

Some jurisdictions are responsible for replacement of burned out bulbs as noted in the "JURISDICTION" column listed above.

When a problem is reported get as detailed a description of the problem as possible including:

Intersection location: If the intersection is not on the list above, it is not on the Idaho Transportation Department system, and is entirely the responsibility of the owning jurisdiction. Do not report to ITD District One.

- **Problem Light:** Travel direction (North, South, East, West) and lane of travel (left or inner lane/right or outer lane), and the location of the signal (mounted on the pole or overhead on the arm).
- **Flashing Signals:** If all the signals in the intersection are flashing and, if they are flashing, if indications are all red or red on one side and yellow on the other side.
- **Power Failure:** If the entire intersection is blacked out, there is likely a power outage. This event should be reported, but little can be done until power is restored.

1)

For traffic signals under ITD jurisdiction:

The District One traffic signal crew provides all maintenance and emergency repairs, including bulb replacement, on all traffic signals under ITD jurisdiction as indicated in the "JURISDICTION" column above. Call in the following order:

District personnel will decide if an emergency exists and will respond. If no emergency exists, the State Comm will be advised to contact the reporting person or agency and inform them that the repair work will be completed during the next regular working day. The Traffic Signal Lead Worker or Traffic Signal Electrician will document actions taken in the Transportation Asset Management System (TAMS).

For traffic signals under jurisdiction of cities

Our Cooperative Traffic Signal Maintenance Agreements contain "Emergency Procedures" that define the exact responsibilities of the Local Agency and ITD for a given signal installation.

The city police departments will physically check on all signal operations problems. If ITD or the State Comm receives a call from a citizen, sheriff's offices, or Idaho State Police, call the City Police to verify the problem.

Coeur d'Alene Police	208-769-2321
Hayden	208-446-1300 (Kootenai County Sheriff's Office)
Post Falls Police	208-773-3517
Sandpoint Police	208-263-3158

If the city police report/confirm a problem, and if the malfunction is determined to be a burned out bulb, then the following are to be notified:

Coeur d'Alene Street Division	208-769-2233
Hayden Street Division	208-772-4411, ext. 1020 (after hours (208)660-6060)
Post Falls Street Division	208-773-1722
Sandpoint Public Works	208-263-3411

If the city police report/confirm a problem, and if the malfunction is determined to be other than a burned out bulb, then ITD personnel as listed in the chart above are to be notified in the order shown. The Traffic Signal Lead Worker or Traffic Signal Electrician will document actions taken in the Transportation Asset Management System (TAMS).

District 2 Traffic Signal Emergency Services Directory

County	Route	Milepost	Location	Jurisdiction
Grangeville/Idaho	SH-13	0.32	Main St / Idaho Street	ITD
Lewiston/Nez Perce	US-12	1.49	Main / 18th Street	*Lewiston
Lewiston/Nez Perce	US-12	1.77	21st / G Street	*Lewiston
Lewiston/Nez Perce	US-12	2.4	US-12 / 3rd Ave North	*Lewiston
Moscow/Latah	US-95	344.12	Palouse River Dr / US-95	*Moscow
Moscow/Latah	US-95	344.76	Sweet Ave / US-95	*Moscow
Moscow/Latah	US-95	344.91	SH-8 / US-95	*Moscow
Moscow/Latah	US-95 NB	345.2	6th / Washington Street	*Moscow
Moscow/Latah	US-95 NB	345.35	3rd / Washington Street	*Moscow
Moscow/Latah	US-95	345.63	D Street / Main Street	*Moscow
Moscow/Latah	US-95 SB	0.5	A Street / Jackson Street	*Moscow
Moscow/Latah	US-95 SB	0.35	3rd Street / Jackson Street	*Moscow
Moscow/Latah	US-95 SB	0.2	6th Street / Jackson Street	*Moscow
Moscow/Latah	SH-8	0.12	SH-8 / Warbonnet	*Moscow
Moscow/Latah	SH-8	0.73	SH-8 / Per. Dr-Farm Road	*Moscow
Moscow/Latah	SH-8	1.11	SH-8/Stadium Dr-Peterson Dr	*Moscow
Moscow/Latah	SH-8	1.33	SH-8 / Line Street	*Moscow
Moscow/Latah	SH-8	3.03	SH-8 / Blaine Street	*Moscow

**Signal controller timing remains under ITD control. City does lamp cleaning, replacement and initial malfunction response.*

DISTRICT 2 FLASHER EMERGENCY SERVICES DIRECTORY				
CITY/COUNTY	ROUTE	MP	LOCATION	JURISDICTION
Powell Maintenance Yard/Fleming/Idaho	US-12	169	US-12 Chain-up Area	ITD

District 3 Traffic Signal Emergency Services Directory

City/county	Route	Milepost	Location	Jurs.	Lights
Caldwell	SH-19	4.45	Railroad Crossing Flashers	ITD	Flasher
Caldwell	I-84 B	53.002	US-30 & Ustick Rd.	ITD	Signal
Caldwell	I-84 B.L.	50.1	10th & Blaine	ITD	Signal
Caldwell	I-84 B.L.	20.4	Blaine and Kimball	ITD	Signal
Caldwell	I-84 B.L.	20.5	10th & Cleveland	ITD	Signal
Caldwell	I-84 B.L.	20.4	Kimball & Cleveland	ITD	Signal
Caldwell	I-84 B.L.	20.3	Cleveland & 7th	ITD	Signal
Caldwell	I-84 B.L.	20.45	Cleveland & 9th	ITD	Signal
Caldwell	I-84 B.L.	27	10th & I-84 North Ramp	ITD	Signal
Caldwell	I-84 B.L.	27	10th & I-84 South Ramp	ITD	Signal
Caldwell	I-84 B.L.	51	Caldwell & Linden	ITD	Signal
Caldwell	I-84 B.L.	53.065	US-30 & Walmart	ITD	Signal
Caldwell	US-20	27.25	Middleton Rd.& SH 20/26	ITD	Signal
Caldwell	SH-55	11.6	10th Ave.&SH55	ITD	Signal
Caldwell	I-84 B.L.	53.72	Happyday Blvd.	ITD	Signal
Caldwell	I-84 B.L.	50.85	Blaine & 21st	ITD	Signal
Caldwell	I-84 B.L.	50.88	21st & Cleveland	ITD	Signal
Caldwell	US- 20		Smead & 20/26	ITD	Signal
Caldwell	I-84	28.65	Franklin WB Off Ramp	ITD	Signal
Caldwell	I-84	28.65	Franklin EB Off Ramp	ITD	Signal
Caldwell	I-84	33.0	Karcher EB Off Ramp	ITD	Signal
Caldwell	I-84	33.0	Karcher WB Off Ramp	ITD	Signal
Caldwell	US-20/26		Aviation Way	ITD	Signal
Caldwell	Cleveland		Homedale & Cleveland	ITD	Signal
Caldwell	I-84 B.L.	51.09	Cleveland & Indiana	ITD	Signal
Emmett	SH-52	31.42	Main & Washington	ITD	Signal
Emmett	SH-52	31.17	Washington & 4th	ITD	Signal
Emmett	SH-52	13.92	SH-52 JCT. SH-16	ITD	Signal
Emmett	SH-52	0	North of Town	ITD	Flasher
Emmett	SH-16	13.56	SH-16 & Johns	ITD	Signal
Emmett	SH-16	12.56	SH-16 & Substation	ITD	Signal
New Plymouth	SH-52	14.42	SH-52 JCT. SH-72	ITD	Flasher
Fruitland	US-95	65	Gayway Jct. Jct. 95 & US-30	ITD	Signal
Fruitland	US-30	0.234	US-30 & Allen St.	ITD	Signal
McCall	SH-55	143.03	Deinhart Ln.	ITD	Signal
McCall	SH-55	144.36	Lake & Mission	ITD	Signal
Mt. Home	SH-51	93.6	2nd & American Legion	ITD	Signal
Mt. Home	SH-51	93.7	American Legion & 3rd	ITD	Signal

Mt. Home	SH-51	94	American Legion & 10th	ITD	Signal
Mt. Home	US-20/26	0	Highway Closed Sign	ITD	Flasher
Mt. Home	US-20/26	4.2	Jackson & Second	ITD	Signal
Mt. Home	US-20/26	91.95	Airbase & Third	ITD	Signal
Mt. Home	SH -51		SH 51 & SH 67	ITD	Signal
Mt. Home	US-20/26	91.78	Fifth & Airbase	ITD	Signal
Caldwell	I-84	35.2	Nampa Blvd EB Off Ramp	ITD	Signal
Caldwell	I-84	35.2	Nampa Blvd.WB Off Ramp	ITD	Signal
Caldwell	I-84	36	Franklin EB Off Ramp	ITD	Signal
Caldwell	I-84	36	Franklin WB Off Ramp	ITD	Signal
Caldwell	I-84	37.8	Garrity Blvd EB Off Ramp	ITD	Signal
Caldwell	I-84	37.8	Garrity Blvd WB Off Ramp	ITD	Signal
Weiser	US-95	67.2	US-95 Business	ITD	Signal
Weiser	US-95		7th & US 95	ITD	Signal
Weiser	US-95	81.8	Main & State St.	ITD	Signal
Weiser	US-95	82	Park St.& SH95	ITD	Signal
Horseshoe Bend	SH-52 SH-55	54.1	Warning Flasher	ITD	Flasher
Idaho City	SH-21	46	Highway Closed	ITD	Flasher
Lowman	SH-21	93.9	Highway Closed	ITD	Flasher
Payette	US-95		SH95 & SH52	ITD	SIGNAL

NOTE: Flashers Malfunctions are to be verified by a police officer.

"Road Closed Signs" must be verified by maintenance TOTL or leadworker

Traffic personnel will respond to:

- Traffic Signal Damage (Signal controller, poles, signal heads). Traffic signal light outage on single indicator heads.
- Highway Lighting Damage (Pole knockdown or damage).

Do not call traffic personnel after hours on malfunctioning highway lighting. Obtain information on outage. Repairs will be made as soon as possible. Do call traffic personnel after hours on knockdown poles to clear power.

District 4 Traffic Signal Emergency Services Directory

City/County	Route	Milepost	Location	Jurs	Lights
Bliss	I-84	132.53	Rest Areas East/West	470	Lights
Buhl	US-30	201.82	Main - Broadway	ITD	Signal
Buhl	US-30	202.42	Burley Corner	ITD	Signal
Burley	SH-27	20.44	Overland – 27 TH	ITD	Signal
Burley	SH-27	21.03	Overland – 21 ST	ITD	Signal
Burley	SH-27	21.44	Overland – 16 TH	ITD	Signal
Burley	SH-27	21.62	Overland – 14 TH	ITD	Signal
Burley	SH-27	21.71	Overland – 13 TH	ITD	Signal
Burley	SH-27	22.16	Overland – 8 TH	ITD	Signal
Burley	SH-27	22.44	Overland – 5 TH	ITD	Signal
Burley	SH-27	23.22	Overland – 3 RD N	ITD	Signal
Burley	SH-27	23.42	Overland – Alfresco 5 TH N	ITD	Signal
Burley	SH-27	23.59	Overland - 7 TH N	ITD	Signal
Burley	US-30	257.53	Main – Overland	ITD	Signal
Burley	US-30	257.46	Main & Oakley	ITD	Signal
Burley	US-30	257.61	Main & Albion	ITD	Signal
Burley	US-30	257.74	Main & Normal	ITD	Signal
Burley	US-30	258.03	Main & Highland	ITD	Signal
Burley	US-30	258.79	Main & Y-Dell	ITD	Signal
Fairfield	US-20	152.10	West of Fairfield Spur	ITD	Flasher Road Closed
Gooding	26/46	149.91/150.32	Intersection E/W/N/S	ITD	Flasher Main
Hagerman	US-30	184.26	Rest Area	470	Lights
Hailey	SH-75	114.41	Countryside	ITD	Signal
Hailey	SH-75	115.61	Fox Acres Rd.	ITD	Signal
Hailey	SH-75	115.91	Airportway Rd.	ITD	Signal
Hailey	SH-75	116.53	Main & Bullion	ITD	Signal
Hailey	SH-75	117.25	McKercher Blvd.	ITD	Signal
Heyburn	US-30	259.62	7 TH Street North	ITD	Signal
Heyburn	US-30	260.89	21 ST Street	ITD	Signal
Jerome Co	US-93	50.74	Golf Course Rd.	ITD	Signal
Jerome Co	93/84	52.99/53.11	Interchange N/S/E/W	ITD	Signal
Jerome Co	US-93	55.63	Barrymore RR Xing	ITD	Bouncing Ball
Jerome Co	93/25	58.73/5.35	Intersection E/W/N/S	ITD	Flasher Main
Jerome Co	93/25	58.73/5.35	Intersection E/W	ITD	Bouncing Ball
Jerome	SH-25	1.50	Lincoln & Main	ITD	Signal
Jerome	I-84	168	Old 79/84 Off/On Ramp WB	ITD	Signal
Jerome	I-84	171.35	Rest Area	470	Lights
Juniper	I-84	269.85	South of R/A West Bound	ITD	Flasher Road Closed
Juniper	I-84	262.49	Rest Areas East/West	470	Lights
Ketchum	SH-75	121.99	Greenhorn-South Fork	ITD	Signal
Ketchum	SH-75	122.32/122.55	East Fork N/S	ITD	Bouncing Ball Fire Sta.

Ketchum	SH-75	122.72	East Fork N/S	ITD	Signal
Ketchum	SH-75	122.67/122.77	East Fork N/S	ITD	Warning Flashers
Ketchum	SH-75	125.80	ST. Lukes	ITD	Signal
Ketchum	SH-75	128.27	1 ST & Main	ITD	Signal
Ketchum	SH-75	128.37	3 RD & Main	ITD	Signal
Ketchum	SH-75	128.45	5 TH & Main	ITD	Signal
Ketchum	SH-75	129.24	Saddle Rd.	ITD	Signal
Minico High	SH-25	49.00	E/W	ITD	Bouncing Ball
Minico High	SH-25	49.03	Intersection E/W	ITD	Flasher Main
Paul	SH-25	46.02	Main	ITD	Signal
Raft River	I-86	4.04	Old Port	ITD	Light
Rupert	SH-24	3.55	100 West	ITD	Signal
Rupert	SH-24	3.74	100 South	ITD	Signal
Rupert	SH-25	51.68	Oneida & 2 ND	ITD	Signal
Shoshone	93/75	74.11	Greenwood & Rail	ITD	Flasher Main
Shoshone	93/26	166.00	N of Carey	ITD	Flasher Road Closed
Shoshone	SH-75	74.06	Galena Summit	ITD	Flasher Road Closed
Stanley	SH-21	130.26	Banner Summit	ITD	Flasher Road Closed
Sublett	I-84	245.00	North of Sublett Rd.	ITD	Flasher Road Closed
Sun Valley	SH-75	126.86	Elkhorn	ITD	Signal
Sun Valley	SH-75	129.24	Saddle Road	ITD	Signal
Sun Valley	75-Spur	.98	Dollar Mountain Road	ITD	Signal
Timmerman	20/75	177.64/178.64	Intersection E/W	ITD	Bouncing Ball
Timmerman	20/75	177.64/178.64	Intersection E/W	ITD	Flasher Road Closed
Timmerman	20/75	102.12	Intersection E/W/N/S	ITD	Flasher Main
Timmerman	SH-75	102.12	N/S of Junction	ITD	Bouncing Ball (solar)
Timmerman	SH-75	102.01	Rest Area	470	Lights
Twin Falls	ALL		ALL	City	ALL
Twin Falls CO	30/93	213.06	Curry Crossing RR Xing	ITD	Bouncing Ball
Twin Falls CO	93 Alt.	42.08	Alternate Rt., RR Xing	ITD	Bouncing Ball
Twin Falls CO	93 Alt.	43.82	Alternate Rt., Flyover (OP)	ITD	Lights
Wendell	SH-46	.71	Main	ITD	Signal

District 5 Traffic Signal Emergency Services Directory

City/County	Route	Milepost	Location	Jurisdiction
American Falls/Power	I-86B	2.952	I-86B (Idaho St.) and Fort Hall	ITD
Blackfoot/Bingham	US-26	305.743	US-26 and SH-39	ITD
Blackfoot/Bingham	US-26	305.930	US-26 and I-15 SB	ITD
Blackfoot/Bingham	I-15B	4.802	US-26 and I-15 NB	ITD
Blackfoot/Bingham	I-15B	4.596	I-15B and Parkway	ITD
Blackfoot/Bingham	I-15B	4.327	Meridian and Bridge	ITD
Blackfoot/Bingham	I-15B	3.793	Ash and Bridge	ITD
Blackfoot/Bingham	I-15B	3.730	Broadway and Bridge	ITD
Blackfoot/Bingham	I-15B	3.598	Judicial and Main	ITD
Blackfoot/Bingham	I-15B	3.659	Bridge and Main	ITD
Blackfoot/Bingham	US-91	100.887	Alice and Main	ITD
Chubbuck/Bannock	US-91	79.690	Yellowstone and Pine Ridge Mall	Chubbuck
Chubbuck/Bannock	US-91	79.750	Yellowstone and Brennaman	Chubbuck
Chubbuck/Bannock	US-91	80.008	Yellowstone and I-86 EB	Chubbuck
Chubbuck/Bannock	US-91	80.090	Yellowstone and I-86 WB	Chubbuck
Chubbuck/Bannock	US-91	80.570	Yellowstone and Chubbuck	Chubbuck
Chubbuck/Bannock	US-91	81.55	Yellowstone and Siphon Road	ITD/Chubbuck
Chubbuck/Bannock	I-15	73.5	Northgate Parkway & IC 73 Northbound Ramps	Chubbuck
Chubbuck/Bannock	I-15	73.5	Northgate Parkway & IC 73 Southbound Ramps	Chubbuck
Montpelier/Bear Lake	US-89	25.520	US-89 (Washington St.) and 8 th	ITD
Montpelier/Bear Lake	US-30	435.010	US-30 and US-89 (Washington St)	ITD
Pocatello/Bannock	I-15B	1.870	5 th and Humbolt	Pocatello
Pocatello/Bannock	I-15B	2.20	5 th and Carter	Pocatello
Pocatello/Bannock	I-15B	2.340	5 th and Benton	Pocatello
Pocatello/Bannock	I-15B	2.610	5 th and Center	Pocatello
Pocatello/Bannock	I-15B	2.690	5 th and Clark	Pocatello
Pocatello/Bannock	I-15B	2.349	4 th and Benton	Pocatello
Pocatello/Bannock	I-15B	2.622	4 th and Center	Pocatello
Pocatello/Bannock	I-15B	2.691	4 th and Clark	Pocatello
Pocatello/Bannock	I-15B	3.450	Oak and Yellowstone	Pocatello
Pocatello/Bannock	I-15B	3.725	Maple and Yellowstone	Pocatello
Pocatello/Bannock	I-15B	3.975	Pine and Yellowstone	Pocatello
Pocatello/Bannock	I-15B	4.224	Cedar and Yellowstone	Pocatello
Pocatello/Bannock	I-15B	4.477	Alameda and Yellowstone	Pocatello
Pocatello/Bannock	I-15B	4.983	Alameda/Poc Crk/Jefferson/Hiline	Pocatello
Pocatello/Bannock	I-15B	5.416	Pocatello Creek and I-15 SB Ramp	Pocatello

Pocatello/Bannock	I-15B	5.570	Pocatello Creek and I-15 NB Ramp	Pocatello
Pocatello/Bannock	I-15	69.396	Clark St. and I-15 SB Ramp	Pocatello
Pocatello/Bannock	I-15	69.396	Clark St. and I-15 NB Ramp	Pocatello
Pocatello/Bannock	US-30	332.82	US-30 and Philbin Road	Pocatello
Pocatello/Bannock	US-30	335.486	Oak and McKinley	Pocatello
Pocatello/Bannock	US-30	335.077	Garret Way and Moreland	Pocatello
Pocatello/Bannock	US-30	334.767	Garret Way and Poleline	Pocatello
Pocatello/Bannock	US-30	334.007	Garrett Way/Hawthorne/Main	Pocatello
Pocatello/Bannock	US-91	78.41	Yellowstone and Pearl Street	Pocatello
Pocatello/Bannock	US-91	78.819	Yellowstone and Flandro	Pocatello
Pocatello/Bannock	US-91	79.320	Yellowstone and Hurley	Pocatello
Pocatello/Bannock	US-91	79.480	Yellowstone and Green "T"	Pocatello
Preston/Franklin	US-91	8.389	US-91 and Oneida St.	ITD
Preston/Franklin	US-91	7.614	US-91 and 2 nd St.	ITD
Shelly/Bingham	US-91	117.708	US-91 and Fir	ITD
Shelley/Bingham	US-91	118.264	US-91 and Center	ITD
Soda Springs/ Caribou	US-30	405.050	US-30 and Main St.	ITD
Soda Springs/ Caribou	US-30	405.496	US-30 and 3 rd East	ITD
Soda Springs/ Caribou	SH-34	58.052	SH-34 and Hooper St.	ITD

District 5 Flasher Emergency Services Directory

City/county	Route	Milepost	Location	Jurisdiction
Caribou	US-30	378.431	US-30 and Lund	ITD
Caribou	US-30	386.450	US-30 and SH-34 (Alexander)	ITD
Chubbuck/Bannock	US-91	82.571	US-91 and Tyhee	ITD
Blackfoot/Bingham	I-15B	3.457	I-15B and Broadway	ITD
Franklin/Franklin	US-91	1.384	US-91 and Main	ITD
American Falls/Power	I-86B	101.150	I-86B and Fort Hall	ITD
Rockland/Power	SH-37	55.640	SH-37 and Center	ITD

Instructions for calling traffic personnel
(Please verify malfunctions with city police)

American Falls	(208) 226-5922
Blackfoot	(208) 785-1235
Chubbuck	(208) 237-7172
Montpelier	(208) 847-0824
Preston	(208) 852-2433
Shelley	(208) 357-3446
Soda Springs	(208) 547-3213

For Traffic Signals under ITD Jurisdiction

Receiving Trouble Reports on Signal Systems

1. Get a detailed description of the problem.
 - a. The address and determine if the signal is ITD's responsibility
 - b. Which direction or lane of travel the problem is located on.
 - c. If it is a light bulb, determine which color and whether overhead or on pole.
 - d. If the report indicates the signal is black or not operating have the appropriate law enforcement agency determine if there is a power outage and if so attempt to get an estimate of how long the power will be out. This will help determine if stop signs need to be placed at the intersection. If the power is out the technicians cannot make any repairs and will not respond unless stop signs are determined to be required.
 - e. If the report is from the public have the appropriate law enforcement agency determine if the report is correct before calling ITD.
2. After ITD has been dispatched we will report back to State Comm that the problem has been repaired or the status of the repair pending.

District 6 Traffic Signal Emergency Services Directory

City/county	Route	Milepost	Location	Jurisdiction
Bonneville Co.	US-20	309.7	Lewisville Interchange	ITD
Bonneville Co.	US-26	335.6	US-26 & Woodruff (St. Leon)	ITD
Bonneville Co.	US-26	336.9	US-26 & 25th East (Hitt Rd.)	ITD
Bonneville Co.	US-91	122.7	US-91 (Yellowstone) & 65 TH S. (York)	ITD
Bonneville Co.	US-20B	3.564	Holmes & Iona	ITD
Bonneville Co.	US-26	338.240	US-26 & SH-43 Beeches Corner	ITD
Driggs	SH-33	141.28	SH-33 (Main) & Little St.	ITD
Idaho Falls	US-20	305.03	N. 26 TH W. RD (Old Butte Rd)	Idaho Falls
Idaho Falls	US-20	305.5	US-20 & Bellin Road	Idaho Falls
Idaho Falls	US-20	306.5	US-20 & Skyline	Idaho Falls
Idaho Falls	US-20	306.8	US-20 & Saturn	Idaho Falls
Idaho Falls	US-20	307.7	US-20 & I-15 Exit 119	Idaho Falls
Idaho Falls	I-15B	7.2	I-15B (Broadway) & IC 118- E. Ramp	Idaho Falls
Idaho Falls	I-15B	7.1	I-15B (Broadway) & IC 118-W. Ramp	Idaho Falls
Idaho Falls	I-15B	6.9	I-15B (Broadway) & Utah	Idaho Falls
Idaho Falls	I-15B	6.8	I-15B (Broadway) & Lindsay	Idaho Falls
Idaho Falls	I-15B	6.7	I-15B (Broadway) & River Pkway	Idaho Falls
Idaho Falls	I-15B	6.6	I-15B (Broadway) & Memorial	Idaho Falls
Idaho Falls	I-15B	6.5	I-15B (Broadway) & Capitol	Idaho Falls
Idaho Falls	I-15B	6.45	I-15B (Broadway) & Park	Idaho Falls
Idaho Falls	I-15B	6.4	I-15B (Broadway) & Shoup	Idaho Falls
Idaho Falls	I-15B	6.3	I-15B (Broadway) & Yellowstone	Idaho Falls
Idaho Falls	I-15B	6.2	I-15B (Yellowstone) & Cliff	Idaho Falls
Idaho Falls	I-15B	5.7	I-15B (Yellowstone) & 17th St.	Idaho Falls
Idaho Falls	I-15B	4.7	I-15B (Yellowstone) & SUNNYSIDE	Idaho Falls
Idaho Falls	US-20B	333.1	US-20B (Yellowstone) & A St.	Idaho Falls
Idaho Falls	US-20B	333.2	US-20B (Yellowstone) & B St.	Idaho Falls
Idaho Falls	US-20B	333.25	US-20B (Yellowstone) & C St.	Idaho Falls
Idaho Falls	US-20B	333.3	US-20B (Yellowstone) & D St.	Idaho Falls
Idaho Falls	US-20B	333.4	US-20B (Yellowstone) & E St.	Idaho Falls
Idaho Falls	US-20B	333.7	US-20B (Yellowstone) & Lomax	Idaho Falls
Idaho Falls	US-20B	334.2	US-20B (Yellowstone) & Elva-Higbe	Idaho Falls
Idaho Falls	US-20B	334.4	US-20B (Yellowstone) & Holmes	Idaho Falls
Idaho Falls	US-20B	2.6	US-20B (Holmes) & Anderson	Idaho Falls
Idaho Falls	US-26	334.9	US-26 & Anderson/Lincoln	Idaho Falls
Rexburg	SH-33	77.865	SH-33 & 2000 W. (Mother Hibbards)	ITD
Rexburg	SH-33	78.56	Pioneer Road	ITD
Rexburg	SH-33	78.9	SH-33 (Main) & 5th ST. West	ITD
Rexburg	SH-33	79.3	SH-33 (Main) & 2nd ST. West	ITD
Rexburg	SH-33	334.3	SH-33 (Main) & 1st ST. West	ITD
Rexburg	SH-33	334.5	SH-33 (Main) & Center	ITD

Rexburg	SH-33	334.6	SH-33 (Main) & 1st ST. East	ITD
Rexburg	SH-33	334.8	SH-33 (Main) & 2nd ST. East (SH-33)	ITD
Rexburg	SH-33	334.9	SH-33 (2nd EAST) & 1st North	ITD
Rexburg	SH-33	335.1	SH-33 (2nd EAST) & 2nd North	ITD
Rexburg	SH-33	335.44	Teton River Village	ITD
Rexburg	SH-33	335.6	SH-33 (2nd East) & Mt. River (Walmart)	ITD
Rexburg	SH-33	335.8	SH-33 & Salem ROAD	ITD
Rigby	SH-48	14.8	SH-48 & US-20B (State)	ITD
Rigby	US-20B	321.4	US-20B (State) & Main (US-20B)	ITD
Rigby	SH-48	13.4	SH-48 & 3800 East	ITD
Salmon	US-93	304.7	US-93 & SH-28	ITD
Salmon	US-93	304.9	US-93 (Main) & Church	ITD
St. Anthony	US-20B	346.3	Us-20b (Bridge St.) & Main	ITD

District 6 Flasher Emergency Services Directory

City/county	Route	Milepost	Location	Jurisdiction
Arco	US-93	248.6	US-93 (Grand) & US-20 (Front)	ITD
Butte Co.	US-20	263.8	Junction OF US-26 & US-20	ITD
Bonn. Co./Ucon	SH-43	3.6	SH-43 & 4th ST. South	ITD
Jefferson Co.	SH-48	5.9	SH-48 & Lewisville Road	ITD
Madison Co.	SH-33	100.00	SH-33 & SH-33	ITD
Victor	SH-33	149.6	SH-33 & SH-31	ITD

Instructions for Calling Traffic Personnel

For Traffic Signals under Idaho Falls Jurisdiction

During working hours

(208) 529-1183

During non-working hours call police dispatch at

(208) 529-1200

Traffic Personnel Will Provide Emergency Response To:

1. Traffic signal damage to controller, poles and signal heads
2. Traffic signal black, (no operation)
3. Traffic signals in flash mode
4. Highway lighting damage for a pole knockdown or damage

Traffic Personnel Will Not Provide Emergency Response to:

1. Traffic signal light bulb outage on green or yellow or red
2. On overhead flashers
3. Obtain information on outage location and file report with district

Receiving Trouble Reports on Signal Systems

1. Get a detailed description of the problem.

- a. The address and determine if the signal is ITD's responsibility
 - b. Which direction or lane of travel the problem is located on
 - c. If it is a light bulb, determine which color and whether overheard or on pole.
 - d. If the report indicates the signal is black or not operating have the appropriate law enforcement agency determine if there is a power outage and if so attempt to get an estimate of how long the power will be out. This will help determine if stop signs need to be placed at the intersection. If the power is out the technicians cannot make any repairs and will not respond unless stop signs are determined to be required.
 - e. If the report is from the public have the appropriate law enforcement agency determine if the report is correct before calling ITD.
2. After ITD has been dispatched we will report back to State Comm that the problem has been repaired or the status of the repair pending.

ITD Standard Operating Procedure	Title: General Radio & Telephone Duties	
Issue Date: 10-17-06	Revised: 9/1/2023	Page 1 of 2

PURPOSE

This SOP establishes the recommended procedure for receiving and relaying requests concerning highway operations.

SCOPE

This guide is to be used by State Communication Center dispatchers and ITD personnel who utilize the Comm Center dispatching service.

PROCEDURE

The Dispatchers shall receive and relay or handle telephone requests concerning highway operations. The Dispatcher shall be polite and helpful; answer questions if possible, but not give opinions or commit ITD beyond routine and known practices.

Emergencies

Any "Emergency" radio traffic must be treated as a high priority. Emergency traffic should be announced as such to alert the SCC or ITD personnel to clear the communication channels.

Media Calls

Any calls from the media inquiring about anything other than standard road report conditions must be handled as follows:

1. Have reporter to contact ITD Office of Communication at (208) 334-8005 for further information.
2. The Office of Communication staff will coordinate the response to the reporters call.

Radio/Telephone Log

The Radio/Telephone Log shall be kept current at all times during shift. The Radio/Telephone Log shall contain entries for reports of accidents, snow or rock slides, trees or water over road, damage to vehicles, requests from law enforcement agencies, damage to state property, road closures, and other situations where a log entry will be necessary for liability or future action. Be sure to record names, time of call, and telephone numbers on messages. Enter unusual calls or situations in the radio/telephone log.

During the active Road Report season (typically November through April) ITD Maintenance personnel shall always report in-service with State Com when coming on duty and out-of-service when going off duty.

When an ITD worker calls on the radio to inform you that he/she is in service, record his/her call number, foreman area, and the time. When he/she calls to go out of service, record the time. Any additional comments can be recorded, such as, the particular stretch of roadway he/she is on and if anyone else is on duty in the area.

Specific Procedures

There are procedures laid out in this manual for various emergency and/or specific situations that arise. The procedures addressed in this manual are:

- Chain Requirement
- TRAVELIQ 511 Entry
- Complaints and Property Damage
- Dynamic Message Signs
- Emergency Traffic Signals
- Hazardous Material Spills
- Highway Hazards
- Incident Reporting
- Road Closures

Please refer to these procedures when handling a call involving one of these situations.

In situations of a serious nature and/or those requiring correction or notification of higher authorities, notify the appropriate **area foreman** or on-call maintenance worker or district operations engineer. ***(See call schedule for each district in share point)***. If they are not available, notify the district engineer. Refer to the specific procedures in this manual for more detail on the typical situations that will arise.

District Taking Dispatch Back from State Comm

In the event State Comm experiences communications failure, each ITD District office will take temporary control of dispatching from State Comm until State Comm can regain communications. This may occur in extreme emergency situations, such as a natural disaster, severe winter storms or other situations. In these cases, State Comm will contact each District and inform them of the situation. The district will switch the phones back to the district and take control of all dispatching within their district.

Each ITD District office can, at their discretion, can take temporary control of dispatch back from State Comm in situations where the District office determines they need to take control of a situation or for training purposes. In these cases, the District will call State Comm and inform dispatch that "District # is resuming control of dispatching." The district will switch the phones back to the district and take control of all dispatching within their district. The District will call State Comm when it is determined to turn control back over to State Comm.

Annual exercises with each district will be coordinated between the Emergency Management Program Manager, State Comm, and Districts.

ITD Standard Operating Procedure	Title: Hazardous Material Spills or Incidents	
Issue Date: 9-25-08	Revised: 9/1/2023	Page 1 of 2

PURPOSE

This SOP establishes the recommendation procedure for handling hazardous material spills or incidents on the state highway system.

SCOPE

This guide is to be used by personnel involved in dispatching for ITD.

REFERENCES

Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan, November 2013..

PROCEDURE**Idaho Transportation Department**

Use Idaho State Communication Center Hazardous Materials Incident Data Sheet (Exhibit A) and your Hazardous Materials Emergency Response Guidebook when reporting hazardous material spills or incidents.

1. Get information from the field reporting person and fill out the report form with as much information as the person has initially. **It is most important to get the location of the incident and the placard number and/or any other hazard identification information that would identify the material.**
2. If the field reporting person does not have a Hazardous Material Emergency Response Guidebook, **look up the placard number or other hazard identification information given in the guidebook.** Then report back to the person with the material identification and the emergency action to be taken.

Example: If placard number 1203 is reported:

- a. Turn to ID No. 1203 in the Yellow Pages of the guidebook and find the guide number and the name of the material.

Example: Guide No. 128 – Gasoline

- b. Turn to Guide No. 128 in the **orange pages** section, describe the Potential Hazard (Fire or Explosion, or Health) and look under Public Safety for what the isolation distance recommends and any needed Emergency Response procedure information.
- c. Report the action to the field reporting personnel. Other information may be passed on depending on the situation.

3. Advise the field reporting person that it is critical to maintain communications since the emergency response agencies may need additional information or may need to pass on safety instructions to the field person.
4. **Notify State Comm.** Give as much information as possible from the ID SCC Hazmat Incident report form found in this manual. State Comm will notify all other emergency agencies, you will not have to do so.
5. Notify the appropriate district hazardous material coordinators. If they are not available, notify one of the alternates and they will determine who to call from that point. (See Exhibit B)
6. Hazardous materials events will have radio and telephone priority over other traffic.
7. Record all notes of the event on the Hazmat Form and enter in the log book.

If ISP or another agency calls to report a hazardous material spill or incident, find out the location of the spill, the material, and the amount. If it is on highway right-of-way, contact the Hazardous Materials Coordinator and follow the above instructions. Spills that are off the right-of-way need to be handled using State Communication Center's Standard Hazardous Materials procedure.

State Comm

All Hazardous Material Coordinators, alternates and members will be added to the Hazmat Classified Incident email list and will be coordinated through the ITD Emergency Management Program Manager and State Comm EMS Program Specialist.

A Hazardous Material Coordinator emergency contact list will be provided to State Comm on a quarterly basis.

If an agency outside of ITD reports a hazardous material incident on the right-of way, notify the district Hazardous Material Coordinator as soon as possible.

If the incident is requiring a full conference call, State Comm will notify the district Hazardous Material Coordinator of the upcoming bridge call. The Hazardous Material Coordinator will participate in the conference call and will provide guidance if needed.

ITD Standard Operating Procedure	Title: Highway and Traffic Hazards	
Issue Date: 10-7-11	Revision: 10	Page 1 of 3

PURPOSE

This SOP establishes the recommendation procedure for handling calls reporting hazards on or near the highway. These include, but are not limited to, water, rocks, trees, avalanches or other debris on the highway, dead animals on the highway, abandoned vehicles, ice, snow and/or drifting conditions on the highway.

SCOPE

This guide is to be used by State Communication Center personnel involved in dispatching for ITD.

PROCEDURE

Determine which Foreman Area the hazard is in from the District Foreman Area map.

Immediate Response

In the case of an extreme emergency, where every minute counts, use the call list for the Foreman area and call down the list until you contact someone who can take immediate action. If the hazard is posing imminent danger to the traveling public, see if a county or ISP officer is close to the hazard and can remove the hazard or slow traffic until ITD personnel can get there to remove the hazard.

If the hazard has been called in by law enforcement ask if they can remove the hazard or request they stay on scene until ITD arrives.

Delayed Response

Debris or hazards that is located off the roadway and which do not pose a risk to traffic, can be classified as a delayed response and can be removed when resources become available. Contact the on-duty worker directly or if there is no on-duty person contact the area Foreman during working hours and report the situation. If a delayed hazard becomes a threat to the traveling public, the situation will be upgraded to an immediate response.

Types of Response**Debris on Highway**

Calls regarding hazards on the highway may require immediate attention. Any debris on, or near the highway, that increases the risk of a crash must be taken care of as soon as possible. Use the Incident Report form to record detailed information, such as location, quantity, size, extent in the road (blocking one lane, etc.) and description of the material (i.e. rocks, mud, tree, etc).

Damaged bridge

When a bridge on the State Highway System is reported as damaged, use the following procedure; call the District Bridge and Building utility craftsman for the district affected. Determine which Foreman Area the bridge is in and call/page the on duty or on-call Maintenance worker. If unable to contact the on duty or on-call worker, call the area Foreman or lead worker and on down the list until the information is relayed. If a hazard exists on the roadway follow Immediate Response procedures.

Winter road hazards

During the winter months calls will come in reporting hazardous conditions due to snow, ice or blowing and drifting snow. Use the Incident Report form to get detailed information to describe the condition, exact location, call back number, etc.

In most cases during a storm, all crews will already be mobilized and the detailed information you have obtained may be critical in determining the priority of the hazardous condition.

Once you determine what Foreman Area the incident is in, use the call down procedure described above (see Debris on Highway).

Downed signs/traffic signals

A call regarding a downed Stop sign, Do Not Enter sign, Wrong Way, Critical Curve Warning sign or other sign critical to traffic operations and or traffic safety needs to be reported to the on-duty/on-call maintenance worker or Area Foreman immediately.

A call regarding a downed non-critical sign, need to be reported to the on-duty/on-call maintenance worker or Area Foreman during working hours.

If a traffic signal has been knocked down and is in the roadway, notify the District Signal/Electrician immediately. (For reports of signal problems, see "Emergency Traffic Signals" procedure.)

Right of Way fence damage

When a report of a damaged fence along an Interstate or Highway is received, the Area Foreman shall be notified of the situation, regardless of the information received from law enforcement on scene. A damaged fence critical to traffic safety needs to be reported to the on-duty/on-call maintenance worker or Area Foreman immediately. Non-critical fence damage shall be reported to the on-duty/on-call maintenance worker or Area Foreman during working hours.

Dead/injured animals

Calls regarding dead or injured animals on the highway come in year-round. Follow the **Debris on Highway** procedures above. For the exceptions below, notify the appropriate office.

For livestock, contact the Idaho State Police, Brand Office or local law enforcement to determine ownership.

For injured (alive) wildlife, contact the Idaho Department of Fish & Game to arrange for euthanizing the animal by a conservation officer or law enforcement officer.

Abandoned or disabled vehicles

When an ITD maintenance worker calls to report an abandoned or disabled vehicle blocking, disrupting traffic or maintenance operations, get Route Number, Milepost, Median or Shoulder location, along with color, make, and license number of the vehicle before you call the Idaho State Police (ISP).

DOCUMENTATION

Use the Incident Report form or downed sign form to record information for this procedure.

ITD Standard Operating Procedure	Title: Incident Reporting	
Issue Date: 7-29-11	Revised: 9/1/2023	Page 1 of 2

PURPOSE

This SOP establishes the recommended procedure for handling all types incident reports to ITD.

SCOPE

This guide is to be used by personnel involved in dispatching for ITD.

RESPONSIBILITIES

State Communication Center Dispatchers are responsible for carrying out all the procedures described herein.

PROCEDURE**Employee Reporting Incident:**

If an incident is reported by an ITD employee, get as much information as possible (see Attachment A). Ask the employee to remain in radio contact in case more information is required. Report this information to ISP.

The Idaho State Police (ISP) will determine whether they will respond or whether they will arrange for another agency to respond. It is important that we deal only with ISP so there are no duplications of response personnel.

If the incident requires an ambulance, fire, or hazmat response use standard State Comm. Procedure. If incident requires a wrecker, contact ISP and they will arrange for one to be sent to the scene.

Outside Agency Reporting Incident

If an outside agency contacts ITD dispatch to report an incident on the state highway system the information should be recorded in the log book (see "General Radio and Telephone Duties") and the ITD employee on duty (i.e. on-call/ #1 pager) should be notified. If the incident is a hazard to traffic, please request that law enforcement remain on scene until ITD arrives. Under certain circumstances, it may be necessary to call out an employee if no one is on duty.

These circumstances may vary according to the urgency of the situation, however situations where the area foreman or the ITD on-call area worker **must** be notified are:

- Law enforcement is requesting assistance from ITD.
- A stop sign or other sign/signal critical to traffic operations and/or traffic safety has been knocked down or damaged and has become a safety hazard, (see Highway Hazard Procedure).
- Any road hazard that may endanger the traveling public, (see Highway Hazard Procedure).

- An incident where hazardous materials are involved (See Hazardous Material Spills procedure)
- Incidents resulting in the road being blocked for more than two hours.
- Incidents where road conditions or construction may have been a factor.
- Incident directly involving an ITD vehicle. (Also notify the office of Employee Safety and Risk Management)
- Any informed fatality or major crash.

Situations where the Federal Highway Administration office must be notified are:

- Rare incidents that generate immediate widespread media or political interest (see attachment).
- Incidents that might create national media interest (see attachment).

Activate TRAVELIQ 511 and/or DMS/CMS and enter the event if it impacts traffic for more than 1 hour.

Note: All incidents should be recorded in the log book.

Additional Notifications

Additional Notifications: In the event of an incident that either is or may be of sufficient magnitude to be considered, the ITD Emergency Management Program Manager shall be contacted as soon as possible.

Highway incidents (including those that affect infrastructure) and other incidents or events meeting one or more of the following criteria shall be reported:

- Incidents or events that create disruption to NHS operations for 8 hours or more. These incidents can include, but are not limited to:
 - Damage to, or closure of highways or highway infrastructure caused by an act of nature including, but not limited to, earthquakes, floods, tornadoes, hurricanes, or wildfires. For winter weather, only report closures to the Interstate Highway System;
 - Damage to, or closure of highways or highway infrastructure, caused by crashes, terrorist or criminal acts, or unknown causes;
 - Evacuation conducted for any reason; or
 - Planned special events or construction that requires an extended (greater than 8 hour) closure on the Interstate Highway System.
- Other highway incidents (including incidents that occur on NHS and non- NHS roads) that shall be reported regardless of the reason or duration of the disruption:
 - Crashes involving 6 or more fatalities;

- Crashes involving 10 or more vehicles;
 - Commercial Vehicle crashes resulting in 2 or more fatalities or receiving statewide media attention;
 - Highway fatalities directly related to a natural disaster;
 - School bus crashes resulting in serious injuries, fatalities, or statewide media attention;
 - Passenger bus crashes (including transit buses and private motorcoach operations) resulting in 2 or more fatalities, 5 or more serious injuries (requiring transport), or receiving statewide media attention; or
 - Crashes or other incidents involving significant damage to highway infrastructure.
 - Threat of a terrorist act upon an ITD bridge, building, or an ITD maintained roadway.
- Highway incidents resulting in the loss of life or serious injury of a prominent individual such as a Member of Congress, senior member of the Executive Branch, military official, diplomatic dignitary, or other major public figure.
 - In the event of a fatality involving the death of an ITD employee while performing an ITD related duty

The ITD Emergency Management Program Manager will contact the Federal Highways Administration (FHWA) Idaho Division Office or the FHWA Safety, Traffic and Emergency Coordinator when notified of any of the above situations.

ITD Standard Operating Procedure	Title: Road Closure Procedures	
Issue Date: 7-1-15	Revised: 9/1/203	Page 1 of 2

PURPOSE

This SOP establishes the recommended procedure for handling closures of state highways.

SCOPE

This guide is to be used by State Communication Center personnel involved in dispatching for ITD.

PROCEDURE**Road closure**

Road closures may be required for hazardous conditions resulting from a natural or human-caused event that may affect the safe passage of vehicles and/or cause the physical disruption of vehicle travel.

Definition:

- Closure – Travelling public is not able to get through. Example: Multi vehicle, large fire, fatality, 2 lane road
- Blocked – Travelling public can get through but with a delay of less than 2 hours. Example: One lane open, pilot car, flaggers, shoulder use
 - Note: Alternate routes can be used on either blocked or closed roads

Authority to close state highway routes

The district engineer is authorized to close any state highway when such action is necessary to protect the public or to prevent damage to the roadway. This authority is delegated through the District Operations Engineer to the area maintenance foreman or the avalanche technician. The Idaho State Police also has statutory authority to close a state highway as deemed necessary.

Law enforcement agencies have the authority to **delay or block** traffic if necessary for safety reasons, but the road cannot be officially closed without ITD approval. (Exception is ISP)

Note: When law enforcement delays or plans to delay traffic, the district or districts affected shall be notified through their normal call list.

CLOSURE PROCEDURE

When it becomes apparent that a section of road must be closed, action shall be taken in the following order:

- On-scene personnel will assess the conditions restricting use of the highway. They will alert State Comm that the district is taking steps to close a road, but the **official** time of closure is when the road is appropriately signed and/or barricaded.
- As a minimum, the following information should be reported to State Comm.:
 - Date and time of closure
 - Who is requesting closure

- Highway number and location
 - Cause of traffic interruption
 - Detour route available/Used
- Dispatch shall record the above information on the Road Closure/Open form.
- Dispatchers will notify the area foreman, adjacent foremen areas, Idaho State Police, and the District office contact listed on the ITD Road Closure/Open Form.
- All reported closures and openings shall be entered into the TRAVELIQ software.
- Notification of road closures and openings shall be made through Idaho Traffic Alerts. If the Idaho Traffic Alerts program is not operational, make manual notification to the appropriate ITD, law enforcement, and FHWA officials. These notifications can be made with whatever method is available (phone, fax, e-mail, radio, etc.).
- When a blockage lasts **longer than two hours**, dispatcher will notify the TOTL in charge and kindly remind them they are passing the two hour mark, and ask if they wish to have the State Comm initiate an official road closure.
- Notification also shall be made to the Federal Highway Administration Boise office.
- It is important that road closed signs are put up at the junctions of the closed road and an alternate route as well as outside populated areas leading to a closed route. The TOTL from the area with the closure can give you instruction on what other foreman areas need to be contacted for placement of road closed signs.

Exception: When SH 21 closes for avalanche danger, notify the following:
Idaho City TOTL; Lowman shed; Stanley shed or Hailey TOTL or any Stanley maintenance worker; Salmon TOTL or Salmon maintenance worker or Challis shed.
- State Comm shall retain a record of all reported road closures. Districts will receive e-mail notification of closures.

OPENING PROCEDURE

- As notice is received on the route(s) opening back up, the affected foreman areas shall be notified, so the road closed signs can be taken down.
- Road opening notification shall be communicated to the same people/agencies who received the closure notification.

ITD Standard Operating Procedure	Title: Road Condition Report	
Issue Date: 12-11-09	Revised: 9/1/2023	Page 1 of 3

PURPOSE

This SOP establishes the recommended procedure for road condition reports and updating these reports

SCOPE

This guide is to be used by State Communications and ITD dispatching personnel.

RESPONSIBILITIES

ITD Area Foremen - Check/verify road conditions prior to dispatch call-up.

State Communications Dispatcher - Contact Foremen via radio to obtain report and record information.

State Communications Dispatcher - Enter road condition information into TRAVELIQ Segment.

REFERENCES

Operations Manual

TRAVELIQ-Segment Data Entry Instructions (attached)

PROCEDURE**Road Condition Reporting**

For the "Scheduled Report," the ITD TOTL or designee collects reports for each road segment in their area from the field staff.

The State Communication Center will obtain road condition and weather information (a special condition code is optional) from the maintenance personnel in the field for the District reports.

Contact Foreman Area Personnel:

The first step in updating the winter road report is to gather the road report information from each Foreman Area or designee via the two-way radio. At the times listed below, announce on each repeater tone of the two-way radio (1, 2, 3 etc.) "Standby for the road report". Using the District Road Report Forms with the Foreman Areas and segments (these forms are located on ITD Form Finder and there is also a link to Form Finder in the Outlook Public Folder files), call the Foreman Areas for each district.

Example: "120 - State Comm - Road Report"

Once the area personnel respond, the dispatcher should repeat the conditions back to the area personnel to confirm accurate data was received.

Example: Section 1, 2, and 3 are, Road is 5 and 6, Weather is a 5 and 9 with RV

Record the data for each District on their Road Report Form (#ITD #0595 - #ITD 0600). When all Foreman Areas have been called for that district, sign off on each repeater tone. Repeat procedure for each District until all have been contacted.

A time limit of 24 hours shall be put on each report unless requested otherwise (see “Special Reporting” section). There will be occasions when one or more areas will not respond when contacted. In these cases DO NOT extend the time limit. The time limit on each report will determine the length of appearance so when time expires, that report is allowed to time out and show “No Report”.

Monday – Friday (All Times Mountain Time)

	Report	Post	Report	Post	Report	Post	Report	Post
D-6	6:15-6:30	7:00am			1:15-1:30	2:00pm		
D-5	6:00-6:15	7:00am			1:00-1:15	2:00pm		
D-4	5:45-6:00	7:00am			12:45-1:00	2:00pm		
D-3	5:30-5:45	7:00am			12:30-12:45	2:00pm		
D-2			7:15-7:30	8:00am			2:15-2:30	3:00pm
D-1			7:00-7:15	8:00am			2:00-2:15	3:00pm

Saturday – Sunday and Holidays

	Report	Post
D-6	7:15-7:30	8 a.m.
D-5	7:00-7:15	8 am
D-4	6:45-7:00	8 a.m.
D-3	6:30-6:45	8 a.m.
D-2	8:15-8:30	9 a.m.
D-1	8:00-8:15	9 a.m.

ITD Area Foremen or designee - Check/verify road conditions for the “Scheduled Reports” prior to State Comm’s call-up as scheduled above.

State Communications - Contact Foremen or designee via radio to obtain “Scheduled Report” and record information as scheduled above. Enter road report information into TRAVELIQ-Segment.

Note: all condition changes that result in official road closures must be reported to state communications. See road closure procedures.

Special Reporting

On segments where conditions are not likely to change over the weekend **and Maintenance personnel are not scheduled to work**, the approach for reporting is different, allowing for three-day expirations for Friday afternoon road condition reports instead of the typical 24 hour expiration on these segments. However, State Comm staff must be advised when the Friday

afternoon road condition report is given that a three-day expiration should be put on a report. When weather conditions deteriorate unexpectedly, it will be necessary to resume the normal scheduled reports, with updates as conditions change, until conditions clear. Also, State Comm should update the time stamp on these reports on Saturday and Sunday at the scheduled road report time each day.

ITD Area Foremen or designee – Advise State Comm that a three-day expiration should be put on a specific road condition report you are providing Friday afternoon.

State Communications – Answer Foremen or designee via radio or telephone for any road condition report. Update the time stamp on these reports in TRAVELIQ-Segment Saturday and Sunday at the scheduled road report time each day.

Updates to road condition reports

ITD Area Foremen or designee - Immediately report all significant deteriorating or improving road condition changes that could affect the public safety to either State Comm or District office personnel (in Districts 1 & 2). In District 4, Foremen can update reports for their areas themselves or call State Comm.

State Communications – Answer Foremen or designee via radio or telephone for any road condition updates called into dispatch and record information. Enter road report information into TRAVELIQ-Segment.

District 1 or 2 Office or District 4 Foremen – Update reports in the TRAVELIQ 511 system.

BACKUP PROCEDURES**ITD network non-functional**

State Comm. - Enter reports into TRAVELIQ-Segment via the IDHW computers.

District Office - Contact State Comm. and request they enter the reports via the IDHW network.

DOCUMENTATION

Attachment: TRAVELIQ-Segment Data Entry Instructions

Road Condition Report

The following forms for road condition reports by each respective district are for illustration purposes. The forms to use for reporting those conditions are available in a “landscape” format on ITD’s Form Finder section. It is accessible from the ITD Transporter / portal page. Choose Form Finder on the left menu bar and type in one of the following:

District Road Report Forms: These forms are found in form finder located on the Intranet. Enter <http://intranet/Apps/FormFinderSearch/Search.aspx>

Form #595 – District 1

Form #596 – District 2

Form #597 – District 3

Form #598 – District 4

Form #599 – District 5

Form #600 – District 6

<http://intranet/Apps/FormFinderSearch/Search.aspx>

TRAVELIQ-Segment Data Entry Instructions

Road Report Procedure

Complete Road Report on TRAVELIQ System

Step two in this process is to update the Road Report on the TRAVELIQ system. Follow the steps below to update the data using a personal computer (PC).

Enter <https://511.idaho.gov>, click on the “Log In” link, and log into the Idaho 511 TravelIQ RCR application.

TRAVELIQ RCE application, winter road conditions:

- From the left hand column, select an **Area**, a **District** or a specific highway from the list by clicking on it. **Selected Segments** will then appear.
- Select the specific **Selected Segment** or **Segments** by clicking the check boxes to the left.
- Choose from the reported **Road Conditions** descriptions in the table at the bottom of the page. Multiple conditions may be selected by holding down the “CTRL” key while clicking. Selecting a Road Condition will open the **Weather Conditions** and **Special Conditions** menus.
- Choose from the **Weather Conditions** descriptions. Multiple conditions may be selected.
- Choose from the **Special Conditions** description, if applicable. Multiple conditions may be selected.
- Choose **Expires In** description. For a new or updated report, normally set the **Expires In** to “1 day.” In the case of a new extended weekend report, entered on a Friday afternoon at the request of the TOTL, set the Expiration Time to “3 days.”
- Select **Apply Changes** to post the new report.
- Note that all selections can be cleared, without posting a new report, by selecting **Reset**.

TRAVELIQ RCR application, CLOSURES:

To CLOSE a road:

1. In the Travel-IQ ERS application, type the Highway **name**, **begin Milepost**, and **end Milepost** in the search bar using the following syntax:

- Syntax: **Roadway 1** from **MP XX** to **MP XX**.
- Syntax: **Roadway 1** from **Roadway 2** to **Roadway 3**

2. In the Event Stamp window, select Event's:

- **Direction** as "Both Directions"
- **Type** as "Incidents"
- **Subtype** as "Closure"
 - **For major closures**, select "Major" from the **Severity** drop-down. This will make the closure icon bigger and have a circle around it.
 - Keep the status as "Confirmed"
 - Select the **Start Time** if different from current time
 - Select the Anticipated **End Time** (Optional)
 - Click "Save & Edit" button

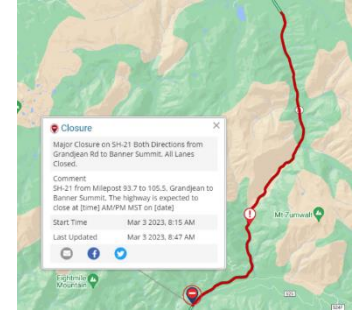


3. In the larger event edit window, do the following:

- Update the event location cross street reference, if necessary. Select the relevant cross street reference name from the **drop-down** menu OR select "Override" checkbox and type in the desired road name.
- Check the "Full Closure" checkbox under Lane Closures
- Select appropriate activities from the **Activities** drop-down menu
- Enter information into the "Public Details" section on this screen. Be sure to include the Milepost(s) affected by the closure and then a brief description of the location, such as "north of Sandpoint" or "from Mt. Home to Glens Ferry".
- Click "Save & Send" button.

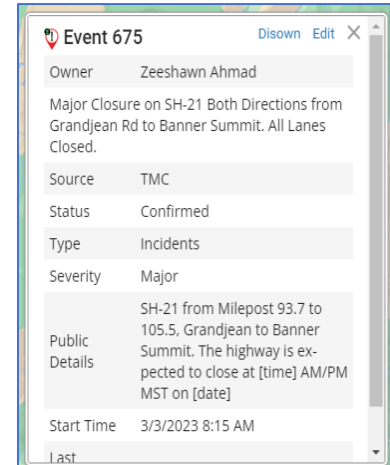
- Once the event is created, the system will create a closure event on the 511 website and mobile app. The event will look as follows on the 511 public website:

The entire road segment will be highlighted in red and the closure icon will have a circle around it to indicate major closure

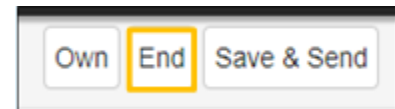


To OPEN a road:

- Find the existing Closure event in Travel-IQ ERS and click “Edit” to edit the information.



- Click “End” to end the event. Upon ending the event, all users subscribed to area notifications will receive an email notification that Closure has been Cleared.



TRAVELIQ RCR application, time stamp update:

- In the case of existing road closures or extended weekend reports created in CARS-Segment, the event time stamp should be updated at least once every twelve hours.
- From the left hand column, select an **Area**, a **District** or a specific highway from the list by clicking on it. If this is a closure on a predefined segment with frequent closures, the select the **Frequent Closures** area. **Selected Segments** will then appear.
- Select the specific **Selected Segment** or **Segments** by clicking the check boxes to the left.
- Do not choose any **Road Conditions** descriptions in the table at the bottom of the page.
- Choose **Expires In** description of “Unchanged.”
- Select **Conditions Unchanged** to update the time and date stamp.
- Note that all selections can be cleared, without posting a new report, by selecting **Reset**.

The primary protocol for Road Condition Reporting will be to assess conditions and provide reports whenever conditions change.

Whenever road/weather conditions change that could affect public safety between scheduled reporting times; every crew is responsible to report these condition changes to the district or State Comm.

ITD Standard Operating Procedure	Title: 511 System Issue Reporting	
Issue Date: 9/1/2023	Revision: 1	Page 1 of 2

PURPOSE

This SOP establishes the recommended procedure for reporting 511 system issues

SCOPE

This guide is to be used by State Communications and ITD dispatching personnel.

RESPONSIBILITIES

State Communications Dispatcher – Contact IBI or ITD 511 coordinator on any issues with the 511 system.

REFERENCES

Operations Manual

PROCEDURE

If there are any system bugs or issues, follow the procedure below to report the system issue for resolution based on severity matrix.

Critical Issue:

If the issue severity is **Critical** (Level 1) or **High Disruption** (Level 2), call the IBI's support desk at **1-866-400-4983** and provide issue details.

- The IBI support desk will record the caller's information, call back number, and description of the problem.
- The IBI support desk will provide real-time updates. If there is no update, call back at the same number to inquire about the issue.
- IBI will provide issue resolution within three hours of initial report.

Level	Severity Level	Definition	Communications	Update Frequency	Close-Out Activity
1	Critical/ Urgent Disruption	• Complete or substantial loss of service or severe degradation of the system that makes the service unusable.	How to Contact TRAVELIQ Support	Every 30 minutes until issue resolved	After Action Report. If necessary, SOPs will be reviewed
			+1 (866) 400-4983		
			How TRAVELIQ Support will contact you		

		<ul style="list-style-type: none"> Inability to use a mission-critical application. 	TRAVELIQ Support will call the reporting individual as the first point of contact. Subsequent updates will be provided to the reporting individual and client distribution list from support@traveliq.co		and amended.
2	High Disruption	<ul style="list-style-type: none"> Multiple users affected by service degradation or out-of-service condition. Significant loss of service or high business impact. Any service that affects certain key officials (Executive Personnel). Failure of a redundant system component. 	How to Contact TRAVELIQ Support	Every 30 minutes until issue resolved	After Action Report. If necessary, SOPs will be reviewed and amended
			+1 (866) 400-4983		
			How TRAVELIQ Support will contact you		
			TRAVELIQ Support will call the reporting individual as the first point of contact. Subsequent updates will be provided to the reporting individual and client distribution list from support@traveliq.co		

Non-Critical Issue

If the issue is **Non-Critical** (Level 3 or 4), send an email to vendor's support desk at support@traveliq.com and CC the ITD 511 System Coordinator. Once the email has been received, a Zendesk ticket is automatically created. Staff will be updated per the severity type until the issue has been closed.

Level	Severity Level	Definition	Communications	Update Frequency	Close-Out Activity
3	Medium Event	<ul style="list-style-type: none"> An individual line or port is out of service, or limited features for a small number of users (one to ten) are not functioning. Minimal business impact, the problem may be bypassed. Some loss of service or other specified functionality lost. Non-service affecting alarms. 	How to Contact TRAVELIQ Support	As available, until issue is resolved	If necessary, SOPs will be reviewed and amended
			Support@traveliq.co		
			How TRAVELIQ Support will contact you		
			TRAVELIQ Support will respond to the reporting individual and cc's using the originating email thread sent to Support@traveliq.co		

4	Low Event	<ul style="list-style-type: none"> An informational request or a fault that has no business impact. 	How to Contact TRAVELIQ Support	As available, until issue is resolved	If necessary, SOPs will be reviewed and amended
			TRAVELIQ Support@traveliq.co		
			How TRAVELIQ Support will contact you		
			TRAVELIQ Support will respond to the reporting individual and cc's using the originating email thread sent to Support@traveliq.co		

ITD Standard Operating Procedure	Title: Road Work Information	Corresponding Construction Memo
Issue Date: 12-11-09	Revised: 9/1/2023	Page 1 of 2

PURPOSE

This SOP establishes the procedure for incidents involving road work sites on the state highway system. (Procedures for entering and updating construction and maintenance road work information in the TRAVELIQ 511 Traveler Services Information program are performed at each District Headquarters.)

SCOPE

This guide is to be used by State Communications and ITD dispatching personnel.

RESPONSIBILITIES

ITD Construction and Maintenance offices – Report all road construction and maintenance project conditions that could affect the public safety to State Comm. These condition changes will be reported every Thursday but can be entered or modified 24/7/365 and termed “Road Work Information”. See below.

District Communications Dispatcher - Contact ITD construction and maintenance offices to obtain “Road Work Information”.

District Communications Dispatcher - Enter road work information into TRAVELIQ 511 system on the PC.

REFERENCES

Construction Memo

PROCEDURE

Each district is responsible for providing current 0511 Road Work Information forms to the State Comm.

State Communications will keep an updated Road Work Information binder in the dispatch area for all personnel to access.

When information is received from ISP or other emergency response agencies (law enforcement, EMS, Fire, County Disaster Managers) of a situation at a road work project that is located on the state highway system or is known to be an ITD off-system project the dispatcher will refer to the ITD Road Work Information binder to obtain appropriate emergency contact information for the project in question.

The contact information may also be available in the “Internal Message” portion of the project. The dispatcher should check the TRAVELIQ application if the ITD Road Work Information binder does not have information on the specific road work project.

The dispatcher will contact the **Contractor** listed on the 0511 form for such problems as: Machinery problems, mud slide due to the work being done, etc.

The dispatcher will contact the **Traffic Control** personnel listed on the 0511 form for such problems as: Barrels lying in the roadway, signage issues, etc.

The dispatcher will notify the appropriate **ITD personnel** listed on the project form if the appropriate contractor or traffic control personnel cannot be reached.

In the event that a 0511 form is not in the Road Work Information binder and no contact information is listed in the TRAVELIQ event for the location reported the dispatcher will contact the appropriate construction or maintenance personnel and advise them of the situation and that **no emergency contact information is available to State Comm.**

Note: The appropriate ITD Foreman Area personnel will be notified for any request from law enforcement for situations that are not specifically related to the road work project. Examples include jersey barriers that have been struck, disabled vehicles in the work zone, crashes, signs that do not pertain to the road work project, etc. Even if law enforcement asks for someone at the road work site or the construction company specifically, the information must be relayed to the appropriate ITD Foreman Area personnel.

DOCUMENTATION

Attachments: Form # ITD 0511, Road Work Information.



Road Work Information

Idaho Transportation Department

ITD 0511 (Rev. 08-16)
itd.idaho.gov

☐ Original
 ☐ Change/Addition
 ☐ No Change
 ☐ State Highway System
 ☐ Work Impacts Traffic
 ☐ Work Does Not Impact Traffic
☐ Project Completed
 Date Completed: _____
☐ Not on State Highway System

<small>First three fields are Required</small>	Date	District	Project Name			Est. Start Date	Est. Completion Date
Hwy. Route No.	Direction of Travel	Begin MP	Location Description	End MP	Location Description		

Contractor Contacts

Traffic Controller's Company Name	Traffic Controller's Name	Office Phone Number	Cell Phone Number
Other Traffic Controller Name(s) and Phone Number(s)			
Contractor's Company Name	Contractor's Name	Office Phone Number	Cell Phone Number
Other Contractor Name(s) and Phone Number(s)			

ITD Contacts

Project Coordinator/Foreman's Name	Office Phone Number	Cell Phone Number	Home Phone Number
Project Inspector's Name	Office Phone Number	Cell Phone Number	Home Phone Number
Resident Engineer's Name	Office Phone Number	Cell Phone Number	Home Phone Number

Input phrases into CARS in the order they appear on this form

Closures (check if applicable)

<input type="checkbox"/> Road Closure (planned) <input type="checkbox"/> Bridge Closed (planned)	<input type="checkbox"/> Rest Area Closed
---	---

Road Work (check all that apply – at least one is required)

<input type="checkbox"/> Road Construction <input type="checkbox"/> Paving Operations <input type="checkbox"/> Road Maintenance Operations <input type="checkbox"/> Mobile Maintenance Operations <input type="checkbox"/> Seal Coat (use w/Loose Gravel)	<input type="checkbox"/> Bridge Maintenance Operations <input type="checkbox"/> Bridge Construction <input type="checkbox"/> Work on the Shoulder <input type="checkbox"/> Work in the Median
Describe Work	

Traffic Impact (check all that apply)

<input type="checkbox"/> Reduced to One Lane Direction: _____ <input type="checkbox"/> Reduced to Two Lanes Direction: _____ <input type="checkbox"/> Right Lane Closed <input type="checkbox"/> Left Lane Closed	<input type="checkbox"/> Intersecting Road Closed Intersecting Road _____ <input type="checkbox"/> Loose Gravel (use w/Seal Coat) <input type="checkbox"/> Delays Expected Delay _____
--	--

Traffic Control (check all that apply) ☐ Will Use DMS

<input type="checkbox"/> None <input type="checkbox"/> Pilot Car <input type="checkbox"/> Flagging Operations	<input type="checkbox"/> Detour in Operation <input type="checkbox"/> Consider Alternate Route
---	---

Commercial Vehicle Restrictions (check all that apply)

<input type="checkbox"/> None	<input type="checkbox"/> Length Limit	Indicate Limit _____
<input type="checkbox"/> Speed Reduction Speed Limit _____	<input type="checkbox"/> Axle Load Limit*	Indicate Limit _____
<input type="checkbox"/> Width Limit Indicate Limit _____	<input type="checkbox"/> Gross Weight Limit	Indicate Limit _____
<input type="checkbox"/> Height Limit Indicate Limit _____	<input type="checkbox"/> Posted Bridge	

*Spring breakup only

Work Days Times and Dates

Time Zone <input type="checkbox"/> Mountain <input type="checkbox"/> Pacific	Project Start Time	Start Date	Project End Time	End Date
List Recurrent Work Days	Work Day Recurrent Start Time(s)		Work Day Recurrent End Time(s)	

Additional Information

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Completed By	Date
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ITD Standard Operating Procedure	Title: Elevator Rescue Procedure	
Issue Date: 6/2/10	Revision: 0	Page 1 of 1

PURPOSE

This SOP establishes the recommendation procedure for elevator rescue at the East Boise Port of Entry.

SCOPE

This guide is to be used by personnel involved in failure in elevator operations resulting in trapped victims.

RESPONSIBILITIES

State Communications Dispatcher – Follow below procedures when someone is trapped inside the elevator at East Boise Port of entry.

Federal law requires a 24/7 answer to anyone potentially trapped inside the elevator. Since the East Boise Port of Entry is not a continuous 24/7 port, State Comm (1 888 575-2666) shall respond to this type of emergency.

Located in that elevator is a phone that can be used by an individual trapped inside.

REFERENCES

A17.1 Elevator and Escalator Code

PROCEDURE

The person inside the elevator picks up the phone. The call is automatically placed to State Comm. The operator at State Communications hears the entire message TWICE (the message indicates that someone is trapped inside the elevator at the East Boise Port of Entry) and State Communications stays on the line. At this time the person inside the elevator can talk directly to State Comm. After talking with the individual inside the elevator, State Communications then hangs up and calls the East Boise Port of Entry to confirm that someone is indeed trapped inside the elevator. If no one answers the phone in the POE call the POE Supervisor or ISP who has a key (POE District 3 Supervisor, 334-8950; or ISP Region 3 dispatch). State Communications may be asked or may ask for the location of the elevator, that is, East Boise Port of Entry, Milepost 67 on Interstate 84.

Vehicle Fire Response on Idaho Interstate and State Highways

ITD has entered into MOU's with local fire departments and fire districts on many of Idaho's interstate and state highways. The goal is to extinguish vehicle fires quickly and safely and minimize impacts on travelers and commerce. ITD's primary role at vehicle fires is traffic control. In areas not covered by formal fire agency agreements, ITD employees will not attempt to extinguish vehicle fires.

ITD Fire MOU's POC is the Emergency Management Planner 208 334-8414

Chapter 12

Radio Users Guidance

Public Safety Communications and Radio Services

The Public Safety Communications Branch (PSC) within the Idaho Military Division, supports radio communications technology for the state agencies in Idaho.

The program is based at the Idaho State Police Campus in Meridian. Local support is provided by radio technicians at Idaho Transportation Department Facilities in Coeur d'Alene, Lewiston, Twin Falls, Pocatello, and Rigby. Contact information is located at the back of this guide.

Radio Repairs: Public Safety Communication strives to address all radio repairs in a time and cost-effective manner. These services also can be accessed by contacting the main office in Meridian and by contacting the local technicians in each District.

User Training: User training and information is available from Public Safety Communications. These services can be accessed by contacting the main office in Meridian, or by contacting the local technicians.

Reporting of Radio System Performance: Public Safety Communications Branch maintains the statewide radio systems for various state agencies with the goal that each radio user would be able to communicate effectively wherever their work requires them to travel. Because the PSC work area is so vast and involves challenging terrain, coverage gaps remain.

While the radio system performance can be analyzed with computer models, the most meaningful data comes from radio system users reporting their experience in the field.

Field reporting of radio system performance provides invaluable information for planning radio system adjustments to improve employee safety. Please use the outline below to record your experience and identify areas where improvement is needed.

Field Report Message: Please provide the following information to identify radio system performance issues. Send the report by email to fccnotices@imd.idaho.gov or ask your dispatcher to submit the report.

Reporting Unit – Field unit name/number

Date/Time – Indicate when the observation occurred

User Location – Indicate where the observation was made, identify the location by latitude/longitude or section/range/township and road location.

Radio Channel/Repeater Name – Indicate which radio channel was being used.

Message Quality – Use the following rating scale to describe radio system performance.

0 = Message not received

1 = Message unusable, heard but not understood

2 = Message useable with great effort; repetition often required

3 = Message useable with slight effort; some repetition required

4 = Message easily understood; little noise or distortion present

5 = Message is perfect; no noise or distortion

Talk-Out/Talk-In – Indicate which the report relates to:

How well the dispatcher is heard by the field unit (Talk-Out)

How well the field unit is heard by the dispatcher (Talk-In)

Or communications in both directions

Portable or Vehicular – Indicate the type of radio being used.

You Are a Radio Operator

In the United States, the Federal Communications Commission (FCC) regulates the use of radio devices — that includes everything from television and cell phones to garage door openers and two-way radios. The FCC rules define technical standards and operating procedures; many of those rules relate to international treaties. Every state of Idaho employee that uses a radio does so in keeping with the FCC rules.

You are a **Radio Operator** every time you send or receive a message with a radio. Whether using a portable radio, a vehicular mounted radio, or a dispatch console, **you are Operating a Radio Station**. Realize that everyone is listening: your coworkers, your boss, other agencies, the news media, and the public. Every day thousands of Radio Operators perform their duty in accord with well-established international standards; they make work more efficient and frequently save lives. As a radio operator, your professionalism and skill are on display every day.

This manual is your guide to the various state agency radio systems and the use of state agency radios. The information in this manual will enable you to effectively communicate with your coworkers and coordinate assistance in an emergency.

No Privacy: Always keep in mind that every message you send by radio is open to the public. Without using sophisticated encryption, there is no exception of privacy.

Always keep messages short and directly related to state business.

Never discuss personnel or payroll issues, complaints, criticism, or disciplinary issues.

It is better to say, *“See me when you get back to the office.”*

Never discuss the medical information of an individual. The federal HIPPA rules place significant limits on the disclosure of private medical information.

Do **NOT** say: *“(Name) has a leg wound.”* Instead say: *“A male subject has a leg wound.”*

Golden Rule: Always consider how the message you are about to send will play on the evening news.

Radio Rules

All state of Idaho radio use is governed by the Code of Federal Regulations, Title 47, Part 90, referred to as the FCC Rules. Those rules are based on the Communications Act of 1934 and on international treaties.

Your duty as a Radio Operator is to understand and follow the FCC rules that relate to how radios are used. Proper radio operation is not difficult; however, the rules do define an expected level of professionalism and common courtesy

Official State Business Only: As a condition of FCC frequency licensing, the state of Idaho is required to: *Exercise direction and control to ensure that radios are used only for the permitted purpose, only in a permissible manner, and only by persons with authority to use and operate the equipment.*” [§90.403 (a)]

Official State:

- You are authorized to operate radio equipment.

You must only use the radio for official state business.

You must only use the radio according to FCC rules and state procedures.

Frequency Licenses: The FCC assigns radio frequencies on a shared basis. While the state agencies are licensed to operate on certain radio frequencies, that authority is not exclusive — the state does not own the frequency — and other users are often licensed to use the same frequency in different locations.

Each individual agencies’ radios are programmed with a large number of frequencies (channels). Specific frequencies are authorized for use within specific service areas. Transmitting on a frequency outside the licensed service area is a violation and may interfere with another radio user.

Procedure Rules: All Radio Operators follow procedures that are defined in FCC rules.

Keep radio messages as short as possible. [§90.403 (c)]

Emergency communications has priority. [§90.403 (d)]

Listen for other users before transmitting. [§90.403 (e)]

- Identify yourself and the radio station you are using. [§90.425 (a)]

FCC Call Signs & Unique Station Identifiers: FCC rules require that all Radio Operators regularly identify the radio station they are operating [§90.425 (a)]. Among other reasons, this is the most effective way to identify and thereby coordinate the resolution of any radio interference issues.

For consistency, the following guidelines will apply:

If a Dispatcher is involved in the message exchange, whether the call was initiated by a field unit or by the dispatcher, the dispatcher is responsible for announcing the call sign.

If a Dispatcher is not involved in the message exchange, the last unit to transmit will end their message by announcing the call sign.

The call sign may be omitted during periods of continuous radio messages, but must be announced at least once every 30 minutes. (If you don’t recall hearing the call sign for a while, send it at the end of the next call.

PSC maintains a large number of call signs; fortunately, the FCC rules allow the use of a single call sign for mobile stations as part of the large radio systems like ones used by the various state agencies.

Based upon which state agency you work for, all radio stations which are considered mobile radios (handheld and vehicular mounted) – are identified with a single call sign:

Idaho Department of Lands	KA2858
Idaho Fish & Game	KA9806
Idaho Parks & Recreation	KA9806
Idaho Public Safety Communications	KT2450
Idaho StateComm-EMS	KB30896
Idaho State Police	KM8798
Idaho Transportation Department	KM8393

In addition to the main mobile station call sign, a unique identifier can be assigned as well. A list of identifiers will be maintained at the fixed station and/or dispatch location. A couple of examples of mobile station identifications by agency are as follows:

ISP – A three digit call from 400 through 699, and 900 through 999.

IDFG – A three digit call from 100-699. The first digit designates the district/region of unit assignment

ITD – A three or four-digit call. The first digit designates the district of unit assignment. A fourth digit indicated a sub-ordinate position.

IDL – Employs the last name of the individual calling, i.e. Johnson or Wagner IDPR – Also employs the last name of the individual calling.

PSC – A three-digit call from 130 through 164.

IOEM – Group Dependent, Area Field Officers (100, 200, 300, 400, 500, & 600)

Programming of Radios: FCC rules authorize PSC to only program radio frequencies according to the licenses authorized by the Commission.

Except for frequencies used in accordance with §90.417, no person shall program into a transmitter, frequencies for which the licensee using the transmitter is not authorized.
[§90.427 (b)]

Shared Use of Radio Systems: One exception to this limitation is the sharing of radio systems, as authorized under §90.179. That section requires a written agreement before other agencies may program state of Idaho radio frequencies and before PSC may program frequencies licensed to another agency.

PSC maintains agreements with federal, state, and local agencies that provide for the shared use of radio systems. Information about channels authorized for shared use is included in the annual radio channel information documents, from the local Radio Technicians, and from PSC Regional Coordinators.

Emergency Communications: The other exception provides for message to be sent by any means during serious emergencies.

Any station licensed under this part may communicate with any other station without restriction as to type, service, or license when the communications involved relate directly to the imminent safety-of-life or property. [§90.417 (a)]

This broad exception allows any means necessary to communicate when there is immediate danger. It does mandate that the exceptional use must cease promptly when the imminent danger ends.

Talking on the Radio

Talking on the radio is different than speaking with someone by telephone or face-to-face. Differences in audio quality and noise can make understanding difficult. Thus, how you speak will improve how well someone else understands your message. Using well-established radio procedures ensures that your message has the best chance of being understood by the receiving radio station. There are four basic rules to remember for communicating effectively on the radio; Clarity, Simplicity, Brevity, and Security.

Basic Radio Etiquette: Speaking in plain language is the best way to communicate clearly. Radio codes were invented to shorten messages and reduce the time and effort required for sending and receiving. Unfortunately, codes and jargon can create confusion; codes have different meanings for different users and agencies. Therefore, plain language is the nationally accepted standard for radio communications. It should go without comment: Profanity has no place in professional radio use.



Speak To Be Understood: As a Radio Operator, how you speak can significantly improve how well the receiving station understands the message.

Think before Talking — formulating the message in your mind as you reach for the microphone helps ensure a smooth and clear delivery.

Listen before PTT — if you start talking while someone else is sending a message neither message will be understood.

PTT and Then Inhale — begin to inhale as you press the push-to-talk (PTT) button; this fraction of a second gives the radio system time to activate.

Speak Slowly — using an even pace, slower than you would in face-to-face conversation, improves clarity and allows the other operator to make notes.

Enunciate Clearly — pronounce each syllable clearly and distinctly.

Avoid Contractions — saying, “I am going,” is easier to understand on the radio than, “I’m going.”

Use Standard Words — even when there is interference, standard words are more readily recognized by the listener.

Radio Words: Certain words and phrases are international standards for radio communications and have very definite meanings. They are used to improve understanding.

For example, the choice of phonetic words for the alphabet was made after thousands of comprehension tests involving 31 nationalities. The choice was based on the likelihood of a code word being understood in the context of other words and the presence of background noise.

Law enforcement units use a different phonetic alphabet (Adam, Boy, Charles, David, etc.). In practice, even if you misspeak, using phonetic spelling helps get the message across.

The following words and phrases are used in radio communications for clarity and brevity, to keep messages short.

Affirmative — Yes

Break — Signals a pause during a long transmission to open the channel for other transmissions, especially emergency traffic, to get through.

Break-Break — Signals to all listeners on the frequency, the message to follow is priority. Almost always reserved for emergency traffic.

Come in — You may begin speaking now

Copy — I heard what you just said; ok; all right. (See: Rodger)

Disregard — cancel the message I was sending

Go ahead — Send your transmission.

Negative — No

Out — I have finished talking to you and do not expect a reply.

Over — I have finished talking; short for "Over to you."

Ready to Copy? — Write down (i.e. "Are you prepared to copy".)

"Go Ahead" is the response when ready to write.

"Standby" is the response if not ready to write.

Repeat — sender requests that you confirm that you have received the message correctly by

Say Again — resend your last message; i.e. the message was not understood or received clearly.

This can also be used to request a resend of part of the message, such as, "Say again the address."

Standby — pause for the next transmission.

This is not the same as the word 'Out', which indicates the transmission has ended.

As with 'Wait', the expected delay may be included; for example:

"We are on the phone getting the information; standby five."

Wait — I do not have the answer or information at hand, I will attempt to get the answer or information requested shortly.

The expected delay can be added; for example: "Wait Two" indicates a reply in approximately two minutes.

Phonetic Alphabets: The 26 phonetic words in the International Radio Spelling Alphabet are:

Alfa	Bravo	Charlie	Delta	Echo	Foxtrot
Golf	Hotel	India	Juliet	Kilo	Lima
Mike	November	Oscar	Papa	Quebec	Romeo
Sierra	Tango	Uniform	Victor	Whiskey	X-Ray
Yankee	Zulu				

There is an alternate 26 phonetic words commonly used in the law enforcement community which is as follows:

Adam	Boy	Charles	David	Edward	Frank
George	Henry	Ida	John	King	Lincoln
Mary	Nora	Ocean	Paul	Queen	Robert
Sam	Tom	Union	Victor	Williams	X-Ray
Young	Zebra				

Numbers: Numbers can be difficult to hear and understand on the radio. It is important to speak numbers slowly and over-emphasize the syllables.

For example: “Two, Ze-ro, Eight,” is the area code for Idaho. Remember, “zero” is a number”; “O” (oh) is a letter.

Radio Procedures: Radio operators worldwide follow international procedures that define the process of communicating on the radio. Practicing proper radio procedures will mark you as a professional radio operator.

When making a telephone call you (1) dial a number, (2) wait for the other party to answer, (3) then information is exchanged, and finally (4) hang-up to end the call. Radio procedures follow a similar pattern.

Use the following radio procedure, which follows the international standard. In which most calls have three parts:

- **Establish the Call** — the calling station initiates the call.

1 – Station Called	2 – Station Calling	3 – Radio Channel
“340”	“From 341”	“On Shafer”
- **Respond to the Call** — the station being called confirms contact.

1 – Station Called	2 – Station Calling	3 – Radio Channel
“341”	“From 340”	“Go Ahead”
- **Exchange Information** — one or more short messages are exchanged.
 - Formally, Station ID is included
 - Informally, the sequence may be abbreviated only sending the message part.

1 – Station Called	2 – Station Calling	3 – Radio Channel
“340”	“Meet me at XYZ”	“Over”

- **End the Call** — this tell other radio users that the call is complete and the channel is available for use.
1 – Station Called “341” 2 – Station Calling “Clear” 3 – Radio Channel “KA2858”

Using Radio Equipment

As a Radio Operator you are responsible for the care and proper use of radio equipment. Your life and the lives of your coworkers may depend on that equipment functioning properly in a crisis. Your professionalism is on display in the handling and use of radio equipment.

Speak Directly In To The Microphone: Speaking close to the microphone greatly increases the audio quality. The sound level increases **four times** when you cut the distance in **half**.



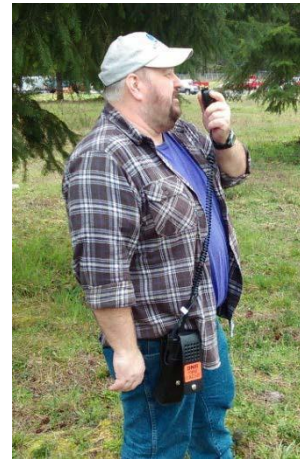
The Antenna Must Be Vertical: All radios antennas are vertically polarized. Holding the antenna horizontally reduces the received signal by **half**.



Speaker Microphones and Portable Performance: Speaker Microphones are an accessory that allows the Radio Operator to receive and transmit without removing the portable radio from its carry case. This is convenient, particularly when moving around obstacles and working with both hands.

However, the effectiveness of the radio antenna is affected by being carried against the body. The body acts as a shield to radio signals, absorbing more than 75% of the transmit energy¹. In many situations this loss of transmit energy will not hinder communications. The signal loss will be significant for locations where coverage is marginal.

If you experience difficulty communicating, getting the radio out of the carry case and into your hand will provide a very noticeable improvement in communications.



Hang Up The Microphone: Unintentional transmissions will tie up a radio system and prevent other users from communicating. While frustrating and annoying during routine operations, jamming the radio system in this way can be life-threatening in an emergency.

Radio operators neglecting to return the microphone to its proper hanger is the leading cause of unintended transmit that jam radio systems.

A radio microphone left on the seat can easily be squeezed by other stuff, which presses the push-to-talk switch. This unintentional transmission has two avoidable consequences:

1. Unintended transmit allows everyone to listen to the conversation taking place in the truck. It may be regrettable that others overhear a conversation that was not intended for broadcast.
2. Far more important, unintended transmit may jeopardize the lives of other state employees or jeopardize public safety by preventing use of the radio system when needed.

Unfortunately, because their radio is transmitting rather than receiving, the Radio Operator responsible for the jamming is the only one who cannot hear the interference. Therefore, it is a big deal that you hang up the microphone.

¹ While impacting radio communications, this energy absorption is NOT a health risk because the transmit energy level of a portable radio is far below the risk level.

Care For Your Radio Equipment: The use of two-way radio equipment helps make work efficient and safer for state employees and for the public. The replacement value of a mobile radio is between \$700 and \$6000. The replacement value of a portable radio is between \$500 and \$5000. Radio equipment is a significant investment of public funds that you, as a Radio Operator, are responsible to safeguard.

- **Keep your radio equipment safe.** Avoid setting your equipment where it could fall or be damaged. Carrying cases, chest packs, and other protective holders are recommended for portable radios.

DO NOT USE A PORTABLE RADIO ANTENNA AS A HANDLE

- **Keep your radio equipment clean.** While it is true that hard-work and dirt go together, protecting your equipment and periodic cleaning will extend its life. Gentle brushing and wiping with a damp cloth is usually sufficient.
- **Keep your radio equipment secure.** Because of its value, radio equipment can be attractive to thieves. Be aware of your surroundings and the location of your equipment to avoid creating an opportunity for theft.

Radio Batteries: Portable radios are completely dependent on batteries; a bad battery will render a good radio useless.

Rechargeable Battery Packs: Lithium-ion battery packs provide greater energy capacity with smaller size and weight than the nickel-cadmium batteries that were used in the past. However, because of their unique chemistry, lithium-ion batteries should never be placed in a charger designed for nickel-cadmium batteries.

Lithium-ion battery packs should be recharged regularly. This is better for the battery than draining it completely. "Battery memory" is no longer an issue. If you do drain the battery completely, place it in the charger for the full charge-cycle.

Rechargeable battery packs have a limited number of charge-discharge cycles. Rechargeable batteries must be disposed of properly. Your local PSC Radio Technician will help determine when your battery should be replaced and will help you with the proper recycling of rechargeable batteries.

Refillable Battery Packs: Also referred to as clam-shell batteries, refillable battery packs use disposable AA batteries. These are used extensively during fire operations.

Alkaline AA batteries have a long shelf life, so carrying one is a good backup for a rechargeable battery pack. Carrying extra AA batteries in your pack is a prudent precaution.

However, prolonged exposure to extreme temperatures can cause alkaline batteries to leak. It is a good practice to remove AA batteries from a clam-shell after an incident or event.

Radio Basics and Terminology

A two-way radio, a cell phone, a television, or a garage door opener are all radios that do the same thing. Various devices differ only in the type of information they send and receive and how they convey the information.

Simplex Operations (Direct or Tactical): The most basic configuration of radios is when all radios transmit and receive on the same frequency. It's called simplex because it uses a single frequency and communicates in one direction at a time.

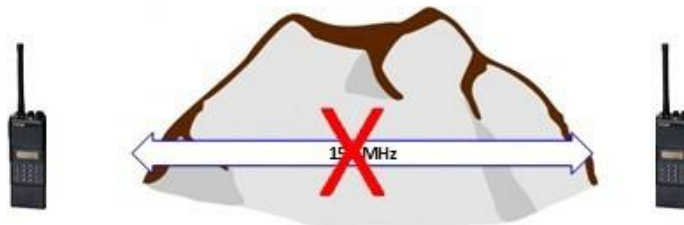
The advantage of simplex operations is that it does not rely on additional devices. Simplex works well for unit-to-unit communications over short to moderate distances.



This illustration shows two units communicating with each other on a simplex channel. Both radios send and receive on the same frequency.

Simplex channels are appropriate for line-of-sight operations. In some situations, a simplex channel may communicate for many miles, or even more than 100 miles; in other situations, the range of simplex channels could be less than a mile.

The limitation of simplex operation, as illustrated below, is that terrain can block communications between two user radios. While radio will penetrate forest cover and bend around some obstructions, significant terrain cannot be overcome with simplex radio channels.

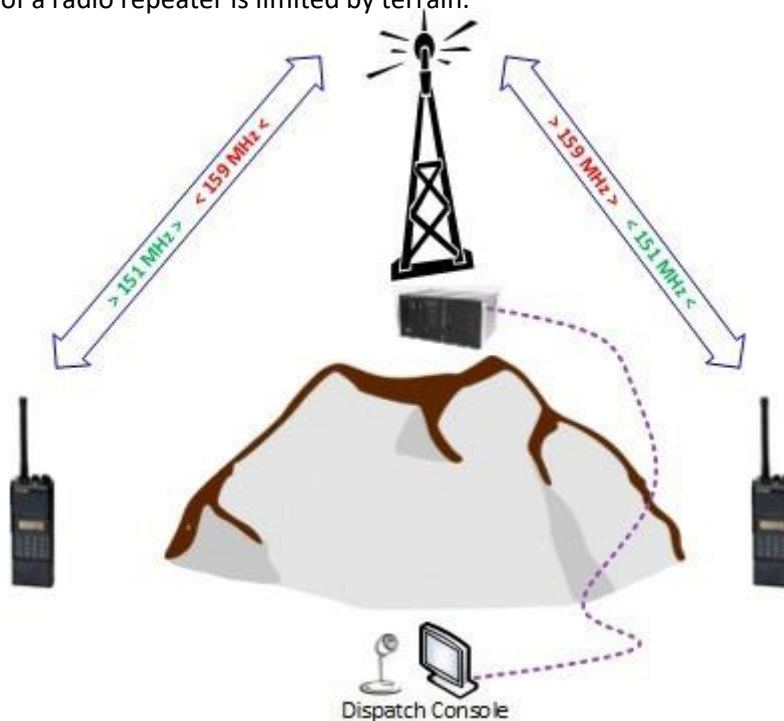


Repeater Operation (Radio Relay): A radio that receives on one frequency and simultaneously retransmits on another frequency is a radio repeater. This is called duplex operations because it is sending and receiving at the same time.

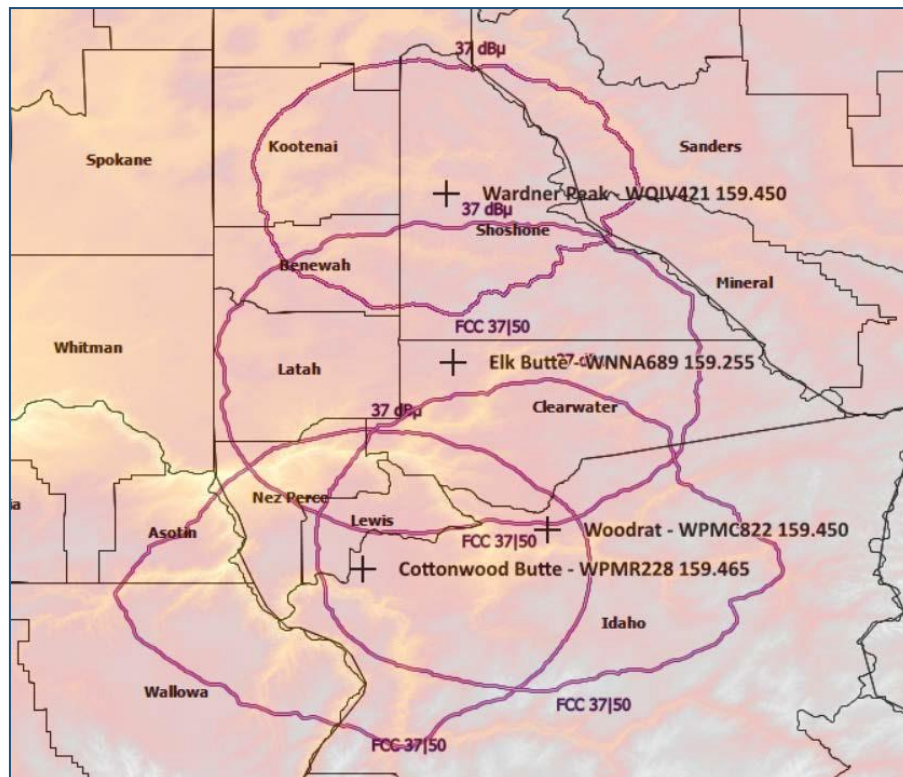
This illustration on the next page shows the advantage of the repeater in overcoming a terrain obstacle. All radios that can communicate with the repeater can communicate with each other. A repeater provides communications where a simplex channel would be blocked by terrain.

However, every repeater has a limited coverage area no matter where it is installed. A communications satellite is a radio repeater with a very high location. The coverage area for a

satellite can be almost half the planet, but not the other half. No matter where it is installed, the coverage area of a radio repeater is limited by terrain.



Multiple Repeater Sites Radio Network: To communicate beyond the range of a radio repeater requires linking or “patching” multiple repeaters so messages received by one repeater are retransmitted by other repeaters. Patching may be configured manually by a dispatcher or automatically by the radio system; automatic linking is a feature of advanced radio systems. (That is how your cell phone works.)



As an illustration of the need for multiple radio sites, the map, in Figure 1 above, shows the service contours of four radio sites. (This is based upon computer modeling that predicts radio performance.)

The individual statewide radio systems are individual networks of radio repeaters that are connected to dispatch centers that support each district or region. The statewide radio systems do not use automatic patching; as a Radio Operator you will need to change radio channels depending on location to access the appropriate radio repeater.

Trunked Radio Networks: Within Idaho, several local and state agencies have co-operative and computerized controlled repeater networks, often referred to as trunks, or trunked radio networks. These networked systems allow users to operating on “talk-groups” within a series of mountain tops, instead of individual channels specific to a single mountain top site. This allows users to migrate between sites without changing their talk groups (channel). Additionally, users can also see their relative received signal strength, to know if they are within coverage of the system.

Radios with this capability are able to operate in several radio environments, trunked and conventional, analog and digital. They may also be capable of communications across different frequency bands to allow for interoperable communications at the user level, with any agency in the state of Idaho.

Squelch Settings: All radios rely on sensitive receivers. When not receiving a transmission, the receivers pick up the background radio frequency noise. It would be very annoying if this noise were constantly playing from the radio speaker. The “squelch circuit” solves this problem by muting the receive audio when no signal is present. When the level of background noise rises above a set value, the audio is muted and the background noise is not heard on the radio speaker.

An improperly adjusted squelch setting can hinder communications. Squelch settings should be adjusted just high enough that background noise is muted but no higher. **Adjusting the squelch setting too high can block weak radio signals resulting in important messages being missed.**

Tone or Digital Coded Squelch: Abbreviated as **Tone Squelch** or **Digital Squelch**, this feature mutes unwanted signals and interference.

- The tone or digital code is added by the transmitter and is decoded by the receiver.
- The receiver un-mutes when the proper code is received; signals without the proper code remain muted.
- The tone or digital code signal is not heard on the radio speaker.

Different vendors have different trade names for coded squelch. You may hear these names or abbreviations in discussions of radio equipment.

- Motorola calls it “Private Line” or “Digital Private Line” (**PL** or **DPL**)

Figure 1 - Coverage Contours for select Idaho Department of Lands Repeaters

- Harris calls it “Continuous Tone Coded Squelch System” (CTCSS)
- Bendix-King calls it “Code Guard” (CG)

You may hear a channel referred to as being “**toned**”, which means tone coded squelch or digitally coded squelch has been implemented.

Monitor Function: FCC rules require monitoring the radio channel before transmitting. To meet this mandate requires disabling tone coded and digitally coded squelch, since coded squelch mutes some signals.

Disabling coded squelch is commonly referred to as “**Monitor**” mode. All radios provide for a Monitor Function.

- Vehicular radios typically enter Monitor mode when the microphone is removed from the hanger. (This is another good reason to return the microphone to the hanger when it is not being used.)
- Portable radios will typically have a button to press to enter Monitor mode or the squelch knob will be rotated to disable coded squelch.

Specific information on how to access the monitor mode in the radios used by each agency is provided in a separate booklet.

Scanning Multiple Channels: The ability to receive multiple channels is very helpful in maintaining awareness of activity in your work area and to ensure you do not miss important messages. Here’s a quick summary of scanning; specific information for each type of radio is provided in separate operational booklets.

Scanning no more than four channels is recommended.

Scan List: The first step in the scanning is to configure which channels the radio will scan. This is called the scan list. While the procedure varies between radios, all radios provide a means to review the channels in the scan list as well as adding and deleting channels from the list.

***NOTE:** Maintaining a large scan list will decrease portable radio battery life because of the constant activity in the radio. Also, having a large scan list takes the radio longer to cycle between the channels, which raises the odds of missing a message.*

Scan: The radio checks for signals on channels in the preset scan list, as well as the channel selected by the channel selector knob. When a signal is detected on any of the scanned channels, scanning stops and the message is received. When the signal ends, the radio resumes scanning.

Priority Scan: Priority Scan is a useful variation of Scan. Like regular scan, the receiver will stop on any active channel in the scan list. However, it will continue to check the priority channel for activity. When receiving a scanned channel, the radio will switch to the priority channel if a message is received on that channel.

Nuisance Channel Delete: It can be quite annoying when a channel in the scan list receives a high number of irrelevant messages or becomes a source of interference. Channels can be

temporarily removed from the scan list using “Nuisance Channel Delete,” which is typically programmed as a button on radios. This does not permanently alter the scan list. The scan list is reset either by selecting a function or when the radio is turned off and then reactivated.

Defining the Radio Channels

As stated before, each state agency’s radio system is a series of repeaters that are, in most cases, connected to the dispatch centers. It is your responsibility as a Radio Operator to select the correct radio channel in order to access the correct repeater.

Whether operating in the field or serving as a dispatcher you need to:

- Understand the location and coverage area of the agency’s radio repeaters.
- Understand the function and use of the agency’s radio channels.
- Understand the organization of the radio channels and how to access those channels in the various models of radios used by the agency.

Your local Radio Technician can provide additional and specific information to assist you in this responsibility.

Channel Organization: A combination of transmit and receive frequencies, along with other configuration settings, are referred to as a **channel**.

Channels are assigned a **channel name**, which can be abbreviated depending on the number of characters available on the radio display.

- Some model of radios use 8 characters displays.
- Other radios use 14-16 characters displays.
- A small number of radios have no display, in which case a label will be attached to the radio showing what channels are programmed.

Channels are usually organized in sets of 16, the number of settings available on a typical channel knob. The sets are known either as **Groups** or as **Zones**.

Types of Radio Channels: Every state radio will be programmed with different types of radio channels, depending upon the agency. Each type of radio channel has a specific function, specific operating characteristics, and in many cases specific licensing limitations that must be followed.

It is important to recognize the distinction between radio channels available for routine, daily operations and channels that are designated for emergency operations, incident response, and interagency coordination.

Your local Radio Technician is available to help you in choosing the right radio channel for your work area and situation.

Simplex Channels: As described above, simplex channels are appropriate for short range unit-to-unit communications. These channels are licensed for statewide operation. Examples of simplex channels include:

EMS-F1 (VMED28) & EMS-F2: As the name implies, this is the statewide common simplex channel used by all EMS radio operators as a unit-to unit working channel.

IFG-C/C, ISP-C/C, IDL DIR 1-6: These seven channels are statewide unit-to unit tactical channels. They are used heavily for initial-attack fire operations. They are also used when it is desirable to move from normal use channels due to communications volume.

Air-to-Ground Channels: IDL-Air to Ground (IDL-A/G) and NIFC Air/Ground channels (A/G-41, etc.) are used for tactical coordination with aircraft. Coordinating helicopter water drops or landing zone operations are typical examples.

Air Guard: Air Guard is a reserved calling channel. This channel is monitored by ground locations and aircraft. It is used when other channels are not available or not programmed.

Repeater Channels: There are several statewide radio systems that have a large number of radio repeaters. These radios are licensed to the state of Idaho for an agency's specific operational service area. Not all agencies have the same coverage area. Please refer to the individual agency handouts for specific information on coverage.

Interoperability Channels: National and Statewide channels are designated for interagency communications to facilitate joint operations. These channels should only be used for their specified purpose. Region, District, and Incident leaders will specify when and how these channels will be used.

National Interoperability Channels: The FCC has designated a set of standard interoperability channels in each of the frequency bands utilized for public safety (Low-band, VHF, UHF, 700 MHz, and 800 MHz). Each set of channels has a "Calling" channel and several "Tactical" channels. These channels are intended to support interagency communications during critical incidents.

- The VHF channels are: VCALL10, VTAC11, VTAC12, VTAC13, VTAC14, VSAR16
- The UHF channels are: UCALL40(D), UTAC41(D), UTAC42(D), and UTAC43(D).
- The 700 channels are: 7CALL50(D), 7TAC51(D), 7TAC52(D), 7TAC53(D), 7CALL70(D), 7TAC71(D), 7TAC72(D), and 7TAC73(D).
- The 800 channels are: 8CALL90(D), 8TAC91(D), 8TAC92(D), 8TAC93(D), and 8TAC94(D).

Valley All-Call (VAC): The Valley All Call Radio Network is owned by the Idaho State Police and is a statewide interagency channel available to coordinate operations between police agencies.

Mutual Aid Channels: Most Radios have a large number of channels that are licensed to other agencies and authorized to each agency under the terms of mutual aid agreements. There are procedures and call signs that are to be used with mutual aid channels.

Weather Channels: The National Weather Service provides a continuous broadcast of weather information using radio transmitters located throughout the state. There are seven weather channels; selecting between them will locate a broadcast for your area. If your radio is capable of receiving these channels they will be labeled WX1 through WX7.

Channel & Talk Group Naming Nomenclature: All channels programmed into a mobile or portable radio, either conventional or trunked, are subject to the common naming convention for the state of Idaho. Each channel will have a corresponding geographic prefix based upon the agency location and area of operation.

Local and Tribal Nation Agencies: All local and tribal nation agencies within the state of Idaho will use a two- character alphanumeric prefix in their channel name, followed by an agency designation, and if applicable a channel type/repeater location suffix. Below is the prefix table of that will be used for channel naming of all local agencies:

County Name	Prefix	County Name	Prefix	County Name	Prefix
Ada	1A	Cassia	4C	Lewis	3L
Adams	2A	Clark	5C	Lincoln	4L
Bannock	1B	Clearwater	6C	Madison	1M
Bear Lake	2B	Custer	7C	Minidoka	2M
Benewah	3B	Elmore	1E	Nez Perce	1N
Bingham	4B	Franklin	1F	Oneida	1O
Blaine	5B	Fremont	2F	Owyhee	2O
Boise	6B	Gem	1G	Payette	1P
Bonner	7B	Gooding	2G	Power	2P
Bonneville	8B	Idaho	1I	Shoshone	1S
Boundary	9B	Jefferson	1J	Teton	1T
Butte	10B	Jerome	2J	Twin Falls	2T
Camas	1C	Kootenai	1K	Valley	1V
Canyon	2C	Latah	1L	Washington	1W
Caribou	3C	Lemhi	2L		
Tribal Name	Prefix	Tribal Name	Prefix	Tribal Name	Prefix
Coeur d'Alene	CD	Nez Perce	NP	Kootenai	KT
Shoshone-Bannock	SB	Shoshone-Paiute	SP		

The intermediate section of the channel name is used to identify the agency, and is typically comprised of two to four alphabetical characters in length. Typical designations will be SO (Sheriff's Office), PD (Police Department), FD (Fire Department), RB (Road & Bridge), and SAR (Search & Rescue).

The suffix of the channel names should indicate: an area, mountain top or site, or a repeater number. The suffix should NEVER reference a channel number on the radio dial. Typical designations would include N for North, S for South, etc. Examples of local agency channel / talk group names:

Short Name	Long Name	Channel/Talk Group Description
1V-911-S	1v-911-SOUTH	Valley County 911 South Area Repeater
1A-BFD-12	1A-BFD-OPS-12	Boise Fire Department-OPS 12 Talk Group
2L-SO-RM	2L-SO-RAMSEY	Lemhi County Sheriff – Ramsey Repeater

State Agencies: All individual state agency channels will also be identified in a common naming convention. The prefix for all state agencies will typically be a three letter alphabetical designation. 700MHz P25 channels will be two letter alphabetical designation and will be accompanied by the district number for which the talk group or channel is located. Below is the table of state agency designations:

Agency Name	Prefix	Agency Name	Prefix
Idaho EMS (State Comm)	EMS	Idaho Parks and Recreation	IPR
Idaho Fish & Game	IFG	Idaho Probations and Parole	PP
Idaho Department of Lands	IDL	Idaho State Police	ISP
Idaho Public Safety Comm.	PSC	Idaho Transportation Dept.	ITD

The suffix of the state agency channel names should indicate an area, such as a nearest city/town by default. However, there are instances where the mountain top site is that predominant feature, such as Long Tom, Middle Fork Peak, or Elk Summit, which will be used in lieu of the city/town name. If an agency has a repeater tied directly to an institution or facility, then the facility will be the prefix. Examples of state agency repeater channel names:

Short Name	Long Name	Channel/Talk Group Description
PSC-SHFR	PSC-SHAFFER	PSC – Shafer Butte Repeater
IDL-MICA	IDL-MICA PK	IDL – Mica Peak Repeater
IPR-HELLS	IPR-HELLS GATE	IDPR – Hells Gate State Park Repeater
ITD-SNBK	ITD-T5-SNOWBANK	ITD – Dist. 3 Repeater – Tone 5
IFG-CTWD	IFG-COTTONWOOD	IDFG – Cottonwood Repeater
SP5-PTL1	SP5-PTL1	ISP – Dist. 5 Patrol Talk Group
ISCC-RPT	ISCC-MAIN RPTR	ISCC – Main Facility Repeater

There are a multitude of statewide common or simplex channels in use by state agencies every day. For these channels the agency suffix will only be used, followed by the channel name. Examples of state agency simplex channel names:

Short Name	Long Name	Channel/Talk Group Description
ITD-CC11	ITD-C/C-11	ITD – Car to Car Channel 11
IDL-DIR4	IDL-DIR 4	IDL – Statewide Direct Channel 4
IPR-N-DR	IPR-N-DIRECT	IDPR – Statewide North Channel
VMED28	EMS-F1/VMED28	State Comm. – Statewide Frequency 1
IFG-C/C	IFG-C/C	IDFG – Statewide Car to Car
ISP-C/C	ISP-C/C	ISP – Statewide Car to Car

Neighboring States & Agencies: Agencies in the neighboring states of Idaho will use a two character, alphanumeric prefix in their channel name, followed by an agency designation, and if applicable, a channel type/repeater location suffix. The prefixes used are as follows:

State Name	Prefix	County Name	Prefix
Alaska	AK	Asotin County, WA	AS
Montana	MT	Box Elder county, UT	BE
Nevada	NV	Cache County, UT	CC
Oregon	OR	Elko County, NV	EK
Utah	UT	Lincoln County, WY	LN
Washington	WA	Malheur County, OR	MA
Wyoming	WY	Missoula County, MT	MT
		Teton County, WY	TE
		Whitman County, WA	WH

Federal Agencies: All Federal Agency's channels will be identified in a two-part naming convention. Each channel will use a three character, alphabetical prefix to identify the agency according to the most current available version of the National Wildfire Coordination Group (NWCG) Unit ID Listing. The suffix of the channel names should indicate an area, mountain top or site, or a repeater number. Typical designations would include N for North, S for South, etc.

Agency Name	Prefix	Agency Name	Prefix
Boise District – BLM	BOD	Lucky Peak Dam and Lake	LPE
Boise National Forest	BOF	Nez Perce National Forest	NPF
Caribou-Targhee Forest	CTF	Payette National Forest	PAF
Clearwater National Forest	CWF	Salmon-Challis National Forest	SCF
Coeur d'Alene District – BLM	COD	Sawtooth National Forest	STF
Idaho Falls District – BLM	IFD	Twin Falls District – BLM	TFD
Idaho National Laboratory	INE	Weather Radio – NOAA	WX
Idaho Panhandle Forests	IPF		

Personal Radio Services and Amateur Radio

While many radios in service with state agencies are capable of being programmed to work within the frequency bands of some of these services, it is not authorized or proper to do so without proper licensing and equipment type acceptance.

Personal Radio Services, more commonly known as Family Radio Service and Multi-Use Radio Service, are personal radio devices that are prevalently used and sold throughout the United States for personal communications without a license, such as Citizen's Band, or CB Radios.

CB Radios & Channels: Some state vehicles are equipped with CB radios as an aid to safety. These radios support communications with log trucks and other equipment drivers that operate on forest roads. As you travel on forest roads, look for signs indicating which channel is being used for that area. A loaded truck coming downhill has the right- of-way; they should announce their presence to allow you an opportunity to safely pull over.

Family Radio Service (FRS), General Mobile Radio Service (GMRS) & Multi-Use Radio Service (MURS): While various radios in service can listen to the frequencies served in these radio services, the radio by FCC Rules cannot talk back to the radio allowed in other parts.

Amateur Radio: Many radios in service with the state of Idaho are capable of transmitting in the 2m (VHF), and 70cm (UHF) amateur bands. Radios capable of this may be programmed in these bands for transmission provided that:

- a. The use of amateur frequencies is not for normal official government use. Please reference **CFR 47 § 97.111 Authorized transmissions and § 97.113 Prohibited transmissions**, for further guidance.
- b. The operator has a valid FCC Amateur License approved for operation in those bands, and the sponsoring agency approves of the programming;
- c. Any vehicular mounted or mobile radios capable of transmission in those bands is assigned to the individual with the valid license;
- d. All other methods of communication have failed.



Idaho Military Division –
Public Safety Communications

Main Office – Meridian
700 S. Stratford Dr. Bldg 6
Meridian, ID 83642
(208) 288-4000

Region 1
District 1 – Coeur d’Alene
600 W. Prairie Avenue
Coeur d’Alene, ID 83815
(208) 772-9665

District 2 – Lewiston
2700 North and South Highway
Lewiston, ID 83501
(208) 799-3496

Region 2
District 3 – Meridian
700 S. Stratford Dr. Bldg 6
Meridian, ID 83642
(208) 288-4082

District 4 – Twin Falls
626C Eastland Dr. South
Twin Falls, ID 83301
(208) 736-3091

Region 3
District 5 – Pocatello
5205 South 5th Avenue
Pocatello, ID 83204
(208) 239-3335

District 6 – Rigby
206 N. Yellowstone Highway
Rigby, ID 83442
(208) 745-7781

Chapter 13

Emergency Program Operations

Introduction

The Idaho Transportation Department Emergency Program is part of an integrated approach to protect the public's investment in Idaho's transportation system. Its primary roles include:

- Empowering ITD employees to respond quickly, efficiently, and safely, during disasters and emergencies;
- Ensuring safe and efficient travel throughout Idaho across all transportation modes;
- Protecting the state's transportation infrastructure against natural and human-caused disasters;
- Safeguarding the department's information technology assets;
- Engaging other public organizations and the private-sector in preparing for, responding to, and recovering from disasters;
- Maintaining a state of readiness within the department through planning, training, and disaster exercises

Fundamental Principle

ITD's Emergency Program applies a united approach based on the collective experience and expertise of all ITD employees.

Role of Transportation During Emergencies

Transportation fills the role of **Emergency Support Function (ESF) #1**. During a state/national disaster, ITD is called to the State's Emergency Operations Center located at Gowen Field within Idaho Office of Emergency Management (IOEM). The roles of transportation is located in the State of Idaho's Emergency Operations Plan located in ITD Book of Knowledge and IOEM's website.

Emergency Support Function #1

Key Response Core Capability: Critical Transportation

Coordinates the support of management of transportation systems and infrastructure, the regulation of transportation, management of the nation's airspace, and ensuring the safety and security of the national transportation system. Functions include, but are not limited, to:

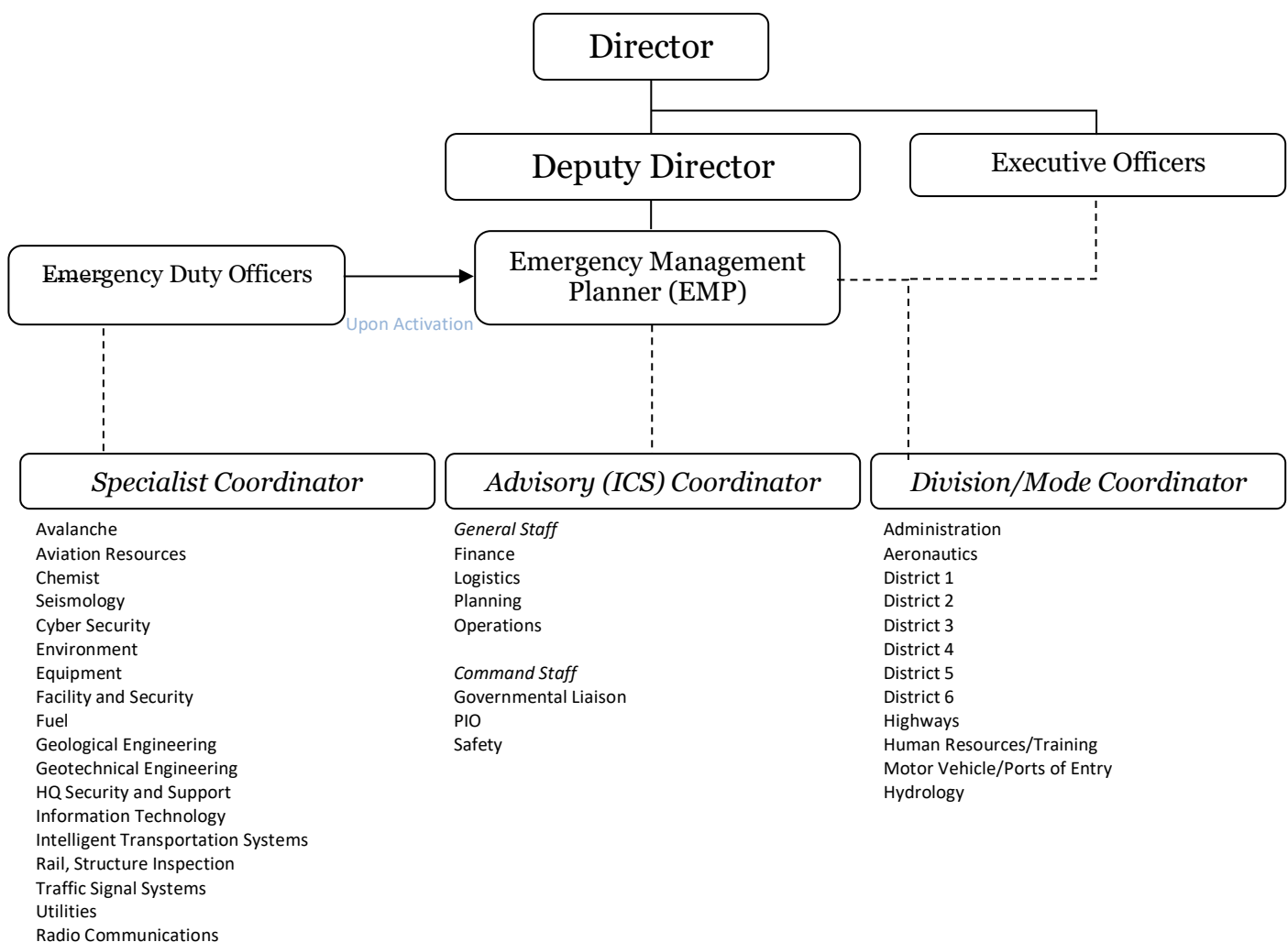
- Transportation modes management and control
- Transportation safety
- Stabilization and reestablishment of transportation infrastructure
- Movement restrictions
- Damage and impact assessment

ITD is charged with maintaining a high level of readiness and response and for providing the expertise, personnel, and resources needed when emergencies occur.

EMERGENCY PROGRAM ORGANIZATION

The Emergency Management Planner reports directly to the ITD's Chief Deputy, and during time of disaster, is responsible for directing the department's emergency response efforts statewide. A cadre of duty officers provides support and relief when the planner is unavailable. Each of ITD's six districts also has identified individuals who serve as emergency coordinators. Ultimately, however, emergency response potentially involves ITD employees at all levels and locations.

Emergency Program Organization



Emergency Program Activation

The ITD Emergency Program's volunteer duty officers are available if an event occurs while the Emergency Management Planner (EMP) is unavailable; duty officers assume coordination responsibilities until the planner becomes available.

The specialist, advisory, and division positions shown on the organizational chart are subject matter experts who can assist the EMP as needed.

When an Emergency Occurs:

When confronted by an emergency on the state transportation system, ITD employees should be ready to respond quickly, efficiently, and safely. Although ITDs response likely will change as the emergency evolves, the following are major priorities when responding or preparing to respond:

1. If life or health is at immediate risk, call **9-1-1**
2. Contact the State Communications Center, (888) 575-2666
 - a. Notify the ITD Emergency Management Planner, (208) 334-8414 or (208) 867-2763 (cell)
3. Begin local response efforts as soon as it is safe to do so, If required EMP will initiate a notification process.

Any time use of an alternative route is required, ITD district personnel will notify State Comm to ensure routes can accommodate commercial vehicles, oversized loads, hazardous material shipments and if needed coordinate with local highway districts.

Governor's Executive Order

Governor's Executive Order defined all Idaho state agencies roles/responsibilities (*See ITD Book of Knowledge on EMP Share point*)

ITD's obligations are:

- Provide engineering support
- Coordinate the use of state aviation assets and aviation activities
 - Note: Aviation Annex Plan
- Serve as primary point of contact with the Federal Highway Administration
 - Note: Federal Emergency Management Agency for debris clearance
- Provide specialized heavy construction and transport equipment with operators
 - Note: Plan - Operation Bulldozer MOU with ACA

Emergency Responses

Locals/Districts can handle many responses. However, when emergencies exceed the capacity of a single district or its personnel, additional assistance may be required – from other districts, ITD Headquarters, other agencies, or the private sector. The Emergency Management Planner (EMP) will assist in all ITD emergency responses, regardless of complexity and geographic impact as the EMP is responsible for coordinating responses from other agencies and requesting, when appropriate, state or federal financial assistance.

ITD's Emergency Management Planner plays a key role in securing state and federal assistance. ITD also serves as a coordination point for obtaining state and federal permits as part of the emergency response efforts.

Emergency Response Phase (State/Federal declaration made or imminent)

Responsibilities are outlined in Chapter 2 of this Manual and indicate appropriate district emergency responses:

ITD and the **Emergency Management Planner** will coordinate assistance from other sources.

1. Coordinate with the Idaho Office of Emergency Management
2. Coordinate with the local agency operating within the Mission Request (if state declaration).
3. Any direct local requests for assistance must be passed on to the IOEM Management to the ITD EMP or Local Highway technical Assistance Committee (LHTAC).

The Emergency Management Planner will:

- Inform ITD leaders and other agencies of activities with situation reports (If required).
- Coordinate department efforts with FHWA and IOEM in areas of staffing the EOC, mission request approval, assessment teams, and letters of request.
- Use the Mission Assignment Cost Recovery Form for any charges relating to that assistance, i.e., employee time, expense reports, equipment charges, and supply requests.

Disaster Assistance On/Off State Highway System

ITD employees and equipment are authorized to work on the state highway system (including interstate and state-numbered highways) The Governor, however, can authorize assignments off the state system by an executive order.

ITD will receive a mission assignment from the Idaho Office of Emergency Management (IOEM) and have the option to accept or reject this assignment. If it accepted, ITD will return the assignment with an estimated cost and signature by the Emergency Management Planner. ITD will track all costs (TAMS) then converted them to the State Disaster Mission Assignment Cost Recovery Form. Once the mission assignment has been completed, ITD all required paperwork will be turned in

Only costs associated with a mission assignment are reimbursable.

Hazardous Materials Incidents

When in doubt request a Bridge call from State Comm

State Communications Center (State Comm.)

Toll-free: 1-888-575-2666 for ITD, or

1-800-632-8000

1-208-846-7610 (from within the Treasure Valley)

(Bridge# 800-575-8877)

All ITD maintenance vehicles must have a current copy of the Emergency Response Guidebook.

Highway Incidents

When responding to incidents on Idaho highways, personnel should refer to ITD's Traffic Incident Management Handout (TIM) and their TIM training for specific procedures. Personnel should not exceed their level of training or ability.

Working and communicating with the incident commander(IC) at the scene, ITD employees will follow the IC direction to make the scene safe unless it contradicts the Manual on Uniform Traffic Control Devices (MUTCD).Note: *ITD maybe the IC until other responders arrive.*

Tow and rescue truck operators are responsible for removing vehicles involved in a crash and the resulting debris, and for maintaining traffic control operations for the duration of the event (Event dependent). Note: They may request ITD to assist with those functions to quickly open travel lanes. **Using your best judgement** ITD personnel should turn over traffic control and flagging operations to tow/rescue truck operators, but can assist at the scene until safely cleared and restoration of the normal traffic flow.

Avalanches/Landslides

Idaho highways adjacent to steep slopes are vulnerable avalanches and landslides, especially Idaho highways 21, U.S. 12. U.S. 89, and Interstate 90, among others. Often debris can be removed quickly and safely, and may require the temporary closure of one or more traffic lanes.

ITD's avalanche team monitors weather forecasts and snowpack conditions to determine possible impacts on snow chutes and hillsides and may ask for closure of a route as a precautionary measure. All such closures and closure signs must conform to requirements of the MUTCD.

Vehicle Fire Suppression

Participating fire departments and districts may be eligible for reimbursements for equipment use, supplies, and personnel expenses incurred when responding to vehicle fires. Authority for the program is granted under Idaho Code 40-317. Fire agencies are not required to provide such services, but do so when personnel and equipment are available. Point of Contact is ITD's Emergency Management Planner.

ITD personnel are not trained or equipped to provide such fire suppression services, but may be requested to provide traffic control and hazardous material cordon at the scene if requested by the responding fire agency.

Wildland Fires

When providing equipment or services, ITD personnel must document the equipment used, the duration of that use, and their time and travel involved in assistance. Long-term flagging operations are the responsibility of the firefighting agency, although ITD employees may be asked to help establish traffic control on a short-term, emergency basis. ITD can recover the costs of personnel time and equipment use(TAMS) Per IDL/ITD MOU.

ITD Aeronautics Function

The Idaho Transportation Department maintains and operates three fixed-wing aircraft and one UAS primarily for the transport of ITD and state officials, aerial reconnaissance and survey of out back airfields.

Although air search-and-rescues are formally organized under the Idaho National Guard, ITD has accepted primary responsibility for responding to reports of missing or overdue aircraft. ITD's Division of Aeronautics coordinates search activities with the Idaho National Guard, U.S. Air Force and locally with the Idaho Civil Air Patrol. ITD's responsibility is to coordinate aerial activities. After a downed airplane has been sited and confirmed, responsibility for ground activities in Idaho are assumed by the appropriate county ground-based search-and-rescue team, usually under the authority of the local sheriff's office.

Formal inquiries are initiated by the Air Force Rescue Coordination Center (AFRCC) at Tyndall Air Force Base in Florida in response to reports of overdue or missing planes. Reports also can be generated through local 9-1-1 systems and State Communications.

Aviation Emergency Contacts

ITD Division of Aeronautics (business hours) (208) 334-8775
State Comm (After Hours) -----(208) 846-7610

Railroad Incidents

ITD personal may experience emergencies related to railroads, primarily motor vehicle-train crashes at railroad crossings. Responses generally are the same as for other vehicle crashes.

Because railroad tracks often parallel highways, a potential exists for derailments and/or hazardous materials releases. ITD may be asked to provide initial traffic control for derailments that impact highway travel, and hazardous materials spills/releases. As with other hazardous materials incidents occurring on highways, ITD workers should not exceed their level of training.

To report railroad emergencies call:

Burlington Northern Santa Fe (BNSF) (800) 832-5452
Union Pacific Railroad (UPRR) (888) 870-8777
AMTRAK Passenger Service ATK (800) 872-7245
Response Management Communication Center (RMCC)..... (888) 877-7267

Or (800) 632-8000

Health and Agriculture Emergencies

Pandemics that threaten Idaho citizens or diseases affecting agricultural animals. May require ITD personnel to limit access to quarantined areas and populations by assisting with highway closures. In the event of interstate emergencies, ITD may be asked to temporarily delay vehicle traffic at Ports of Entry, rest areas, or other secure locations. In those instances, ITD will work with IOEM and other ESF's to coordinate response/missions.

Idaho State Alert and Warning System (ISAWS)

This program provides Idahoans, including those with special needs and/or with English as a second language, opportunities to enroll for notification of emergencies and significant events that might affect them. Notifications are automatically generated for cell phones and smart phones, pagers, email, home phone, or other special communication devices. Enrollment in the ISAWS program is optional and simple; they can choose voice and/or text messaging. ITD employees are encouraged to enroll in the free service to stay informed about impending emergencies and preparing appropriate responses.

Tailored alerts can be sent to specific geographic regions or land-based telephones (reverse 911).

Emergencies at ITD Facilities

Being prepared physically and psychologically for coping with emergencies is an individual responsibility, as well as an organizational one. ITD Emergency Procedures Manual outlines measures employees can take to prepare for and respond to workplace incidents. **EMP Sharepoint and located in all ITD facilities.**

Idaho Emergency Operations Center

Severe or widespread disasters can result in activation of Idaho's Emergency Operations Center (EOC), under the authority of the Idaho Office of Emergency Management. The center, normally located at the IOEM facility on Gowen Field, follows national standards and protocol established by the Department of Homeland Security and the National Incident Management System. It can assemble personnel from all or part of the 16 Emergency Support Functions.

The EOC enables a cohesive, collaborative approach to emergency management and response coordination. Depending on the activity level, the operations center can function during normal work hours, Mondays through Fridays; expanded operation of 24 hours per day (typically in two 12-hour operational periods); and full activation of 24 hours per day for an indefinite period.

Upon request, ITD's Emergency Management Planner or his/her designee will serve in the EOC to coordinate the deployment of transportation assets.

ITD also has the ability to activate an internal Emergency Operations Center anywhere in Idaho that is independent of a state EOC for incidents that primarily affect transportation. The location of the ITD Emergency Operations Center and staffing required will be determined by the nature of the event. The center likely will include employees from different sections of ITD and

appropriate ITD leadership. The EMP will coordinate activation and operation of the department's internal Emergency Operations Center.

Local jurisdictions LEPC (Local emergency Planning Committees) – normally managed by city and state emergency managers, these LEPC's plan for emergencies/disasters it is helpful for ITD to participate as appropriate to assist with response and recovery planning efforts.

Web-EOC

IOEM manages a virtual, or web-based, emergency operations center that provides information to authorized agencies and individuals. ITD provides information to the Web-EOC to ensure that representatives from other organizations have accurate, current status reports about the state's transportation system. Reports can range from closures/issues caused by severe weather, avalanches, floods or any short notice event that affects our transportation system.

PHASES OF EMERGENCY MANAGEMENT

The cycle of a disaster or emergency typically is defined as:

1. Prevention 2. Protection 3. Mitigation 4. Response 5. Recovery

National Incident Management System (NIMS)

NIMS is a comprehensive, national approach to incident management. It provides the template for incident management, regardless of cause, size, location, or complexity and is applicable at all jurisdictional levels and across functional disciplines.

Incident Command System (ICS)

The Incident Command System (ICS) is a standardized, on-scene, all-hazards incident management approach that:

- Allows for the integration of facilities, equipment, personnel, procedures, and communications, operating within a common organizational structure
- Enables a coordinated response among various jurisdictions and functional agencies, both public and private
- Establishes common processes for planning and managing resources

Disaster Declaration Process

By executive order, "The role of state government should be to support and enhance local community emergency response efforts, including focusing state agency activities on supporting regional community needs throughout Idaho ..."

After a disaster occurs, the process for formal declaration begins and proceeds as follows:

1. **Disaster:** The event occurs and local jurisdictions respond through their assets. (All disaster start local and end local)
2. **Local Declaration:** Is issued and remains in effect as long as necessary to ensure an effective response.
3. **Resource Depletion:** The emergency coordinator and staff coordinate and prioritize available resources to support all incident commanders in the area of impact until these resources are overwhelmed or exhausted, or predicted to be so. At that point, the

country emergency coordinator can request assistance from the State of Idaho the issuing of a State Proclamation of Disaster Emergency is the catalyst that triggers state and inter-agency assistance and financial support.

4. **State Disaster Request:** The request for state assistance is forwarded, on behalf of the local jurisdiction, to the governor through the IOEM. The state EOC, located at Gowen Field in Boise, coordinates the provision of resources to the requesting jurisdiction(s). Certain ESF's may be called up.
5. **Request for Assistance:** Once the impacted county or counties is included on a State Proclamation of Disaster, requests for state assistance can be made to the (IDEOC).
6. **Governor's Proclamation:** The governor may issue a state disaster proclamation that initially can be verbal, but will always be in final written form. When a disaster exceeds the state's capabilities for response or recovery, the governor can request a joint preliminary damage assessment with federal, state, and local authorities; and make a formal request to the Federal Emergency Management Agency (FEMA) Region X office in Bothell, Wash., for a Federal Presidential Major Disaster or Emergency Declaration.
7. **Federal Disaster Declaration:** Seventy-five percent of allowable disaster costs normally are reimbursed by the federal government to the state. Payment of the non-federal share of eligible disaster costs (25 percent) is split between the state and the local community as determined by the governor. Typically, the non-federal share of allowable disaster costs are split 15 percent/10 percent, to the state and affected local jurisdictions respectively, unless determined otherwise by the governor.
8. **Timelines for Assistance:** Local requests for assistance can be done immediately or weeks after an event has occurred. The Governor's State Declaration can take place within hours through a verbal declaration or within 48 hours with a written declaration. A federal request can take from two to eight weeks to process and receive. State financial assistance takes place within weeks, while federal financial assistance can take months. Recovery efforts from initial work to closeout may take months to several years.

FHWA Emergency Relief Funding (After a Declared Emergency)

The FHWA Emergency Relief Funding guide provides guidance and instruction to Idaho Division Office (DO) personnel on the management and implementation of the Federal Highway Administration's (FHWA) Emergency Relief (ER) program within the Idaho. The ER program is funded through the Federal Highway Trust Fund for the repair or reconstruction of Federal-aid highways that have sustained serious damage because of (1) natural disasters or (2) catastrophic failures from an external cause.

The program supplements the commitment of resources by the Idaho Transportation Department (ITD) and local public agencies (LPA) to help pay for unusually heavy expenses resulting from extraordinary conditions. Damage to highways that are not Federal-aid highways may be eligible for other federal funds administered by the Federal Emergency Management Agency (FEMA).

Consult the full ER Manual, available online from the FHWA [website](#), for detailed information on any component of the ER program.

The decision to seek ER financial assistance rests with ITD. LPAs do not work directly with FHWA and must make their application through ITD/LHTAC.

References

Select Acronyms

AFRCC	Air Force Rescue Coordination Center, Tyndall Air Force Base
AAR	After Action Review
AASHTO	American Association of State Highway and Transportation Officials
CAP	Civil Air Patrol
COOP	Continuity of Operations Plan
DDIR	Detailed Damage Inspection Report
DMS	Dynamic Message Sign
DSSR	Damage Survey Summary Report (FHWA)
EAS	Emergency Alert System
EMAC	Emergency Management Assistance Compact
EMS	Emergency Medical Services
EOC	Emergency Operations Center
ER	Emergency Relief (FHWA)
EPO	Emergency Program Office (ITD)
EPS	Emergency Management Planner (ITD)
ESF	Emergency Support Function
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FOE	Field Operations Engineer (FHWA)
HAZMAT	Hazardous Materials
IOEM	Idaho Office of Emergency Management
IDEOC	Idaho Emergency Operations Center
IC	Incident Command or Incident Commander
ICS	Incident Command System
ILETS	Idaho Law Enforcement Telecommunications System
ISAWS	Idaho State Alert and Warning System
ISP	Idaho State Police
ITD	Idaho Transportation Department
ITRP	Idaho Towing and Recovery Professionals
LHTAC	Local Highway Technical Assistance Council
LPA	Local Public Agency(ies), (FHWA)
MA	Mission Assignment
MAA	Mutual Aid Agreement
MUTCD	Manual on Uniform Traffic Control Devices
NGO	Non-governmental Organization(s)
NHI	National Highway Institute
NIMS	National Incident Management System
NTIIMC	National Traffic Incident Management Coalition
NUG	National Unified Goal

PIER	Public Information Emergency Response team
PIO	Public Information Officer
RCC	Regional Communications Center
RFA	Request for Assistance
SAR	Search and Rescue
STATE COMM	State Communications Center, Meridian, Idaho
TIM	Traffic Incident Management
TRAA	Towing and Recovery Association of America
TRB	Transportation Research Board
TTC	Temporary Traffic Control
USDOT	U.S. Department of Transportation
WebEOC	Web-based Emergency Operations Center, Idaho Office or Emergency Management

Airstrips

Located at: <https://itd.idaho.gov/wp-content/uploads/2020/08/Airport-Facilities-Directory.pdf>

Miscellaneous Phone Numbers

Ada County Highway District

Traffic Management Center (7 a.m. – 5:30 p.m.)
 Signal operations and DMS control) (208) 387-6195
 Traffic Management Center (5:20 p.m. – 7 a.m.) (208) 890-9729
 Maintenance and Operations
 Maintenance equipment and sweepers..... (208) 387-6325

Idaho Office or Emergency Management

4040 West Guard Building 600,
 Boise, ID 83705-5004
 General business (208) 422-3040
 IOEM Chief (208) 422-5301
 Special Assistant..... (208) 422-3041
 Public Information Officer (208) 422-3033
 Branch Chief, Operations (208) 422-3012
 Branch Chief, Preparedness and Protection (208) 422-3025
 Branch Chief, Grant Management (208) 422-3017
 Logistics Manager (208) 422-5725
 Finance Branch Manager (208) 422-3032
 Public Private Partnerships Section Chief (208) 422-5723
 Hazard Material Operations (208) 422-5724
 Hazard Material Duty Officer (STATECOMM – 24 Hours) (208) 846-7610
 Critical Infrastructure Protection (208) 422-3047
 State Hazard Mitigation Officer (208) 422-5726

State EMS Communications Center (State Comm.)

700 South Stratford Drive Building 7
 Meridian, ID 83642

(ITD only)	1-888-575-2666
(Emergency response and HAZMAT)	1-800-632-8000

Idaho State Police

700 S. Stratford Dr.

Meridian, ID 8364

www.isp.idaho.gov

General business (non-emergencies)	(208) 884-7200
All local emergencies:	9-1-1

Patrol Region 1 (Coeur d'Alene)	(208) 209-8620
Patrol Region 2 (Lewiston)	(208) 799-5151
Patrol Region 3 (Meridian)	(208) 884-7360
Patrol Region 4 (Jerome)	(208) 324-6000
Patrol Region 5 (Pocatello)	(208) 236-6466
Patrol Region 6 (Idaho Falls)	(208) 525-7294

Regional Communications Center North (RCC-North)

615 West Wilbur, Suite A, Coeur d'Alene, ID 83815

Emergency: (Coeur d'Alene, Lewiston)

(208) 209-8730

Coordinator:

(208) 209-8720

Regional Communications Center – West (RCC-South)

700 S. Stratford Dr., Meridian, ID 83642

Emergency: (Boise)

(208) 846-7500

Emergency: (Twin Falls, Jerome)

(208) 736-3060

Coordinator (208)

846-7512

Federal Highway Administration

3050 Lakeharbor Lane, #126

Boise, ID 83703

Idaho.FHWA@fhwa.dot.gov

General business	(208) 334-1843
<i>Direct lines</i>	<i>(208) 334-9180 (plus extension below)</i>
Division Administrator	ext. 118
Administrator	ext. 119
Environmental Program	ext. 114
Engineer Planning / ROW	ext. 115
Safety / Traffic / ITS Engineer	ext. 124
Program Analyst / Civil Rights	ext. 131
Community Planner	ext. 132
Field Operations Engineer	ext. 116
Operations Engineer / GARVEE projects	ext. 112
Operations Engineer / Bridge	ext. 122
Operations Engineer / Pavement, Materials	ext. 127
Operations Engineer, Design	ext. 123
Transportation Finance Manager	ext. 120
Administrative Officer	ext. 110

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American Red Cross of Greater Idaho	(208) 947-4357
Army Corps of Engineers	(208) 345-2281
Avista (gas, electric, northern Idaho)	(800) 372-1645
Bureau of Land Management	(208) 373-4000
Bureau of Reclamation (water resources, dams)	
Idaho facilities	(208) 383-2262
Pacific Northwest Region, Boise).....	(208) 378-5204
Centers for Disease Control.....	(800) 232-4636
Idaho EMS.....	(208) 334-4000
	(877) 554-3367
Idaho National Laboratory	
Warning Communications Center	(208) 526-1515
Media relations	(208) 351-9900
Idaho Poison Control Center	(800) 860-0620
Idaho Power	
Boise, Nampa regions	388-2323 or 1-800-488-6150
All other regions	1-800-488-6150
Payette region	1-800-488-6150
National Capital Poison Center (to report poison incident)	(800) 222-1222
National Interagency Fire Center, Boise.....	(208) 387-5050
National Weather Service	
Boise	
Administrative office (8 a.m.-4 pm).....	(208) 334-9860
Warning coordinator	(208) 334-9861
Pocatello	
Administrative office (8 a.m.-4 p.m.).....	(208) 232-9306
Missoula	
Administrative office (8 a.m.-4 p.m.).....	(406) 320-4715
(24-hour, unlisted).....	(406) 329-4840
Emergency managers	(406) 329-4718
Spokane	
Administrative office (8 a.m.-4 p.m.).....	(509) 244-0110
Rocky Mountain Power (eastern Idaho).....	(888) 221-7070
U.S. Forest Service, Pacific Northwest Region	(503) 808-2468
U.S. Fish and Wildlife Service.....	(208) 378-5243

ITD Emergency Notification Order					
Headquarters Notification Group	Routine Closures > 2 hours (crashes, fire, police action, winter storm events, slides, hazmat, debris)	Closures > 2 hours responding to terrorist threats.	Mass casualty incident > 5 fatalities	Major natural and/or man-made causes, major damage to ITD infrastructure (bridges, buildings, roadway)	ITD employee fatality performing an ITD function
Director	1	2 & 3	2 & 3	2 & 3	2 & 3
Chief Deputy		2 & 3	2 & 3	2 & 3	2 & 3
Chief Operations Officer		2 & 3	2 & 3	2 & 3	2 & 3
Chief Human Resources Officer			2	2	2 & 3
Chief Administration Officer			1 & 2	2	2 & 3
Maintenance Operations Manager			1 & 2	2	1 & 2
Office of Communication			2 & 3	2 & 3	2 & 3
Aeronautics Division Administrator			1 & 2	1 & 2	1 & 2
Motor Vehicles Division Administrator			1 & 2	1 & 2	1 & 2
Emergency Management Planner		2 & 4	2 & 4	2 & 4	2 & 4
ITD Duty Officers (Alternates for Emergency Management Planner)		4	4	4	4
1 = E-mail alert sent using 511 alert notification					
2 = State Comm E-mails as soon as possible					
3 = Emergency Management Planner telephones as soon as possible					
4 = State Comm calls Emergency Management Planner or Alternate if Supervisor is not available					
Note: Duty Officers and Emergency Management Planner subscribe to statewide alerts from the 511 system					