Treasure Valley Incident Management Operations Manual and Detour Route Plan – Update 2017 –

Final Report

December 29, 2017

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1. Introduction

1.1. Project Overview

The existing Treasure Valley Incident Management Operations Manual (IMOM) was published in 2008. It defined directional primary and secondary detour routes for 43 interchanges and intersections throughout the Treasure Valley. This resulted in 103 individual detour maps affecting I-84, I-184, and portions of highways 20/26, 21, 44, 55, and 69. The development of the 2008 Manual obtained input from stakeholders in multiple agencies: transportation, transit, emergency response, law enforcement, municipalities, and Idaho state communications.

Significant changes in the transportation system, congestion levels, and operational approaches (such as new interchanges, expanded interchanges, road widenings, a new river crossing, and system technology enhancements) required that the Manual and detour routes be updated.

The Community Planning Association of Southwest Idaho (COMPASS) led the effort to update the Treasure Valley IMOM, including the detour routes. This activity was a joint effort by COMPASS, Ada County Highway District (ACHD), and Idaho Transportation Department (ITD); all of whom contributed funding to accomplish this project. McFarland Management, LLC, in association with IBI Group, was contracted to update the Manual.

The purpose of this project was to update the 2008 IMOM and detour routes. The focus was on developing a maintainable and sustainable database of detour routes that will be primarily accessed through an electronic web-based tool. There were three deliverables that together represented the completion of the project, including:

1. Existing Conditions Report – includes updates to the ITS field deployments, changes to the 2008 detour routes, findings and guidance related to development of the electronic web-based tool (dubbed the Online Incident Detour Map) development, and other relevant information to inform project completion.
2. Online Incident Detour Map – an electronic tool to access pre-determined detour routes, and to change detour routes over time as conditions require. This system was developed and is hosted by COMPASS and available to authorized Treasure Valley transportation management, planning, and emergency response agencies in three forms: URL to access the website, as a GIS data file that could be integrated into existing management systems, and as a PDF of all or specifically identified detour routes.
3. Incident Management Operations Manual and Detour Routes, Final Project Report (this document) – includes project overview, project accomplishments and findings, detour route operational framework, online incident detour map description, and conclusions and recommendations.

The 103 detour maps represented in the 2008 IMOM were evaluated by multi-agency representatives and changes made to the routes and traffic control devices. The 2017 Update now includes 93 detour maps in 29 segments, as some of the roadway sections (on major arterials) were deemed not needed by transportation and emergency response personnel to make detour decisions (they would be determined on-scene based on conditions).

The other significant changes in the 2017 Update focused on how the detour routes would be accessed. The 2008 IMOM primarily accessed the maps from a written report and field flip cards. With the advancement in computer technology and Internet access, the 2017 detour routes will be primarily accessed through the Online Incident Detour Map, an electronic tool to access,

review and determine needed detour routes. None of the project deliverables identified above contain printed maps; however, the Online Incident Detour Map allows the user to view the detour routes in a PDF map book and print specific maps, as appropriate to the situation.

1.2. Participants

The project implemented a two-tier stakeholder outreach approach. The first tier included the reinstatement of the Regional Operations Work Group (ROWG) to provide high level guidance and review of deliverables (see Appendix A for membership). The second tier included operations representatives from transportation, law enforcement, highway districts, municipalities and others involved in addressing the incidents and implementing the detour routes. Table 1-1 lists the organizations who participated.

Table 1-1
Project Stakeholder Organizations Participating

Organization	Organization
Ada County Highway District, Traffic Management Center (TMC)	Federal Highway Administration
Ada County Paramedics	Garden City Police
Ada County Sheriff, Dispatch Center	Golden Gate Highway District
Ada Disaster Services	Idaho Office of Emergency Management
Boise City Planning	Idaho State Police, Dispatch Center
Boise City Police and Fire	Idaho Transportation Dept – Hqtrs
Canyon County Paramedics	Idaho Transportation Dept – District 3
Canyon County Planning	Kuna Fire
Canyon County Sheriff, Dispatch Center	Middleton Fire
Canyon Highway District	Nampa Highway District
City of Caldwell	Notus-Parma Highway District
City of Meridian	State EMS Communications Center
City of Nampa - Transportation	Star Fire
City of Nampa Police, Fire, Dispatch Center	Valley Regional Transit
COMPASS	

Three ROWG meetings were conducted to coincide with completion of deliverables. The first meeting was held in mid-April 2017 to review the draft Existing Conditions Report and discuss the objectives and requirements of the web-based electronic tool. The second meeting was held in early September 2017 to demonstrate a beta version of the Online Incident Detour Map and obtain input from the members. The third meeting was held in early November 2017 to review the final project deliverables and Online Incident Detour Map. In addition to these ROWG meetings, an operational framework workshop was held in early October 2017 and included the ROWG members and other operations management staff from transportation and emergency responders.

Several second-tier stakeholder meetings in Ada and Canyon Counties were conducted to obtain input on detour route changes and use. Additionally, input was solicited regarding the need for an electronic tool and what functions that tool needed to deliver.

1.3. Approach

The primary success factor of this project was that project stakeholders embraced the products as a valuable management tool. From a technology perspective, this document largely leverages existing Intelligent Transportation System (ITS) equipment; however, implementing the plan requires coordinated action by multiple agencies, and active management of assets operated under separate jurisdictions. The challenge and opportunity of this project was to achieve buy-in from multiple agencies, mindful of their specific requirements and constraints, to achieve common operations objectives in the freeway corridors. The benefit to this approach is more effective resolution of detours and incidents and a more seamless transportation system.

The project was accomplished through the execution of the following tasks:

Task 0: Refine Project Workplan

Task 1: Determine Required Changes

Task 2: Prepare Revised Manual

Task 3: Develop New Web-Based Electronic Version of Mapped Detours Routes

As part of the execution of these tasks, extensive stakeholder outreach and data gathering was conducted. Through this process, the stakeholders expressed support for the project, provided valuable input regarding the current and future use of the detour routes and requirements of the Online Incident Detour Map, learned how the updated 2017 IMOM was going to function, and obtained consensus on the future use of the updated detour routes.

Originally, McFarland Management/IBI Group were tasked with developing the web-based electronic version of the mapped detour routes. After review of several concepts, it was decided it made more sense for COMPASS GIS experts to develop the web-based tool. The remaining funds were re-purposed to focus on the use of the tool by transportation and emergency response managers and an operational framework was developed as part of Task 2.

1.4. Related Plans

In addition to the 2008 IMOM, the following two important documents were used as key references:

Treasure Valley Transportation System: Operations, Management and Intelligent Transportation Systems Plan, 2014, IBI Group and McFarland Management, LLC.

This plan documents the ITS infrastructure throughout the Treasure Valley and identifies an implementation plan of numerous technology projects. Some of the technologies identified in this plan could be used to improve traffic flow and management during detour route execution.

Transportation Incident Management Plan, ITD District 3 Alternate Route Plan, 2008, Idaho Transportation Department.

This plan contains detour routes for all state routes within District 3. This plan was prepared during the same timeframe as the 2008 Treasure Valley IMOM and lists many of the same detour routes. Additional detour routes are also available in areas beyond the limits of the Treasure Valley.

1.5. Contents

Following this Introduction, the remaining content of this document includes:

- Chapter 2: Project Accomplishments and Findings – This chapter identifies the primary accomplishments and key findings resulting from the execution of the project tasks. This includes the project products, operational framework, and lessons learned and other related findings that will support the future success of the 2017 IMOM and Detour Route Plan.

- Chapter 3: Detour Route Operational Framework. This chapter describes an operational framework that could be used by transportation and emergency responders to initiate detours, notify agencies and the public, and closeout detours.

- Chapter 4: Online Incident Detour Map. This chapter describes how to access and use the COMPASS developed GIS online tool to identify detours during an incident from the list of 93 detours throughout the Treasure Valley.

- Chapter 5: Conclusions and Recommendations – This chapter summarizes the overall project conclusions and identifies specific recommendations for consideration by the project partners related to ongoing and future activities to ensure the continued success of this endeavor.

2. Project Accomplishments and Findings

The following paragraphs describe the primary accomplishments and other project findings revealed during the conduct of this effort.

2.1. Considered Important Factors During Evaluation of Detour Routes

Effectiveness and relevance of existing detour routes – The multi-jurisdictional stakeholder groups reviewed the existing detour routes and expressed their input regarding which worked well and which did not. This input was used to inform the revisions made to the detour routes with the goal of operational improvements moving forward.

Traffic volumes and congestion - When reviewing the existing detour routes, stakeholders expressed concerns about putting interstate level traffic on already congested roadways – especially during peak travel times. In the past 10 years, traffic volumes and levels of congestion have increased significantly. The I-84 lane capacity has also increased during this time and nearby interchanges have been improved; however, this increase is also reflected in increased congestion levels on the nearby major arterials that parallel the Interstate and are often used as detour or complementary routes. This reality influenced the stakeholders to alter many of the existing detours to try and accommodate this increase in traffic volumes and congestion.

Changes to transportation infrastructure and traffic control - New and improved transportation infrastructure such as the new Ten Mile Road interchange and many other re-built interchanges required the stakeholders to revise the existing detour routes. Also, traffic control infrastructure and management strategies have improved, affecting detour routes. These improvements also led to the stakeholders suggesting changes.

Growth projections - With anticipation of continued population (and therefore traffic) growth in the Treasure Valley, the stakeholders expressed the need to consider some longer detour routes using less congested alternative roadways requiring changes to the existing detour routes.

2.2. Updated Existing ITS Deployments

Over the past 25 years, the Treasure Valley transportation agencies have deployed an extensive array of technologies to help facilitate informed and safe travel within and through the Treasure Valley. Relevant to this project, this has included the following types of Intelligent Transportation Systems Deployments:

- Closed Circuit Television (CCTV) Cameras – providing incident detection and congestion surveillance
- Traffic signal systems (stand alone, coordinated, integrated) – facilitating effective and efficient traffic flow
- Volume and speed detectors – generating traffic flow maps and detecting incidents
- Road weather information systems (RWIS) – providing road weather information
- Dynamic Message Signs (DMS) – informing travelers of travel advisories en-route via large message boards
- Highway Advisory Radio (HAR) – another means of informing travelers of travel advisories en-route via localized AM radio broadcasts

- Extensive fiber optic infrastructure and networks – facilitating free-flowing data to and from ITS deployed sensors and information dissemination devices
- Transportation management and communications centers – acting as information management and dissemination centers, as well as incident detection and management centers
- Traveler information systems and websites – informing the public of current traffic conditions and congestion hot spots

The content, location, and use of these technologies to enable effective operations management is documented in the *Treasure Valley Transportation System: Operations, Management and ITS Plan* published in 2014. The reader is encouraged to refer to this document for further details.

Since the 2014 ITS Plan was completed, COMPASS has assumed the role of compiling and maintaining GIS data on regional ITS infrastructure. The goal is to review and update this information with ITS owner agencies on an annual basis to maintain current information. This project used this opportunity to make several ITS deployment updates to the maps. They are reflected in the Existing Conditions Report.

2.3. Updated Detour Routes

Each of the 103 existing detour routes were reviewed by the stakeholder groups and changes were suggested to reflect the current conditions in the related areas. These suggested detour route changes can be found in the Existing Conditions Report and reflect specific changes to roadways, location of the blockage, direction of travel, and detour priority. Additionally, for each detour route, changes in traffic control devices are defined. A summary of the types of changes are as follows:

- Updates to traffic control devices only, same detour route (27%)
- Change roadways used as detours to improve traffic flow and avoid congested areas (24%)
- Remove detour routes from Plan and allow local decisions to be made based on conditions and location of the incident. These were located on State Highways that act as major arterials (17%)
- No change in detour route or traffic control devices – the existing detour is the best possible solution (16%)
- Add new detour routes that didn't exist in 2008 (8%)
- Swapping the primary and secondary detour routes (8%)

2.4. Developed Enhanced Understanding of Detour Route Use

The stakeholders identified the following two types of events that may involve executing detour route(s):

- Planned Event – such as a major construction project or a medium-term closure due to damaged infrastructure (e.g., excessive potholes occurring due to extreme weather, or an overpass being struck by a truck/vehicle).

- Unexpected Incident – a crash or other event that blocks most or all of the roadway for the purpose of removing trucks or other vehicles, providing medical services to the injured, collecting data for later investigate as to the cause of the incident, or to address a hazardous spill.

The agencies potentially involved in one of these events in the Treasure Valley include:

- Management centers
    - 911 centers – receive calls and dispatch resources. Coordinate with other agencies.
        - Ada County Sheriff
        - Canyon County Sheriff
        - City of Nampa (police and fire)
        - Idaho State Police
    - Transportation management centers – monitor transportation network, coordinate with law enforcement/emergency responders regarding incidents, implement traffic management strategies to improve traffic flow, and inform the public.
        - ACHD traffic management center
        - Idaho State Communications – under contract to ITD
- Field personnel
    - Transportation maintenance crews (ACHD, ITD, other Highway Districts)
    - Ada County Sheriff officers
    - Canyon County Sheriff officers
    - Idaho State Police officers
    - Local police officers (City of Nampa, Garden City, City of Boise)
    - Local fire department crews
    - Emergency Medical Service (EMS) providers

It should be noted that currently there are no formal procedures in place by the stakeholder agencies for implementing detour routes.

An operational framework was developed to help guide the use of the detour routes. This framework should assist transportation and emergency responders to initiate a detour, notify agencies and the public, and closeout an incident detour. A description of this operational framework is provided in Chapter 3.

2.5. Identified Need for Enhanced Response Planning

Stakeholders expressed the need for incident response planning as a complementary effort to the identification of detour routes. This project was able to start that discussion through the development of the operational framework. Additional work is needed by the agencies to develop detailed incident response plans. The detour plan itself is one element of a coordinated incident response plan that involves coordination of assets and personnel to realize an effective management response. Related operational decisions include:

- When to invoke a particular detour plan (based on location, severity, duration, etc.)
- Who initiates a particular detour plan, and how that action is communicated to other agencies.
- How related operational responses are implemented, such as notification of the traveling public through electronic message signs, 511, and media, or adjustments to traffic signal timing plans on affected routes.
- How and by whom detour routes are deactivated, and how this information is communicated to other agencies and the public.

Incident response plans could identify the coordinated actions by multi-agency responders during major incidents. Although agencies currently do a good job of coordination, stakeholders believed

that the development and documentation of incident response plans, for various scenarios and locations, could improve their ability to effectively balance the needs of those involved in the incident, incident managers, traffic managers, and the traveling public. The development of incident response plans is recommended as a future project.

2.6. Developed Online Incident Detour Map

Early in the project, it was determined that the best access of the detour routes was through a web-based electronic tool. Stakeholders also expressed an interest in printable hardcopies, when needed. The goal was manifested in the development of the Online Incident Detour Map created and maintained by COMPASS. It uses a GIS map and database foundation and provides the information in three formats:

- Web-accessible, map-based listing and display of the detour routes
- GIS database of the detour routes that can be integrated with existing management systems
- PDFs of specific detour routes that can be accessed for viewing or printing

Each agency can determine which format(s) can work best for them. A complete description of the Online Incident Detour Map tool is provided in Chapter 4.

2.7. Identified Need for Frequent Review and Update of Detour Routes

ITS assets such as signals and cameras shown on the detour maps are expanding continuously, and to a lesser degree changes to the roadway network are ongoing. Traffic patterns and congestion levels are also changing frequently. Use of the 2017 detour routes will continually determine how they are working and if changes are needed to keep up with conditions. The stakeholders indicated a need to officially review and update the detour routes annually. However, COMPASS will be available to make more frequent needed changes to the database that supplies the Online Incident Detour Map to keep the information current.

2.8. Expressed Interest in Future Integration With Other Management Systems

Stakeholders also expressed an interest in integrating the detour routes in Advanced Traffic Management System (ATMS) software and with the 511 traveler information services system and website. ACHD and ITD both have management systems that could benefit from the detour routes being integrated with their systems. The GIS database that contains the detour routes will be made available to these agencies and others interested in integrating the detour routes directly with existing management and dispatch systems.

2.9. Identified Operational Challenges

During the meetings with Stakeholders, the following operational challenges were identified and discussed. Several of these challenges speak to broader issues with how detour and incident management is coordinated in the region, with the detour plan itself being only one component of the regional multi-faceted incident management activities.

Field Resources

Although the stakeholders saw the advantage in deploying additional field resources when a detour is in effect to help direct traffic, they acknowledged that those resources are seldom available. In most cases, these resources are working to resolve the incident and get emergency care to the injured. This reality will, in many cases, cause increased congestion and delay on the detour routes.

Signage

Both permanent and temporary (for longer duration incidents) dynamic message signs can be used to inform the traveling public of an incident or closure ahead. These approaches are used currently and should remain as an effective tool to disseminate information. Some new applications were identified for certain detour routes. (e.g., notice that the Vista interchange is still open for airport access). A careful review of the final detour routes could support the development of pre-defined sign messages under certain conditions and could be integrated into future response plans.

Traffic Signal Timing Plans

Many of the detour routes have coordinated and integrated signal systems (especially in Ada County) that can be used during major incidents/closures to assist traffic flow on those detour routes. Specific pre-planned timing plans for certain locations have not yet been developed, but were acknowledged by the stakeholders as an important next step. These special signal timing plans could also be integrated into future response plans.

3. Detour Route Operational Framework

Achieving the full regional and public benefits of the Detour Plan requires a coordinated real-time response, and ongoing working relationships, among transportation and emergency management agencies in the Treasure Valley. With the newly-updated Detour Plan available in a highly accessible and robust electronic format, the region has a powerful new tool for detour coordination across jurisdictions. However, clear understanding of roles and responsibilities for the use of the Detour Plan for both planned and expected incident scenarios is essential to achieving the anticipated benefits.

3.1. Purpose of the Operational Framework

Stakeholder feedback received during the existing conditions assessment and through Regional Operations Work Group meetings emphasized the need to answer the questions of "who, when, and how" related to Detour Plan activation.

This Operational Framework defines roles and procedures for implementing detour routes at the regional level. The goal is to ensure prompt and consistent notification of detour events that impact traffic operations across multiple agencies and regional travelers.

The benefits of adopting the Operational Framework include:

- Improved coordination among first responders and incident scene management and agencies responsible for traffic management response.
- Greater "situational awareness" among agencies that a detour is in effect, and may impact freeway, arterial, and/or transit operations in the vicinity.
- Consistent, timely, and accurate traveler information pertaining to detour events, whether through public systems like Idaho 511, third-party systems, or the media.
- Notification of agencies directly or indirectly impacted by traffic incidents and detours, beyond those who are directly involved in incident response. For example, fire districts or school districts whose operations are being impacted by the detour event or diversionary traffic.
- Prompt and widespread notifications that a detour incident has concluded, and that traffic conditions are returning to normal as the detour route is deactivated.

3.2. Development of the Operational Framework

The Operational Framework was developed in consultation with local law enforcement, emergency response, and traffic operations agencies, based on feedback and recommendations identified through the detour planning process. Foremost among the issues raised was identifying who among the participating agencies had responsibility for activating and implementing the detour routes that were being updated.

A separate Operational Framework Workshop meeting was conducted where the project team presented the draft Operational Framework for interagency discussion, and revised the framework based on participant feedback.

Participants acknowledged that the Operational Framework was a starting point for a broader conversation about regional traffic operations and incident management coordination. Further planning and coordination will be required to fully implement the Operational Framework, such as alignment of individual agency operating procedures with the regional detour framework, or

selection of a preferred technology platform for agency-to-agency notifications. Recommend-ations for further coordination and development are noted in Section 5: Conclusions and Recommendations.

The need for a regional approach to traffic operations in the Treasure Valley (i.e., across counties, jurisdictions, and modes) was recognized in the regional Transportation System Management and Operations Plan (*Treasure Valley Transportation System: Operations, Management, and ITS*, March 2014).

Many of the roles, tools, and procedures for improved inter-agency coordination described in the Operational Framework could be extended to other elements of regional traffic operations, such as winter weather management or regional traveler information coordination. These topics were beyond the scope of the current project but could be considered as future topics to address through the Regional Operations Work Group.

3.3. Types of Detour Events: Planned and Unexpected Incidents

The Operational Framework considers both Planned events and Unexpected incidents, as described in the Table 3-1. Both types of events can precipitate roadway closures or unusual traffic circumstances that merit activation of the detour plan. The key difference is that a Planned event allows for pre-emptive planning, coordination, and notifications prior to the start of the event, while an Unexpected incident, such as a truck rollover, must be handled in real time with no advanced planning window.

Both types of events, but especially Unexpected incidents, can be better managed with an Operational Framework and Detour Plan that is familiar to and agreed by the affected response agencies.

Table 3-1
Planned Events vs. Unexpected Incident Detours

Detour Event Type	Description	Examples
Planned Detour Event	Time, location, and duration are known well in advance. Typically identified by event/ construction planners.	Long-Term Construction Project (e.g. bridge replacement) Short-Term Construction Project (e.g. overnight freeway sign gantry replacement) Scheduled Special Event (e.g. festivals, major sporting events)
Unexpected Incident Detour	Incident occurs suddenly without advanced notice of time, location, or severity. Typically identified by emergency first responders (e.g. 911 call), transportation field personnel, or traffic management center personnel.	Crashes/Traffic Incidents (e.g., Truck Rollover, HAZMAT spill) Winter Road Closures

During the development of the Detour Plan, participants noted that certain planned events, like major construction, may warrant the development of specific new detour routes that are not included in the existing regional library of detour routes. In these cases, it is incumbent upon event or construction planners to coordinate with COMPASS staff in advance of the event to

create the necessary detour routes for inclusion in the electronic tool. These new detour routes can then become permanent additions to the regional detour library in the electronic tool.

3.4. Complete versus Partial Roadway Closures

In the strictest definition, a "detour" event is a full directional roadway closure that prevents use of the roadway by any vehicular traffic.   In the Treasure Valley, such full directional roadway closures occur (even on the Interstate system), though they are relatively rare compared to *partial* roadway closures that allow the roadway to remain open but *severely restrict vehicle throughput past the incident location.*

As an example, a truck jackknife and spilled load during icy conditions on Interstate 84 in Meridian may result in a blockage of three out of four travel lanes. As the incident progresses, the disabled truck and other crash debris will be gradually moved to the shoulder of the roadway. During this time, the Idaho State Police may be able to allow one or more lanes of traffic to remain open, though at greatly diminished speed and volume.

In this example, the Interstate was not completely closed, though the impacts of the reduction in lane capacity are likely to be felt long after the event. With the wide array of traveler information tools available to motorists, incident notifications and real-time travel time calculations will cause traffic to divert to secondary arterials event though the roadway is not formally closed.

Traffic and emergency management agencies can minimize the severity and duration of traffic incident congestion (as well as safety risks) using the Detour Plan even when roadways are not fully blocked or closed. Therefore, it is recommended that agencies use the detour plan for coordinated traffic incident response even in the case of partial roadway closures.

During *complete* roadway closures, particularly state highways and the Interstate network, the needs of travelers who are unfamiliar with the area deserves special consideration. Local commuters will be familiar with alternative routes and the arterial networks, but out-of-area travelers will require additional guidance when forced to divert off the major regional corridors. This is yet another reason to ensure effective interagency coordination of detour event response and traveler information messaging through Dynamic Message Signs, 511, local media, and third-party channels.

3.5. Coordinating Incident Scene and Traffic Management

A key premise of the Operational Framework is the need for coordination between *incident scene management* activities and *traffic management/traveler information response* to the incident. It was widely recognized during stakeholder consultations that the primary responsibility of first responders is to secure the incident scene and protect life and property through established incident scene management protocols. First responders do not have the capacity or ability to deal with the traffic management repercussions of the incident.

For example, the Idaho State Police may order a freeway closure and divert all traffic off the freeway at a given location. However, ISP does *not* direct the diverted traffic or provide traffic management once the traffic has left the freeway. Providing traffic incident response measures (e.g., disseminating traveler information or modifying signal timings, for example) is the responsibility of the traffic management community through State Communications and ACHD's traffic management centers.

In accordance with this division of responsibilities, the Operational Framework assumes that the Treasure Valley's Traffic Management and Emergency Dispatch Centers will have the primary responsibilities for activating and deactivating detour routes in response to traffic incidents.

Given its jurisdiction over state highways and the Interstate system, in most cases the responsible Traffic Management Center will be State Communications, operating under contract to the Idaho Transportation Department. When the detour incident occurs on an Ada County Highway District facility, the primary responsible entity will be ACHD's Traffic Management Center.

In Canyon County, which has seen increased traffic and incidents since the previous Detour Plan, Nampa Police and Canyon County Sheriff Dispatch Centers are anticipated to take more of a lead role. In the near future, both centers will have access to freeway CCTV and can directly coordinate field emergency and traffic incident response, including use of local law enforcement and DPW personnel to implement detour routes.

In many circumstances, multiple transportation agencies (State Communications, ITD District 3, ACHD, Nampa Police and Canyon County Sheriff Dispatch Centers, etc.) will need to be involved to ensure coordinated incident response on both formal and informal detour routes affected by diverting traffic.

Perhaps the most critical factor to the success of the Detour Plan is ensuring that incident scene and traffic management agencies have the communications channels, procedures, and clearly defined roles in place and agreed to ensure that incident scene and traffic management activities are appropriately coordinated to effectively use the detour plan in a regional capacity.

3.6. Agency Roles and Responsibilities for Detour Implementation

Many agencies play a part in the implementation of the regional Detour Plan. Many other agencies are not involved directly, but would benefit from the "situational awareness" of knowing that a detour is in effect, or has been deactivated based on the conclusion of the incident.

Table 3-2 provides a summary of the roles and responsibilities for implementing the detour plan, based on input from stakeholder organizations through the Regional Operations Work Group.

Table 3-2
Detour Plan Implementation – Agency Roles and Responsibilities

	Incident Notification	Field Incident Response	Field Traffic Management	Select/Activate Detour Plan	Traffic Management Response	Traveler Information/ Media Coordination	Secondary Transportation Impacts	Detour Event Closeout	Maintain/Update Detour Plan
Ada County Highway District, Traffic	■		■		■			■	■
Ada County Highway District, Traffic Management Center	■			■	■	■		■	■
Ada County Sheriff, Responders	■	■							■
Ada County Sheriff, Dispatch	■								■
Canyon County Sheriff, Responders	■	■			■				■
Canyon County Sheriff, Dispatch	■	■		■	■	■		■	■
Boise City, Police	■	■							■
Boise City, Fire	■	■							■
City of Caldwell, Traffic	■		■	■	■				■
City of Meridian, Police	■	■							■
City of Nampa, Traffic	■		■		■				■
City of Nampa Police, Responders	■	■							■
City of Nampa Police, Dispatch	■	■		■	■	■		■	■
Idaho Office of Emergency Mgmt.	■								■
Idaho State Police	■	■	■		■	■		■	■
Idaho Transportation Dept., HQ	■				■	■			■
Idaho Transportation Dept., District 3	■	■	■	■	■	■	■		■
State Communications	■			■	■	■		■	■
Treasure Valley Transit							■		■
Valley Regional Transit							■		■
COMPASS									■

A summary of the roles and responsibilities is provided in Table 3-3.

Table 3-3
Description of Agency Roles for Detour Plan Implementation

Agency Role	Description
Incident Notification	Alert other agencies that an incident has occurred (unexpected incidents) or is scheduled (planned events). For Unexpected incidents, incident notifications are anticipated to occur primarily through first responders (e.g. 911 calls), with occasional detection by traffic management or maintenance personnel. For Planned events, it is assumed that event or construction planning personnel would notify the appropriate traffic management center in the advanced planning phase of the event or project so that a coordinated response/detour plan can be developed.
Field Incident Response	Provide immediate traffic incident management response in accordance with local traffic incident command protocols. Focus is on securing and managing the incident scene and protection of life and property. This role is performed by emergency management/law enforcement personnel with assistance from transportation agencies performing complementary Field Traffic Management activities.
Field Traffic Management	Provide on-scene traffic management/maintenance support to aid in clearance and resolution of the incident. Includes non-emergency response functions such as towing, debris clearance, and/or providing temporary traffic control devices or signage.
Select/Activate Detour Plan	Assess the nature, severity, and duration of the traffic incident to determine whether activation of the Detour Plan is warranted. If so, determine which detour route(s) from the detour library/electronic detour tool is most appropriate to the situation.
Traffic Management Response	Once a detour has been activated, provide coordinated traffic management response to address the roadway closure and secondary traffic/transit impacts of the event. This may include adjustments to signal timing and/or deployment of temporary traffic control devices or personnel.
Traveler Information/ Media Coordination	Provide timely, accurate, and consistent information to the traveling public through the Idaho 511 system, WEBEOC, third-party traveler information services, and field ITS systems such as Dynamic Message Signs or Highway Advisory Radio. Additionally, provide notifications to media about the incident and detour route(s) in effect.
Secondary Transportation Impacts	Manage secondary impacts of the traffic incident/detour on local communities and transportation systems impacted by "spillover" effects of the incident. These agencies may include local Departments of Public Works, police/fire, school districts, transit providers, or others who may benefit from real-time "situational awareness" of the detour event.
Detour Event Closeout	Deactivate the detour at the conclusion of the event and provide notifications to affected agencies, the media, and the traveling public that the detour is no longer in effect.
Maintain/Update Detour Plan	Provide user feedback, "lessons learned," and recommendations based on use of the Detour Plan and/or changes in the transportation network. Coordinate with COMPASS and the Regional Operations Work Group to implement updates to the detour library, electronic detour tool, or operational framework. Implement corresponding changes to individual agency roles, policies, incident management plans, and/or operating procedures to ensure consistency with the updated regional Detour Plan.

3.7. Detour Plan Implementation Phases

The lifecycle of a detour event consists of three phases (Figure 3-1):

1. **Detour Initiation** – Implementation of a particular detour route in response to a planned events or unexpected incidents.

2. **Agency and Public Notifications** – Notifying affected agencies and the travelling public about the implementation of a detour.

3. **Detour Closeout** – Deactivation of the detour event at the conclusion of the event, and notifying agencies and the public about the event conclusion.

Figure 3-1
Phases of Detour Plan Implementation

3.8. Detour Implementation Phase Descriptions

Each phase of Detour Plan implementation is described in the remainder of this section.

Phase 1: Detour Initiation

The process for the Detour Notifications phase is shown in Figure 3-2.

Step 1a. Detection of Planned Event or Unexpected Incident

Detour initiation begins with the occurrence of a planned event or unexpected incident affecting one of the major regional highway or arterial corridors covered by the Detour Plan. Depending on the nature and location of the event, different entities may first detect and respond to the incident.

For Unexpected incidents such as traffic accidents or weather-related issues, incident detection is likely to originate with first responders or traffic management personnel. Many incidents notifications are likely to be routed through the regional 911 system, while traffic management personnel monitoring regional traffic flow and CCTV cameras may be the first to detect other events (or evidence of events such as traffic queuing).

The entity that initially detects and responds to the incident, whether the Idaho State Police, local fire department, event planner, or other entity, must contact the appropriate regional traffic management center to initiate the traffic and/or detour response plan.

In the Treasure Valley, the two traffic management centers that can coordinate field incident and traffic management response for Unexpected incidents: Idaho State Communications (managing the Interstate network and state highways under contract to the Idaho Transportation Department), or the Ada County Highway District (arterials and local streets within Ada County). In Canyon County, initial incident notification and detour implementation may be handled through Nampa Police Dispatch and/or Canyon County Sherriff Dispatch in coordination with Idaho State Police and ITD D3.

For Planned events like construction or special events, there is the advantage of being able to initiate preemptive planning through construction coordinators or event planners. In these cases, it is incumbent on event/construction planners to reach out to traffic management personnel during the advanced planning window in order to initiate the detour sequence. Standing regional event or construction management committees are one potential approach to coordinate traffic management response to upcoming major events and projects on an ongoing basis.

Advanced response planning for construction or major events will be coordinated through ITD District 3 in consultation with construction/event planners and affected jurisdictions. This is an appropriate time to incorporate detour planning into the overall traffic management strategy.

Step 1b. Determine Appropriate Detour Response

The next step is for the appropriate traffic or emergency management center to determine whether the incident merits implementation of a detour route. This determination should be based upon the location, time, impact, and duration of the event.

Under most circumstances, it is up to traffic management center personnel to estimate the incident severity based on best available information from field incident command personnel (e.g. estimated clearance time), observed traffic conditions (e.g. observed queuing), and practical issues (e.g. time of day).

While there are not hard and fast guidelines that can uniquely be applied for each of these criteria, guidelines are shown in Table 3-4. The greater the potential impact of the event ("Medium" to "High" ratings in the table below), the greater the potential impact value of activating the Detour Plan.

1c. Consultation and Approvals

The consensus of the Regional Operations Work Group is that implementation of any detour plan will be determined through a coordinated multi-agency response decision making process. This is because the impacts of a traffic incident, and the requirements to coordinated detour plan implementation, rarely affect only one jurisdiction. While time is of the essence in detour plan implementation, the benefits of a quick "huddle" among agency personnel will result in a more effective overall response.

For example, while ITD owns and operated I-84 in Ada County, consultation with the ACHD Traffic Management Center will help to ensure that the proposed detour plan is feasible and coordinated on affected Ada County operated arterial streets.

Figure 3-2
Phase 1 – Detour Initiation

Proceed to Agency and Public Notifications

START: **UNEXPECTED INCIDENT** (Accident, Weather)

END: Provide Incident Traffic Response without Detour

Obtain ITD D3 Direction/ Approval for StateComm Response Plan

Coordinate with Field Incident/Detour Route Response Personnel

Traffic/Emergency Management Center Receives Incident Notification

Event Meets Detour Criteria?

NO

YES

Determine Appropriate Detour Route based on Incident Conditions

DETOUR

Consult with Partner Agencies to Coordinate Response Plan

Implement Approved Detour Plan and Traffic Management Response

Advanced Response Planning: ITD D3, Construction or Event Coordinators

DETOUR IMPLEMENTATION CRITERIA

TREASURE VALLEY DETOUR PLAN

OTHER INCIDENT RESPONSE PLANS/SOPs

START: **PLANNED EVENT** (Construction, Major Events)

- Road(s) Impacted
- Severity
- Expected Duration
- Other Criteria

- Pre-Planned Detour Routes by Road Segment, Direction
- Online Resource

- Incident Scene Mgmt.
- Traffic Signals
- Traveler Information
- Notifications

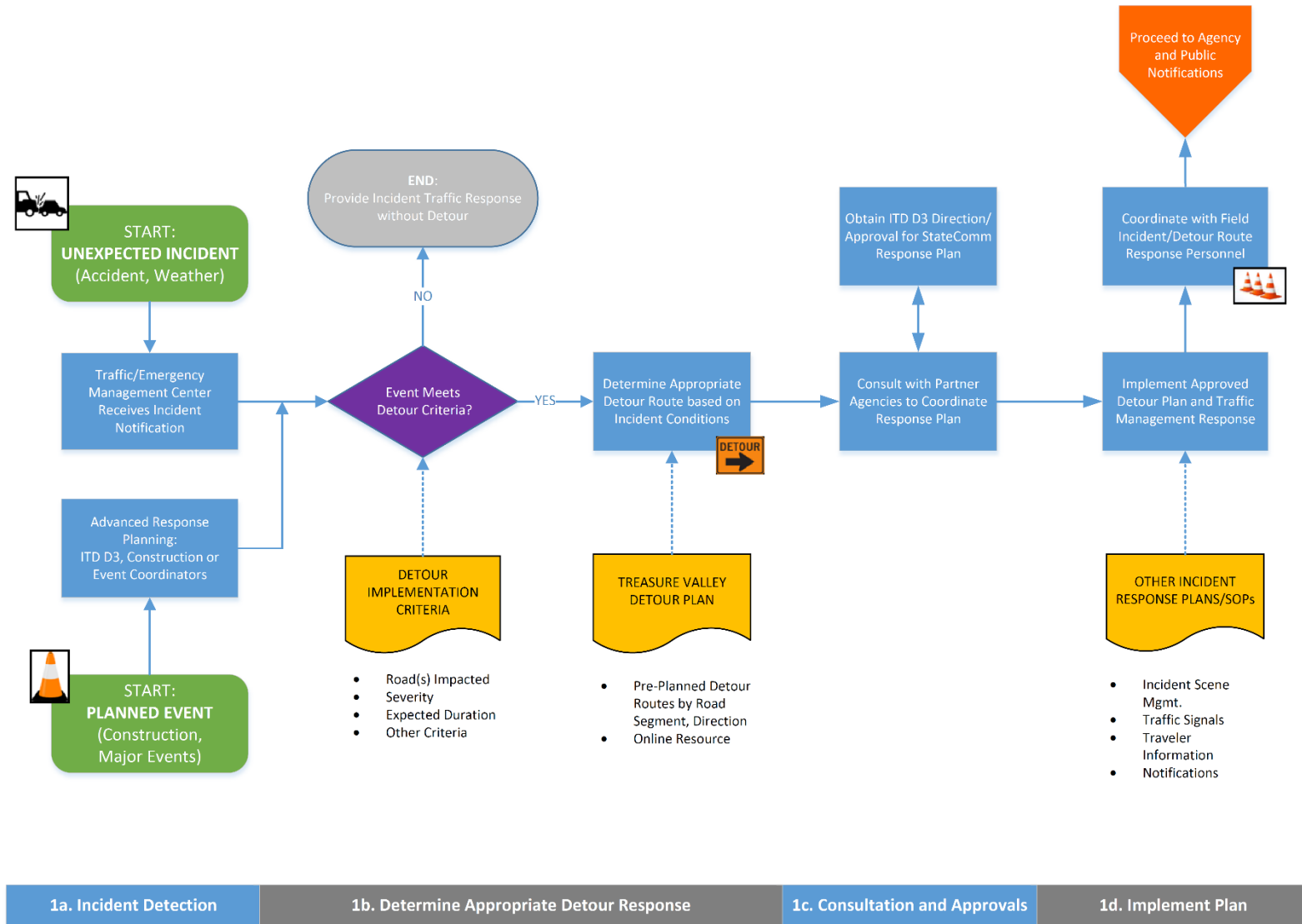| 1a. Incident Detection | 1b. Determine Appropriate Detour Response | 1c. Consultation and Approvals | 1d. Implement Plan |

Table 3-4
Guidelines for Detour Plan Implementation

Criteria	Description	Guidelines for Activating Detour Plan*
Location	*Where is the incident located, and which roadways segments are affected?*	**High** – Interstate highway system (I-84 or I-184), with high proportion of commercial or out of area travelers **Medium** – State Highways or key arterials **Low** – Secondary arterials, and/or areas with substantial capacity on alternative routes (e.g. grid network)
Time	*What time of day is the incident occurring?*	**High** – Impacts peak commuting period **Medium** – Impacts normal daytime traffic flow **Low** – Occurs overnight or other low-flow periods
Impact	*How much impact will the event have on traffic flow and congestion?*	**High** – Complete or near-complete roadway closure **Medium** – Significant reduction in capacity and/or potential for increased congestion **Low** – Minimal capacity reduction or additional congestion
Duration[1]	*How long is the incident condition expected to last?*	**High** – ITD "Response C" (Major Incident) – More than 2 hours to full traffic restoration. Includes catastrophic traffic accidents, hazardous materials, or local disasters. **Medium** – ITD "Response B" (Intermediate Incident) – 30 minutes to 2 hours to full traffic restoration. Includes most severe traffic accidents that require investigation or cleanup. **Low** – ITD "Response A" (Minor Incident) – Up to 30 minutes to full traffic restoration. Includes stalled vehicles, minor traffic accidents, or any impacts to traffic that can be safely moved to shoulders.

As a contract operator for ITD, State Communications has detour implementation and traffic management response capabilities for most routes covered by the detour plan. However, the decision-making authority to determine the appropriate detour response and approve State Communications traffic management measures rests with the ITD District 3 Operations Office. Therefore, consultation with and approval by ITD D3 is a key step in the detour initiation process

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[1] Guidelines from ITD Incident Management Manual, 2008.

for any Unexpected or Planned incidents under ITD's jurisdiction, and which will be implemented through State Communications.

<u>1d. Implement Detour and Traffic Management Measures</u>

As noted previously, field incident response personnel are primarily tasked with field incident command and protection of life and property. Therefore, it is the role of the Traffic Management Center to select and implement the appropriate detour when warranted. The Online Incident Detour Map is available as a web-based tool to all regional traffic management centers as well as to field personnel with web-enabled devices.

In addition to selecting the appropriate detour route, the Traffic Management Center will enact other measures to minimize the impact of the traffic event on regional operations. When diverting traffic is anticipated to disproportionately affect an arterial corridor, implementation of a special traffic signal timing plans to prioritize the direction of detoured traffic may be considered.

In some circumstances, for more severe incidents, it may be appropriate to deploy additional field equipment such as portable dynamic message signs, or barricades to assist with roadway or ramp closure to free up emergency response personnel performing that function.

It is recommended that to the extent possible, specific detour response plans be integrated into overall traffic incident response standard operating procedures (SOPs) and procedures of each agency, especially State Communications and ACHD. This will ensure maximum efficiency and expediency in traffic management response.

A specific example is pre-programming libraries of Dynamic Message Sign messages to correspond to detour plan scenarios, so that these message sets are ready to use when needed in real time unexpected incident conditions

Phase 2: Detour Notifications

The process for the Detour Notifications phase is shown in Figure 3-3.

<u>2a. Notify Impacted Agencies</u>

Much of the value of the Detour Plan is ensuring that transportation and emergency management agencies have a current understanding of incidents that are impacting the regional transportation network.

Even agencies without a direct role in incident response can benefit from the situational awareness of knowing to expect road blockages or unusually high volumes of diverting traffic where and when it would not normally be expected. This can help those impacted by detour incidents to take measures to minimize the impact on schools, hospitals, transit, and other essential services.

The Traffic Management Center (State Communications or ACHD) that originates the detour in Phase 1 must next notify other affected agencies of the implementation of the detour plan. A key challenge in the Treasure Valley today is that there is not a single communications platform that allows all affected agencies to remain in contact with one another during detour scenarios. Still, 511 incident notifications, regional radio talk groups, and email/text notifications can provide short-term options for prompting interagency communications. It is recommended as a follow-up to this study that an improved means of disseminating inter-agency be developed to ensure that current information is effectively disseminated.

2b. Notify Public and Media

Another critical piece of the notifications phase is providing information to the traveling public and the media for events significant enough to merit activation of the detour plan. While there are currently many platforms for travelers to receive information about traffic conditions and incidents across many types of media, there is still a role for public traveler information systems like 511 and Dynamic Message Signs to reach a broad cross-section of travelers with timely, accurate information.

Idaho 511 is the primary means of disseminating official traveler information by ITD, and ACHD also maintains a traveler information website that can be used to alert the public of detours impacting its roadways. The notification features of the Idaho 511 system can also be used to inform public agency and private citizens who have signed up for incident notifications in the Treasure Valley.

In the future, traveler information and 511 notifications may be able to include static images of detour routes in effect, and/or links to the COMPASS Detour Plan website.

2c. Monitor Detour Event Progress

Finally, the Traffic Management Center should remain in close coordination with field incident response personnel in order to monitor the progression of the incident and any potential changed conditions (e.g. severity or expected duration). This allows the Traffic Management to take appropriate steps to deactivate the detour event at its conclusion (Phase 3). If necessary, traveler information messages with pre-configured expiration times should be monitored and updated if necessary.

Figure 3-3
Phase 2 – Agency and Public Notifications

| 2a. Notify Impacted Agencies | 2b. Notify Public and Media | 2c. Monitor Detour Event Progress |
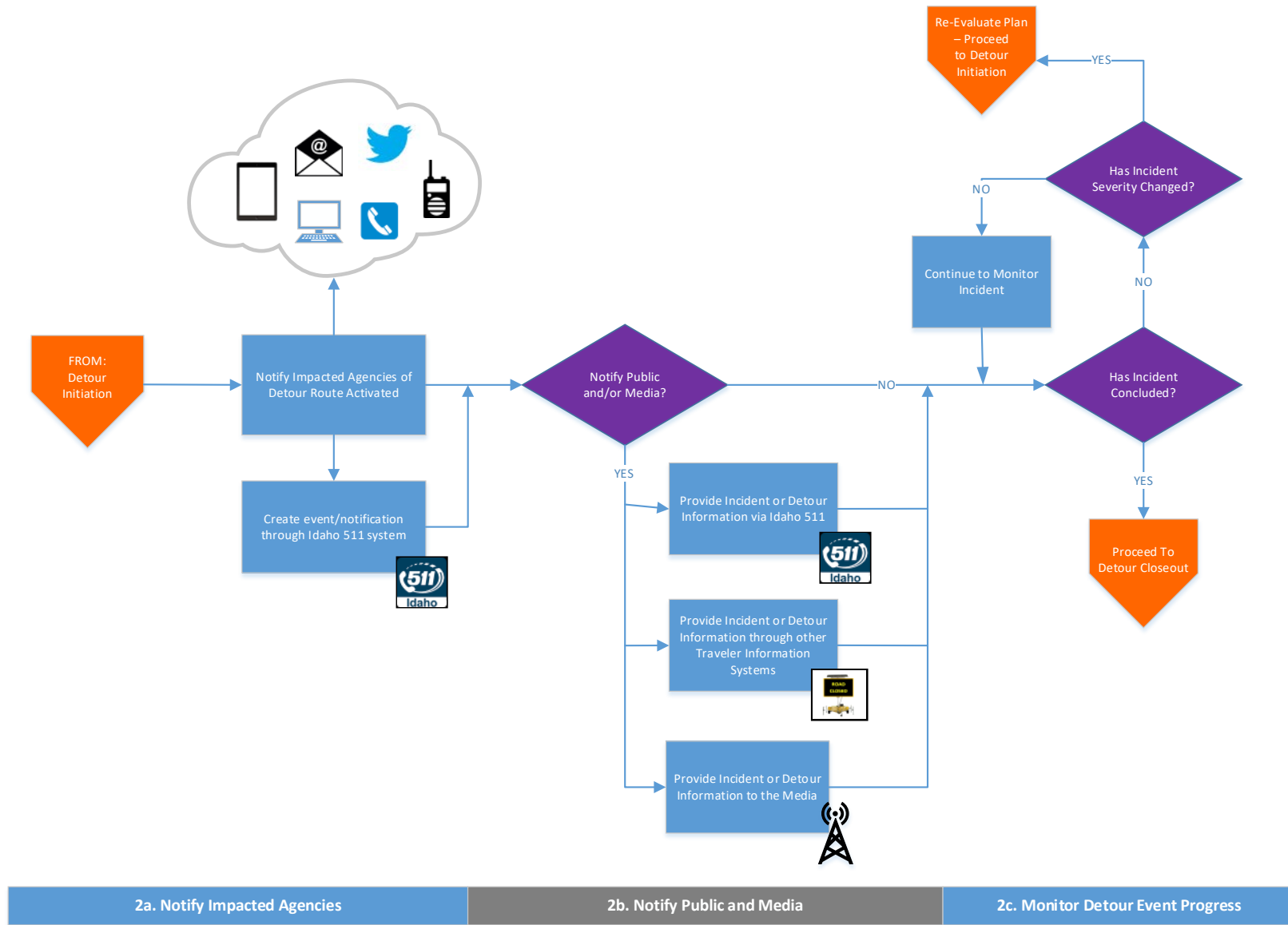
Phase 3: Detour Closeout

The process for the Detour Closeout phase is shown in Figure 3-4.

There is a risk in any detour or major incident scenario is that the incident will fail to be properly concluded, with deactivation of traffic management measures and proper agency and public notifications. Phase 3 is focused on close-out of detour events to avoid 'orphan' detours that remain active beyond the conclusion of the incident.

3a. Cancel Traffic Management Measures

As with earlier phases, Detour Closeout requires close coordination between traffic and field incident management teams to determine when the end of the event (and major residual traffic impacts) warrants a restoration to normal operating conditions.

The Traffic or Emergency Management Centers (State Communications, ACHD, City of Nampa Police Dispatch or Canyon County Sherriff Dispatch) should maintain communications with field incident command and field transportation support personnel in making this determination. As with Detour initiation, direction for State Communications to deactivate the detour would come from the ITD District 3 Operations Office.

When the event is concluded, the implementing Traffic or Emergency Management Center should cancel any traffic incident management measures in effect, such as traffic signal timing plans, barricades, or dynamic message sign notifications, indicating a return to pre-event traffic conditions.

3b. Notify Affected Agencies

As during Phase 2, partner agencies should be notified of the conclusion of the detour event so that any contingency measures such as detoured transit routes can be returned to their pre-event state.

3c. Notify Public/Media of Event Conclusion

Traveler information messages that are not set to expire in a timely manner should be manually cancelled through the 511 or other relevant traveler information systems. Similarly, media advisories should be issued to communicate the conclusion of the event.

3d. Log Potential Updates to Detour Plan

Through regular use of the Detour Plan and Operational Framework under actual operating conditions, it is anticipated that updates, refinements, and lessons learned will be identified that can improve the effectiveness of detour management in the future.

Participating agencies are encouraged to note such improvements, and bring these to the attention of COMPASS for future consideration as updates to the Detour Plan. It is recommended that COMPASS and the Regional Operations Work Group review the Detour Plan and any proposed amendments on a routine basis, not less than annually. Corrections, additions and updates to the detour routes themselves are recommended on an ongoing basis to the extent practical for COMPASS staff with responsibility for maintaining the Online Incident Detour Map.

Figure 3-4
Phase 3 – Detour Closeout
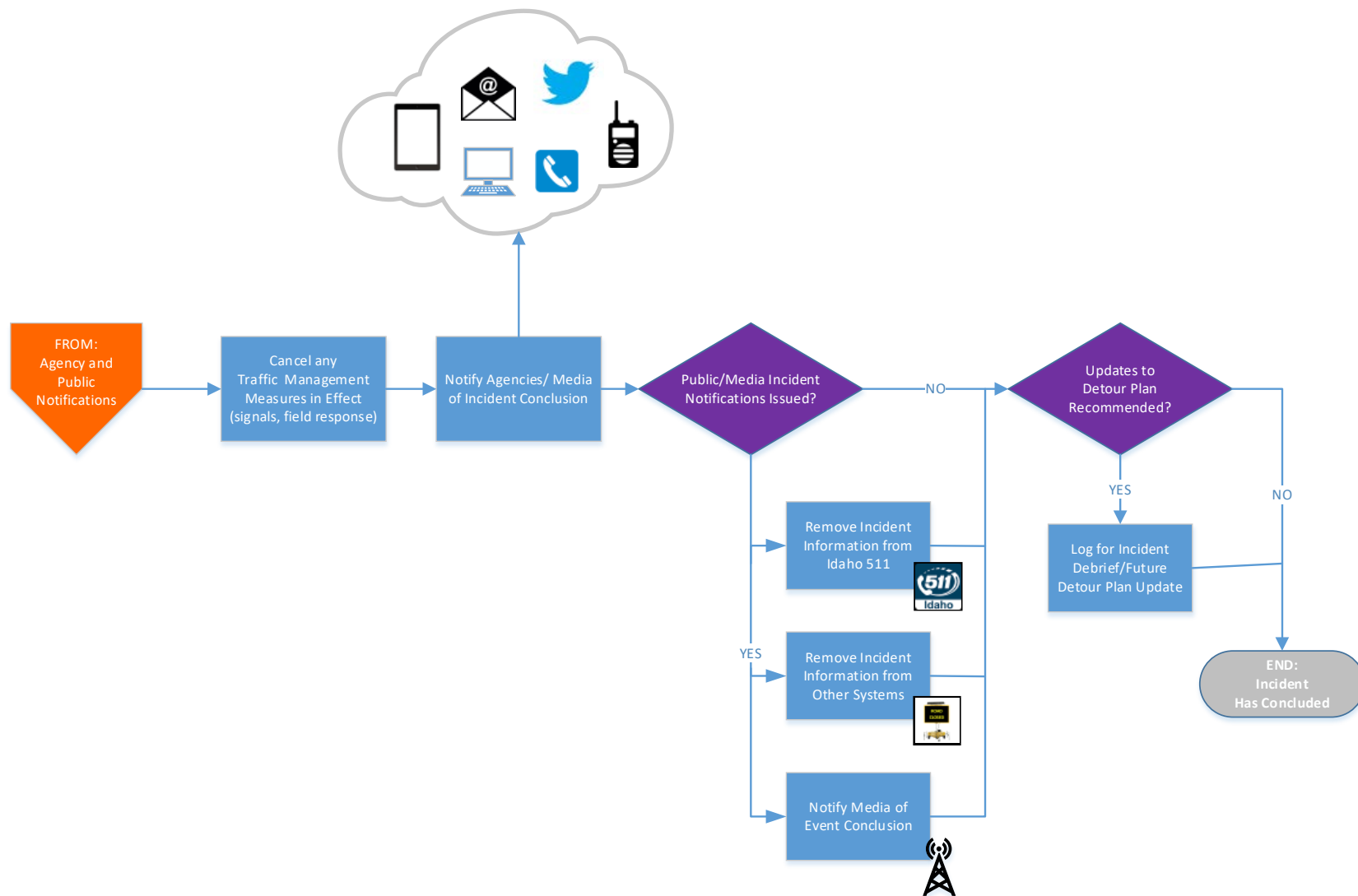
3a. Cancel Traffic Management Measures	3b. Notify Affected Agencies	3c. Monitor Detour Event Progress	3d. Log Potential Updates to Detour Plan

4. Online Incident Detour Map

The objective of the Online Incident Detour Map is to provide the transportation and emergency response agencies easy access to possible detours in response to a planned event or unexpected incident (see section 2.4 for definitions). Access could be from a management/call center, by ITD District 3 maintenance staff, or from transportation or emergency response field personnel.

COMPASS developed a GIS-based database of the detour routes and a web-based approach to access them. It was important to provide various methods the agencies could access the detour routes. The following three methods are available to any interested agency:

1. Web-accessible, GIS map-based listing and display of the detour routes. The Online Incident Detour Map is available through the COMPASS website www.compassidaho.org, under the 'Find It Fast' drop down.
2. GIS database of the detour routes that can be integrated with existing management systems.
3. PDFs of specific detour routes that can be accessed for viewing or printing. These are available separately or can be accessed from the web link.

It should be noted that the detour route numbering has changed from the 2008 Manual to better follow a logical order. Some gaps in numbering have intentionally been inserted to allow for possible growth in detours over time by type of roadway section.

The online version has all the possible detour routes overlaid on an interactive map. The user can zoom in and out and pan left or right to find the area they are interested in. Detour route map examples and a brief description of how to use the online version is provided below.

4.1. Detour Route Map Examples

Each "segment" denotes a section of roadway that is blocked or closed. Within a "segment" typically four detours are identified (eastbound, westbound, primary, secondary). An example of detour options for a blocked segment between Meridian and Eagle Roads is shown below in Figure 4-1. The following are some pertinent information to help read the map.

- The dashed black line indicates where the blockage/closure is located
- The dark purple heavy line is the eastbound primary detour
- The light purple line is the eastbound secondary detour
- The dark blue heavy line is the westbound primary detour
- The light blue line is the westbound secondary detour
- Traffic control devices such as intersection signals, hawk signals, stop signs are shown
- Fire stations and hospitals are also shown on the map
- Locations of the dynamic message signs are also indicated
- The tab "Link to Route Mapbook" (when clicked) will take you to the PDF version of all the detour routes. The user can view the detours and print the ones they are interested in.

All this information is shown on the maps to assist the transportation management or emergency response agency to best determine the detour route that matches the given the circumstances.

Figure 4-1. Detour Route Options Between Meridian and Eagle Roads (Segment 11)

4.2. How To Use The Online Version

The Online Incident Detour Map shows all the detours when it is first opened. A detour selection tool was developed to help users quickly and easily find the area and detour they are interested in. Figure 4-2 is a screenshot of the 'Select Detour' tool. The user can pick (from a dropdown box) either "Detour description" or "Route number" to help them find the right location and possible detours to choose from.

The box will autofill after the user begins typing. Figure 4-3 illustrates an example of a detour description beginning with "I-84." A list is provided in alphabetical order of all detours on I-84. The user can then select the interchange they are interested in from the list below and the map is refocused and zoomed to that location displaying the possible detour routes.

Figure 4-4 shows the results from selecting "I-84, Meridian Rd IC to Eagle Rd IC East" and then clicking "Apply." The user can click on either of the detours to get a PDF version from the mapbook. Notice the icons – traffic control and other informational items – the user can use these to help them choose the best detour route given the conditions. If this is not the correct location, the user can go back to the Select Detour tool and select a new location. The reset button will start the process over as though the user had just entered the map – showing all the detours in the most zoomed out view.

User feedback is essential to further refinements and suggested additional features to help make this a truly useful incident management tool. As agencies use the Online Incident Detour Map, they are encouraged to provide COMPASS with their comments and input for improvement.
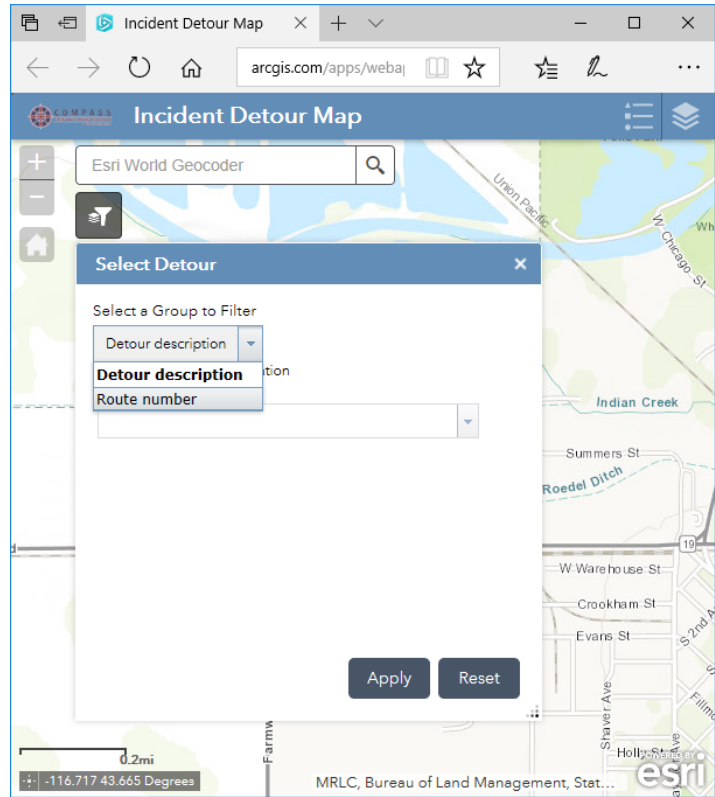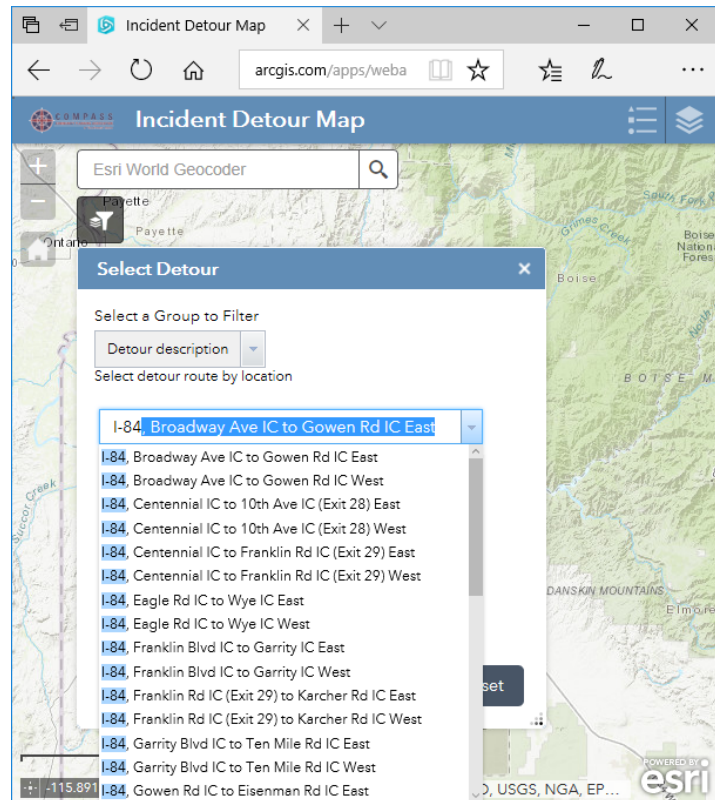

Figure 4-2. Select Detour Tool Display

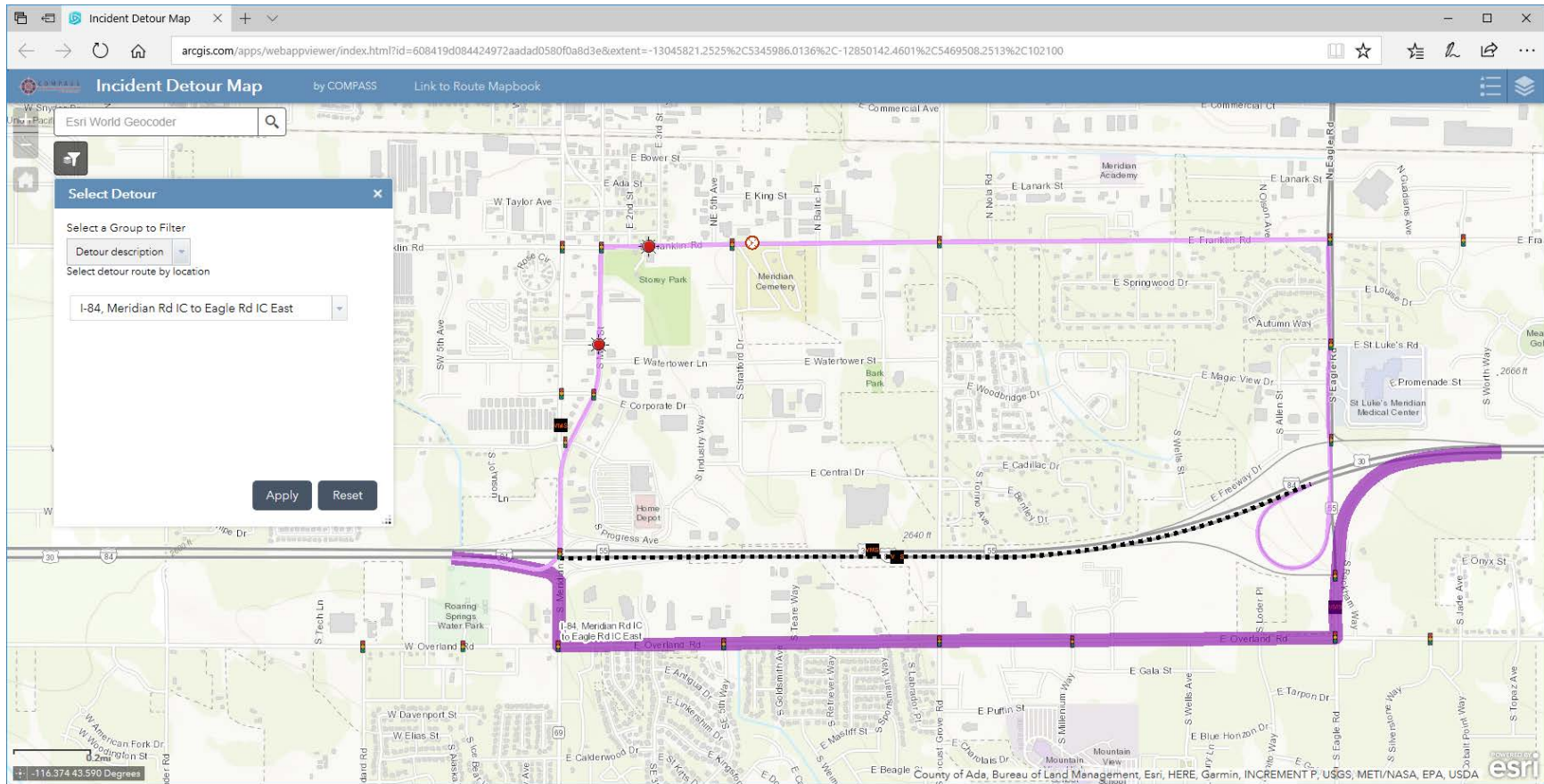**Figure 4-3. Detour Description Example**

Figure 4-4. I-84, Meridian Rd IC to Eagle Rd IC East Primary and Secondary detours

5. Conclusions and Recommendations

The update of the 2008 Incident Management Operations Manual was significantly overdue. Over 84% of the existing detour routes required some type of update to ensure they are viable alternatives to I-84/I-184 travel and usable by the transportation management agencies. The participating agencies appreciated the opportunity to update the detour routes and address ways to better coordinate activities during planned events or unexpected incidents that affect Interstate traffic flow. Additionally, the development of the Online Incident Detour Map to better access (via the web), and select appropriate detour routes was supported by all agencies.

Although this project was successful at updating the detour routes and renewing agency interest in using these routes to better coordinate incident response activities, several recommendations are being made to ensure the successful use of, and enhancement to, the 2017 IMOM and Online Incident Detour Map. These recommendations include:

5.1. Establish User Group

A user group of individuals from the participating agencies should be formed to support the use of the Online Incident Detour Map and application/coordination of implementing the detour routes during planned events and unexpected incidents blocking or partially blocking the Interstates. The user group should meet as often as necessary to ensure effective operations – to start, perhaps quarterly. Membership should include anyone who will use or benefit from the use of the Online Incident Detour Map. A good starting point would be the stakeholders who participated in this effort (from tier 1 & 2 groups). Topics of the user group meetings could include:

- Status of Online Incident Detour Map access and use
- Common issues using the Online Incident Detour Map and suggested immediate solutions or longer-term enhancements
- Experiences, successes using the Map – lessons learned the others can benefit from
- Incident de-briefings – learn and document what actions were successful and what actions need refinement
- Opportunities for improved agency coordination during specific events
- Online Incident Detour Map enhancements – list, scope, assign budget, funding opportunities
- As appropriate, act as the steering committee for projects to better facilitate the effective use of the detour routes or enhance the use of the detour routes

It is further recommended that COMPASS be the sponsor of this group initially to help get it going and organize the first few meetings – after that, a lead operations agency may want to be considered to sponsor the group into the future.

5.2. Identify and Program Complementary Operational Improvements

During the stakeholder meetings to review and update the detour routes, several suggestions (operational improvements) were expressed to facilitate the successful implementation of the detour routes. These included:

- Alternative Route Signage (existing and new) to help motorist utilize the detour routes to make the best travel decisions and assist them in getting where they intend to go. Examples include options to access the Boise airport, and alternatives associated with

navigating through the I-84/I-184 interchange. Signage would improve wayfinding particularly for travelers unfamiliar with the local area, and may reduce the need for field personnel to assist with traffic control.

- Developing signal timing plans that help facilitate traffic flow on arterials (detour routes) during detours. This was a goal in 2008, but was never fully implemented.
- Improving traveler information websites/third party services to better inform travelers of the detour routes when implemented. An example is providing maps or images of detour routes through the 511 system and the media.

These operational improvements will require funding and interagency coordination to execute and make operational ready. It is recommended that the involved agencies begin the process to scope, fund, and program these activities to ensure they are accomplished in the near term. The execution of these operational improvements will ensure the effective implementation of the detour routes when needed.

5.3. Use Web-Based Detour Routes

It is recommended that the Treasure Valley transportation and emergency response agencies use the Online Incident Detour Map (in its three forms: online, integrated GIS database, and specific detour map PDFs) to identify and execute appropriate detour routes to the conditions. This could include both planned events and unexpected incidents.

The more use of the Online Incident Detour Map and database by the operational agencies, the better it can become. The agencies will be the best source of successes, shortcomings, and lessons learned of the database and the tool. Please provide all feedback to COMPASS as soon as practical so improvements can be made and the most current detour route information is available.

5.4. Utilize Detour Route Operational Framework and Revise As Necessary

Section 3 of this document presented a high-level operational framework for implementing the detour plan based on stakeholder feedback. Clarifying roles and procedures for using the detour plan are as important as defining the routing of the detours themselves. Successful and sustained implementation of the operational framework will require ongoing regional coordination to achieve the intended regional benefit.

Recommended activities to implement and maintain the operational framework include the following:

- Formalizing individual agency roles and responsibilities
- Determining preferred methods for agency-to-agency communications (see Recommendation 5.5., below)
- Aligning agency standard operating procedures for traffic management and traveler information notifications (see Recommendations 5.6. and 5.7 below)
- Periodically revisiting and revising the operational framework, particularly to account for "lessons learned" from previous incidents or changed conditions.

5.5. Implement Agency-to-Agency Communications Protocols and Tools for Detour Events

Presently, a variety of communications tools and methods are used to communicate among first responders and transportation agencies for traffic incident response, including radio, telephone, and electronic messaging.

Stakeholders recognize the benefit of having a common platform for communications during detour and traffic incident events to ensure that impacted agencies are "on the same page" about detours in effect. This includes notifications to jurisdictions that may be affected by detour incidents or diverted traffic (local DPWs, local emergency responders, transit) but who are not directly involved in incident response.

It is anticipated that primary incident response and traffic management coordination will occur through direct communications between first responders and State Communications, with further coordination by State Communications and ITD District 3 and/or ACHD as required. However, it is recommended that detour incident notifications also be disseminated to other affected stakeholders as part of the "Detour Notifications" process outlined in Section 3.

There are many potential channels for regional notifications, including email/text notification lists, radio talk groups, and messages disseminated through the ITD 511 platform. As a follow up to this plan, it is recommended that agencies identify a platform that is most convenient and effective for providing consistent and timely detour notifications.

5.6. Incorporate Detour Plan Response into State Communications Standard Operating Procedures

As discussed in the operational framework, statewide traffic incident response and traveler information services are provided through State Communications under contract to the Idaho Department of Transportation.

State Communications personnel execute traffic management responsibilities in accordance with standard operating procedures (SOPs) prescribed by ITD. Given the pivotal role of State Communications in coordinating detour field incident response, traffic management, and traveler information, it is imperative that the detour plan and its operational framework are fully incorporated into the relevant SOPs.

A full assessment of State Communications traffic management SOPs for detour planning was beyond the scope of this study. However, a recommended follow-up action is to review current detour practices and integrate the detour plan and operational framework into State Communications' standard practices.

5.7. Integrate Detour Plan Response with Regional Traffic Management Software and Emergency Response Dispatch Systems

One of the potential benefits of the migration to an electronic detour plan is the availability of detour plan GIS shapefiles that can be integrated into mapping interfaces of advanced traffic management system (ATMS) software, the Idaho 511 system, and emergency response dispatch systems. Furthermore, these systems can assist with automated incident response decision support, response planning, event logging, and agency/public notifications if the capabilities of these tools are configured to reflect the updated detour routes and operational framework.

As a follow up to this project, it is recommended that ITD and ACHD explore opportunities for integration and automation of detour plan functions within their respective traffic management software environments. Doing so could create a more seamless, consistent, and predicable detour response, better aligned with existing responsibilities and procedures of traffic management center personnel. Further, it is recommended that an integration of the detour routes with the Idaho statewide 511 system be investigated. Additionally, the emergency response agency investigate the integration of the detour route database into their dispatch systems.

For example, detour shapefiles of the COMPASS library can be integrated into map-based interfaces to assist with identification and detection of detour routes. Response plans, such as Dynamic Message Sign messages for various detour events, could be pre-configured into the software. Event logs and agency notifications could also be coordinated and aligned with general incident response and traveler information protocols (see Recommendation 5.5.).

5.8. Review Detour Routes Annually

It is recommended that the ROWG and other participating stakeholders officially review and update the detour routes annually. This review could follow the same approach used during this effort. This activity should result in two outcomes:

1. Recommended changes to the detour routes (primary, secondary, routes, and traffic control)
2. Through using the Online Incident Detour Map, suggest to COMPASS appropriate/ approved changes to the detour routes so they can be accessed and used by related operational staff.

Additionally, COMPASS will be available to make more frequent needed changes to the database that supplies the Online Incident Detour Map to keep the information current.

Appendix A
Regional Operations Work Group Membership

Organization	Name(s)	Phone	Email
Ada County Highway District	Jim Larsen	387-6196	jlarsen@achdidaho.org
	John Collins	387-6377	jcollins@achdidaho.org
	Shawn Martin	387-6154	smartin@achdidaho.org
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Boise City Fire	Depty Chief Perry Oldenburg		poldenburg@cityofboise.org
Boise City Police	Sgt Tim Fleming	377-6745	tfleming@cityofboise.org
Canyon County Sheriff	Lt. Todd Herrera	454-7451	therrera@canyonco.org
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McFarland Management	Fred Kitchener	331-0072	fred@mcfarlandmgmt.com
IBI Group	Randy Knapick	503-222-2045	rknapick@ibigroup.com