

WIPP Alternate Route Decision/Condition Matrix

Alternative Route Conditions			Short Duration, Emergency Use		Long Duration – Planned Use			
			Less than 48 Hours	Less than 7 Days	Less than 30 Day	1 to 6 Months	6 to 12 Months	More than 12 Months
MOA With DOE Prior To Use			No	No	Yes	Yes	Yes	Yes
Maximum Length Of Alternate Route	Less Than 5 Miles		Yes	Yes	Yes	Yes	Yes	Yes
	More Than 5 Miles		No	Yes, If Planned In Advance	Yes	Yes	Yes	Yes
Time Of Day To Use Alternate Route	Day Time		Yes	Yes	Yes	Yes	Yes	Yes
	Night Time		No	No	Yes	Yes	Yes	Yes
Type Of Road Surface	Gravel Road ^(a)		Yes	Yes	No	No	No	No
	Paved Road ^(b)		Yes	Yes	Yes	Yes	Yes	Yes
Type Of Roadway	Undivided	Day	Yes	Yes	Yes	Yes	Yes	Yes
		Night	If Escorted	If Escorted	If Escorted	No	No	No
	Divided		Yes	Yes	Yes	Yes	Yes	Yes
Number Of Shipments At One Time	Single		Yes	Yes	Yes	Yes	Yes	Yes
	Convoy (Maximum of six)		No	No	Yes	Yes	Yes	Yes
Escorts (Minimum Needed)	Single Shipment		One	One	One	One	One	One
	Convoy Shipment		N/A	N/A	Two	Two	Two	Two
Mutual Aid Agencies Along The Alternate Route Have Required Training, Are Escorts Required?			N/A	N/A	At States Discretion	At States Discretion	At States Discretion	At States Discretion
Alternate Route Available On TRANSCOM			No	No	Yes	Yes	Yes	Yes
HRCQ Shipment Allowed			No	Yes, If Planned In Advance	Yes	Yes	Yes	Yes
8 Week Rolling Schedule To Reflect The Alternate Route Change			No	No	Yes	Yes	Yes	Yes
Alternative Safe Parking Site Identified			No	No	Yes	Yes	Yes	Yes

For Safe Parking, If a site is going to be used that is different from the ones identified in the PIG, the MOA with DOE should include the new Safe Parking site for this Alternative Route.

If shipments are to be convoyed together on an Alternative Route, this should be reflected in the 8 Week Rolling Schedule.

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Definitions:

^(a)**Gravel Road:**

A gravel road is a type of unpaved road surfaced with gravel that has been brought to the site from a quarry or stream bed. They are common in the rural areas. They may be referred to as dirt roads in common speech but that term is used more for unimproved roads with no surface material added. If well constructed and maintained, a gravel road is an all-weather road.

A gravel road should:

- Have a crowned driving surface
- Have a shoulder area that slopes directly away from the edge of the driving surface
- Be able to sustain the weight of a WIPP shipment
- Be maintained on a regular basis
- Be flat and level with little to no corrugation (washboarding)
- Have a lane of travel that is at least 12 foot wide and shoulder
- Have a ditch on both sides
- Have good drainage
- Appropriate Superelevations for the traffic type

^(b)**Paved Road:**

Any road that has a semi-permanent surface placed on it such as asphalt or concrete. Gravel surfaced roads are virtually always referred to as unpaved roads.

Short Term Use:

For shipments being made off of an approved route for short term use on a paved road, the selected route should be done on a City, County or State Route that receives regular maintenance.

Long Term Use:

For shipments being made off of an approved route for long term use on a paved road, the selected route should be done on a designated State and/or Interstate Highway that receives regular maintenance.

Addendum:

Should include – Process for approval in each state.

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Types of Road Closures:

- **Full Road Closure** The removal or suspension of traffic operations either directionally or bi-directionally from a segment of roadway for the purpose of reconstruction and/or maintenance activities.
- **Weekend Full Closure** The removal or suspension of traffic operations either directionally or bi-directionally from a segment of roadway during a weekend for the purpose of reconstruction and/or maintenance activities. Often work will begin Friday night following the peak period and continue until Monday morning, ending prior to the peak period.
- **Limited Capacity Closure** The removal or suspension of a portion of traffic operations either directionally or bi-directionally from a segment of roadway for the purpose of reconstruction and/or maintenance activities. Traffic can be suspended based on vehicle type (e.g., removing automobiles, allowing trucks to continue) and/or destination (e.g., removing through traffic while maintaining local traffic).
- **Nighttime/Off-peak Closure** The removal or suspension of traffic from a segment of roadway during the night or off-peak traffic periods, for the purpose of reconstruction and/or maintenance activities.
- **Ramp Closure** The removal or suspension of traffic from a ramp or series of ramps for the purpose of reconstruction and/or maintenance activities. **Intermittent Closure** The removal or suspension of traffic from a segment of roadway for specified time increments, typically five to 30 minutes while roadwork takes place, for the purpose of reconstruction and/or maintenance activities.

Temporary traffic control devices/management:

- **Lane shifts or closures** - Lane shifts or closures last for varying durations of time. They may be intermittent, off-peak, night, weekend, for a single project phase, or continuous for the duration of the project.
- **Reduced lane widths to maintain number of lanes (constriction)** - Reducing the width of one or more lanes in order to maintain the existing number of lanes on the facility while permitting work access to part of the facility.
- **Reduced shoulder width to maintain number of lanes** - Reducing the width of the inside and/or outside shoulder to maintain the existing number of lanes on the facility while allowing access for the work activities to take place.
- **Lane shift to shoulder/median to maintain number of lanes** - Diverting traffic onto the shoulder, or a portion of the shoulder, for use as a traffic lane.
- **One-lane, two-way operation** - One lane, two-way traffic control involves using one lane for both directions of traffic, allowing work activities to occur in the other lane that is now closed.
- **Two-way traffic on side of divided facility (crossover)** - Closing one side of a divided facility to permit the work to proceed without traffic interference while both directions of traffic are accommodated on the opposing side of the roadway.
- **Reversible lanes** - Also known as variable lanes or contra-flow lanes, involves sharing lane(s) of travel to accommodate peak-period traffic flow. The direction of travel in the shared lane varies by time of day or day of the week.

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Temporary traffic control devices/management:

- **Ramp closure/relocation** - Ramp closure involves closing one or more ramps in or near the work zone for specific time periods or construction phases to allow work access or improve traffic flow on the mainline.
- **Freeway-to-Freeway interchange closures** - Closing one or more freeway-to-freeway interchange connectors over a period of time.
- **Night work** - Work is performed at night (end of evening peak period to beginning or morning peak period) to minimize work zone impacts on traffic and adjacent businesses.
- **Weekend work** - Construction work (all or individual phases) is restricted to weekend periods from the end of the Friday afternoon peak period to the beginning of the Monday morning peak period.
- **Work hour restrictions for peak travel** - Restricting work hours such that work that impacts traffic does not occur during periods of peak travel demand and congestion (e.g., peak hours, holidays, special events).
- **Off-site detours/use of alternative routes** - Re-routing some or all traffic off of the roadway under construction and to other existing roadways.
- **Truck/heavy vehicle restrictions** - Imposes restrictions on truck travel through the work zone either during specific periods or at all times, can increase passenger vehicle capacity of the roadway when a facility normally has a high truck volume. When using this strategy, the requirements of 23 CFR Part 658.11 (d) (1) and (g) must be followed.
- **Separate truck lanes** - Involves the provision of a separate truck lane through the restricted use of an existing lane, use of the shoulder or median, or construction of a new lane.
- **Dynamic lane closure system** - Also called dynamic lane merge system. This system uses dynamic electronic signs and other special devices to control vehicle merging at the approach to lane closures.
- **Incident/emergency management coordinator** - Designate individual with overall responsibility for incident and emergency management on a project. Responsibilities may include developing incident and/or emergency response plans, overseeing implementation and monitoring of the work zone management strategies, and overall management of incidents or emergencies.
- **Incident/emergency response plan** - Development of a plan with information needed to respond to an incident. This information typically includes roles and responsibilities, response agencies, processes/procedures, actions to take for various incident types and levels, contact information, alternate routes, personnel and equipment information, staging area locations, and other information as appropriate to the individual project.

WIPP Alternate Route Decision/Condition Matrix

Directions for using the Matrix

Purpose:

This matrix is to provide both the Western States and the Department of Energy a uniform template to use when an approved WIPP Route is under construction or impassable requiring both in-transit and future scheduled shipments to use an alternate route.

The matrix was designed with the expected length of time for the necessity of the route deviation across the top and is broken into short and long duration deviations. Conditions that would allow a shipment or shipments to utilize an alternative route are along the left side. This provides different road types, length of the alternative route and types of shipments that would be considered.

Short Duration / Emergency Use:

This would be used for shipments that are in transit or that are scheduled to leave within a day or two of the need for a route deviation. What is important for shipments occurring during this time period is that the State would make the decision whether or not a shipment could utilize an alternative route. A cause for this type of deviation would be a major accident, emergency road repair/construction, or a natural disaster such a flood or fire.

Long Duration – Planned Use:

When a State Department of Transportation schedules a section of interstate for long term closure or continuous on-going construction, an alternative route may be needed to avoid delays and increased risk of a WIPP truck being involved in an incident. The use of an alternative route would be worked out between the State and the Department of Energy in the form of a Memorandum of Understanding or Agreement. This document would spell out the conditions and time period that an alternative route would be in place.

Decision Making Process:

For a Short Duration / Emergency Use deviation, the number of options available depends on the location. Location will provide State decision makers the information needed to determine a best alternative route if one exists. If the State determines that there is not a route sufficient for the continuation of a WIPP shipment, the CMR will need to be notified of the situation and anticipated roadway being reopened. This information will allow DOE to make a decision that may redirect the shipment back to the point of origin or to a safe parking location. DOE's decision would need to be communicated back to the state.

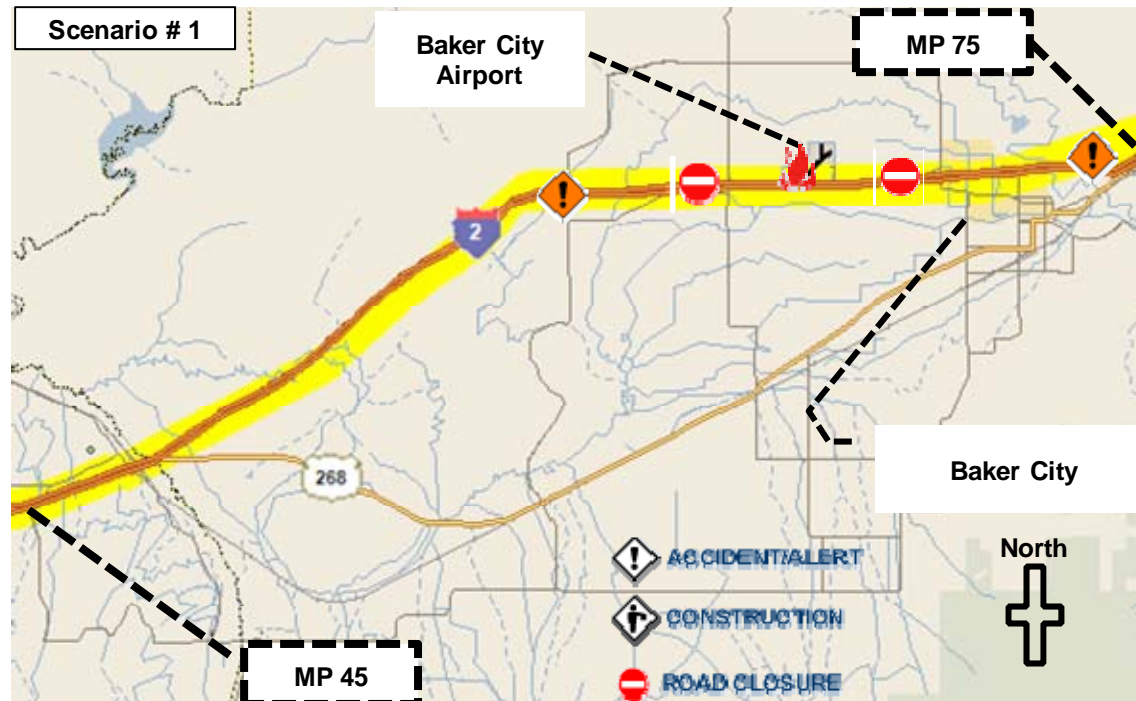
For long term construction or closures the State and DOE should obtain a copy of the Traffic Management Plan for this project. This plan lays out strategies that are to be used in managing the project, traffic and work zones. This information will be useful when determining if and where an alternate route would work best.

On the next two pages are scenarios that show the matrix is a guide to making decisions. Flexibility and solid information on any alternative route is needed to finalize any decision.

WIPP Alternate Route Decision/Condition Matrix

Examples in using the Matrix:

Scenario # 1: A WIPP shipment has left Hanford enroute to Carlsbad. The truck is eastbound on I-2 at milepost 40 (west of Baker) at 1:30 pm on a clear and sunny day, the roadway is dry and traffic is light. At milepost 44, traffic comes to halt eastbound. No traffic is coming westbound.



After not moving for 30 minutes the driver learns that a plane crashed at the Baker City Airport and I-2 is closed in both directions. No detour is established. The driver sees that State Route 268 bypasses the crash scene and reconnects with I-2 east of Baker. The lane for the exit is open. The driver contacts the CMR, who contacts Bill Mackie who contacts the State Representative Bob White. Bob White uses the matrix:

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Yes	No	Condition
✓		Short Duration - Emergency Use?
	✓	Long Duration Use?
	✓	MOA needed with DOE?
	✓	Length of the Alternative Route Less than 5 Miles?
✓		Time of Day – Day Light?
✓		Paved Road?
✓		Divided Highway?
✓		Single Shipment?
	✓	Escorts?
✓		Agency On Alternative Route Have Mutual With the Agencies Along the Route?
	✓	Alternate Route on Transcom?
	✓	HRCQ Shipment?
	✓	8 Week Rolling Schedule to Reflect Change?
	✓	Alternative Safe Parking Site Identified?

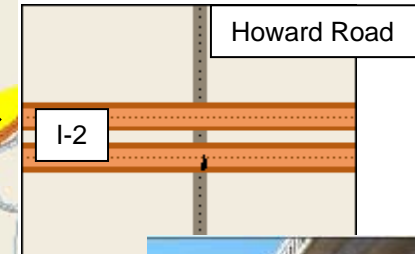
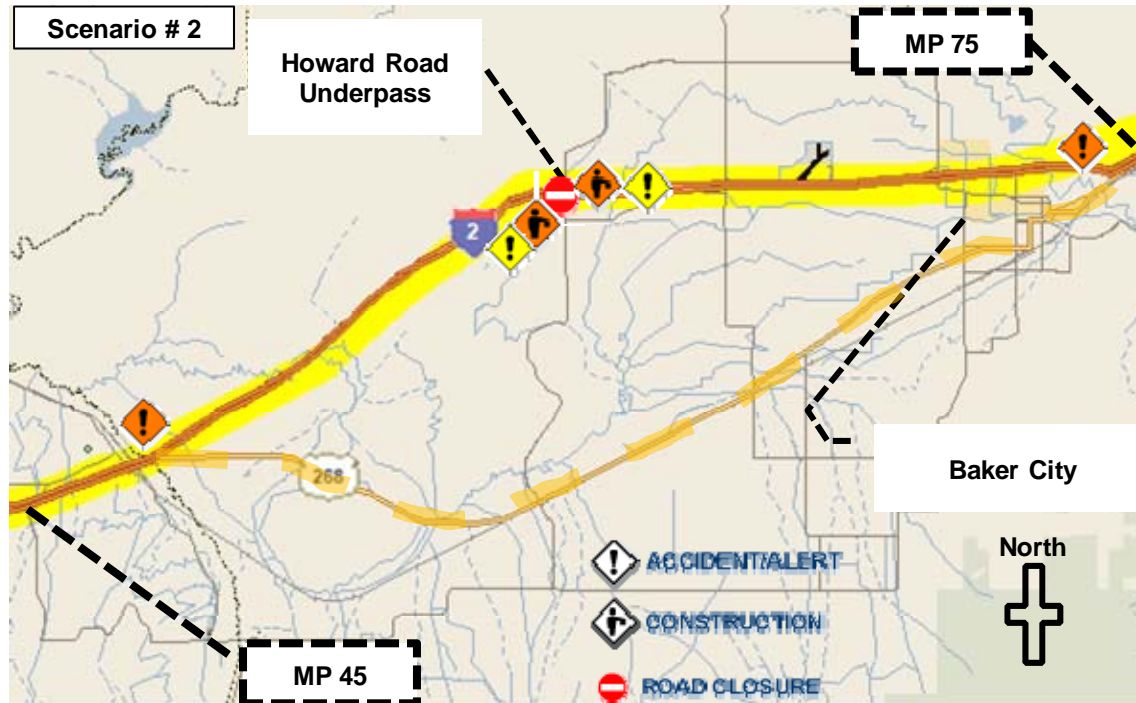
Decision:

After conferring with the State Police, State Department of Transportation and Baker City Fire and Police, Bob White has made a decision to allow the WIPP shipment to exit onto State Route 268. DOE agrees to this and the WIPP shipment is diverted to State Route.

While the alternative route was longer than 5 miles, it is a paved, divided highway and being daytime, with light volume of traffic on dry pavement shouldn't prove to be a great risk.

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Scenario # 2: A WIPP shipment is scheduled to leave Hanford enroute to Carlsbad tomorrow. Bob White is notified by the State Department of Transportation that a truck loaded with an excavator travelling northbound on Howard Road struck the I-2 overpass causing extensive damage to the eastbound lanes.



Repair work will begin shortly, and the DOT develops a Traffic Management Plan that calls for the filling in of the median a ¼ mile east and west of Howard Road on I-2. Traffic has determined that it will be several weeks before the damage can be repaired. The Traffic Management Plan calls for two temporary traffic control devices to be utilized from now until the bridge is repaired 24/7:

- Two miles out in each direction a **lane shift to outside shoulder will be used as means to constrict traffic** down to one lane and reduce speed to 20 miles per hour. The inside lane will be closed, eventually shifting traffic to outside lane and then the outside shoulder.
- A ¼ mile out the median will be filled in with gravel to allow **two-way traffic on one side of divided facility**. Eastbound traffic will be diverted across the median to the westbound I-2 for approximately one mile then cross the median back into the eastbound lanes.

Looking at the shoulder, it is not level but slopes to the outside. The median crossover is crowned in the middle sloping to the outside. Traffic barrels and traffic cones divide the two way traffic. The lanes are narrowed from the normal 11 feet width to only 10 feet to accommodate construction workers safety devices.

WIPP Alternate Route Decision/Condition Matrix

After reviewing the Traffic Management Plan, Bob White uses the matrix:

Yes	No	Condition
	✓	Short Duration - Emergency Use?
✓		Long Duration Use?
✓		MOA needed with DOE?
	✓	Length of the Alternative Route Less than 5 Miles?
✓		Time of Day – Both Day and Night?
✓		Paved Road?
✓	✓	Gravel Road? (Median crossover)
✓		Divided Highway?
✓	✓	Single Shipment? Or Multiple Shipments at one time?
	✓	Escorts?
✓		Agency On Alternative Route Have Mutual With the Agencies Along the Route?
	✓	Alternate Route on Transcom?
	✓	HRCQ Shipment?
✓		8 Week Rolling Schedule to Reflect Change?
	✓	Alternative Safe Parking Site Identified?

Decision:

Bob White picks up the drivers of the next WIPP shipment and visit the construction site. The drivers and Bob agree the shoulder in some places is steep and after constant use will only become rutted and not safe for a WIPP shipment. The State Police, State Department of Transportation and Baker City Fire and Police are consulted and all are in agreement that using State Route 268 as an Alternative Route would be safer. Baker City requests that any shipment going on the alternate route be escorted by the Police or Sheriff's Office. Bob contacts DOE and enters into an MOA outlining the conditions and use of the alternative route.

State Route 268 is a paved, four lane divided highway that exits I-2 at milepost 45 and reenters at milepost 75. The last two miles of State Route 268 go through Baker City. This route is longer than 5 miles, but the paved divided highway poses a lesser risk to a shipment than the Interstate option.