

Prepared for:



Maintenance Update to the Treasure Valley Regional ITS Architecture

March 2010

Prepared by:



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1.0 Introduction

Acronym/Term	Definition
ITS Architecture	Defines an architecture of interrelated systems that work together to deliver transportation services. An ITS architecture defines how systems functionally operate and the interconnection of information exchanges that must take place between these systems to accomplish transportation services.
Market Packages	The market packages provide an accessible, service-oriented perspective to the National ITS Architecture. They are tailored to fit, separately or in combination, real world transportation problems and needs. Market packages collect together one or more equipment packages that must work together to deliver a given transportation service and the architecture flows that connect them and other important external systems. In other words, they identify the pieces of the physical architecture that are required to implement a particular transportation service.
ADA	Americans with Disabilities Act
AVL	Automatic Vehicle Location
CCTV	Closed-Circuit Television. In this document, refers to CCTV cameras used in transportation applications to aid in transportation management
DMS	Dynamic Message Sign
GPS	Global Positioning System
MPO	Metropolitan Planning Organization
RWIS	Road-Weather Information Systems

1.1 Background

Intelligent Transportation Systems (ITS) in the Treasure Valley are expanding rapidly. The Ada County Highway District continues to deploy new technologies and share data with a growing number of entities in the Valley. The Idaho Transportation Department is currently engaged in a freeway reconstruction project on I-84 that includes the installation of new cameras, speed detection equipment, and high-bandwidth communications. Agencies responsible for public safety recognize the utility of traffic data, including traffic images, in aiding response and management efforts. As the Valley continues to grow, increased opportunities for inter-agency cooperation have also become apparent. The purpose of this Regional ITS Architecture Update is to maintain a record of the increasingly complex data relationships between ITS Stakeholders. Some of the information that is tracked in the Regional ITS Architecture includes: what data is generated and by whom, how this data is shared with other entities, and current or planned ITS projects that impact data relationships.

1.2 Scope

The Treasure Valley ITS Architecture has undergone two recent updates. In 2006, many of the interfaces and relationships included in the most current Architecture were developed. In 2009, a transit-focused ITS Architecture update was completed, identifying the use of new technologies and implementation of new data flows. The current Architecture update detailed in this document builds on these previous maintenance efforts. Just as the Transit Architecture

update was focused on specific categories of the region's ITS systems, the update detailed in this document is not intended to be exhaustive; rather, the purpose of the update is to identify changes to ITS operations and make the appropriate Architecture modifications in three focus areas:

- *Agencies partnering with Ada County Highway District (ACHD):*
ACHD has expanded their network of CCTV cameras and other ITS technologies since the 2006 update. In the short-term, there are plans to provide data from these deployments (primarily traffic images/video streams) to several agencies in the Treasure Valley (see Section 2.0).
- *ITS deployments in Canyon County:*
Since the 2006 update, ITS has been further deployed in Canyon County. Primarily, these deployments consist of new or replacement CCTV cameras and speed detection equipment along I-84. As these installations do not represent changes to existing dataflows or interfaces, no modifications to the Architecture are warranted.
- *The Interagency Regional Operations Center (IROC):*
The IROC has completed preliminary design; however, the multi-agency effort to construct and operate the facility has been delayed for an indeterminate period of time. Investigation conducted as part of this maintenance update suggests that planned data flows will require extensive revision when the IROC is finally implemented. Because of the unknown time lapse between this update and eventual IROC implementation, the only modification to IROC data flows was to shift the time-frame from short-term to long-term. Though it is likely that the IROC will have different stakeholders, interconnects, and data flows than identified in the Architecture as shown in Attachment A, the eventual configuration cannot be specified at this point.

These modifications are not comprehensive. During the investigation, other planned changes to ITS operations in the Valley were noted. These are summarized in Section 4.0 and will require further documentation during future Architecture maintenance.

1.3 Plan Update Overview

An up-to-date and valid ITS Architecture is valuable because it documents agency relationships and communication networks that are highly-dynamic and include a diverse set of stakeholders. To identify Architecture changes in the focus areas described in section 1.2, the first step was to contact representatives of the following stakeholder agencies:

- Ada County Highway District
- Idaho Transportation Department – Headquarters
- Idaho Transportation Department – District 3
- City of Nampa
- City of Caldwell
- Canyon County Highway District #4
- Nampa Highway District

The representatives at each agency were interviewed about both existing deployments and planned projects that may impact the ITS Architecture. The information-gathering process was aided by regional ITS knowledge, ITS planning documentation, and the existing ITS Architecture. Before making changes to the Treasure Valley ITS Architecture, this information set was scrutinized to arrive at a consistent picture of current and planned ITS deployments, institutional interfaces, and data flows. This led to the addition of key components to the current Treasure Valley ITS Architecture via the Turbo Architecture 4.1 software tool, a process that requires the following steps:

- Identify new elements and associate them with the appropriate stakeholders.
- Associate new elements with the appropriate subsystem category.
- Associate new elements with the appropriate project.
- Check for Market Packages newly utilized by the FHWA and apply to new elements where necessary.
- Edit automatically generated data flows and interfaces to accurately reflect real-world ITS Architecture.
- Generate Context and Interface Diagrams (see Attachment A)
- Collate documented changes to Architecture and distill Final Report.

This document is intended to provide a detailed summary of the Treasure Valley ITS Architecture, with a specific focus on modifications made in the focus areas listed in Section 1.2. Attachment A – Turbo Architecture Output contains diagrams for all of the stakeholders and data flows relevant to this update.

1.4 Plan Update Development

This plan update was developed within a limited scope focused on the areas listed in Section 1.2. Initial efforts to collect data are documented in the *Data Collection Technical Memo* distributed in November, 2009.

The update was conducted through the following steps:

1. Develop *Data Collection Technical Memorandum* based on interviews listed in Section 1.3.
2. Internal review of collected data to arrive at consistent picture of current and planned ITS deployments, institutional interfaces, and data flows. In some cases, this required following up with stakeholders and/or reviewing documentation developed for ITS projects.
3. Documentation of all Architecture modifications within the focus areas identified in Section 1.2.
4. Documentation of all potential Architecture impacts not included in the Turbo Architecture Update (see Section 4.0).
5. Design of diagram formatting conventions and review of output diagrams for relevancy to ITS Architecture Update Reports (i.e. the entire index of output diagrams has not been included in this report).

6. Development of the Turbo Architecture Output Report. The Projecting Sequencing and Architecture Diagrams from this effort are included as Attachments A and B. Most of the text associated with the Turbo Architecture Output Report has been reproduced as Section 3.0 on this document.
7. Completion of the ITS Architecture Update Report (this document). This effort included development of an outline.

In addition to this introduction, this document provides the following sections:

- New ITS Architecture Items
- Updated Treasure Valley ITS Architecture
- Next Steps

2.0 New ITS Architecture Items

The specific additions to the ITS Architecture can be studied in context by reviewing Attachment A. It should be noted that not all additions to the regional ITS system propagate changes in the ITS Architecture. ITS Architecture is specifically focused on how ITS Stakeholders exchange data, and while new ITS equipment has been deployed since the 2006 update, the majority of these deployments do not reflect substantive changes to data flows, institutional interfaces, or the categorical data moving between agencies. An example of this is the ongoing addition of CCTV cameras along I-84. While this represents an expansion of the existing ITS system, it does not present a change in the kinds of data being generated or who has access to it. Thus, the quantity of cameras or other equipment has far less impact on the shape of the ITS Architecture than do institutional relationships.

Changes at the national level, i.e. modifications to FHWA Architecture conventions and guidance, can also require alterations to regional Architectures; for the purposes of this update, all changes based on shifts at the national level were incorporated during the Transit Architecture update.

This Architecture update resulted in the following new architecture items (limited to the focus areas identified in Section 1.2):

- Meridian Fire Department (Stakeholder)
- Meridian Fire Dispatch (Element – Emergency Management)
- Boise City Hall West (Element – Emergency Management)
- Boise City Hall (Element – Emergency Management)
- Boise Airport Management (Element – Emergency Management)
- Canyon Country 911 Call Center (data flow – traffic images from ACHD TMC)

3.0 Updated Treasure Valley ITS Architecture

In this section, modifications to the ITS Architecture are explained in detail. To implement these modifications, the information gathered needed to be interpreted in the lexicon and conventions of ITS Architecture. In a typical update, most changes are in one or more of the following four categories: Stakeholders, Market Packages, Elements, or Data Flows. Before

modifying the Architecture within Turbo Architecture, any planned or current ITS projects need to be understood as changes to the relationships between these four classifiers.

- *New Stakeholders*

Stakeholders are entities which exert supervisory and management control over facilities or deployments that create or receive data (these entities are called in ‘Elements’ in Architecture lexicon). For the purposes of this update, the only new stakeholder is the **Meridian Fire Department** with the associated element **Meridian Fire Dispatch**. In the short-term, ACHD plans to provide traffic images to the Meridian Police department.

- *New Market Packages*

While the recent Transit Architecture update did include the addition of new Market Packages, none have been subsequently added for inclusion here. There have been no changes to ITS operations in the Treasure Valley that require adding Market Packages.

- *New Elements/Data Flows*

The elements below have been added to the Treasure Valley ITS Architecture. These elements generally do not represent new entities, but rather changes in business practices that incorporate new ITS-related data flows.

Table 1: New Data Flows

Stakeholder	New Element	Architecture Subsystem	New Data flow
Boise Air Terminal	Boise Airport Management	Emergency Management	Traffic Images from ACHD TMC
City of Boise	Boise City Hall	Emergency Management	Traffic Images from ACHD TMC
	Boise City Hall-West	Emergency Management	Traffic Images from ACHD TMC
Canyon County	Canyon County 911 Call Center	Emergency Management	Traffic Images from ACHD TMC
Meridian Fire Dept*	Meridian Fire Dispatch	Emergency Management	Traffic Images from ACHD TMC

* new stakeholder

Detailed diagrams showing new data flows are provided in Attachment A – *Turbo Architecture Diagrams*.

- *Modifications to Existing Interfaces*

Since the 2006 update, construction of the IROC has been delayed. It is unclear when the project will be initiated. All previous data flows and interfaces associated with the IROC have been maintained and changed from ‘short-term planned’ (planned for implementation within 0-4 years) to ‘long-term planned’ (planned for implementation in ten or more years). This change reflects the consensus amongst applicable stakeholders and it is expected that in upcoming Architecture maintenance efforts, the status and details of IROC will need to be revisited.

4.0 Next Steps

During research to finalize this Architecture Update, many developing projects and changes to stakeholder relationships were identified. These issues should be tracked and implemented in future updates to the Architecture. The table below summarizes these findings.

Table 2: Potential New Data Flows

Stakeholder	Potential Element	Potential Data Flow
Garden City Police	Emergency Operations Center	Traffic Images from ACHD TMC.
Eagle Police	Emergency Operations Center	Traffic Images from ACHD TMC.
Canyon County	Canyon County 911 Call Center	Unspecified flows between Canyon County 911 Call Center and ISP/State Comm. facility.
Bureau of Homeland Security	Unspecified BHS element	Unspecified flows between BHS and ISP/State Comm. facility.
City of Boise	Boise City Hall West	Unspecified flows between Boise City Hall West and Ada County Dispatch.
		Current plans suggest that Boise City Hall West will be equipped as an Emergency Operations Center. Period entered here not on others.

4.1 Further Planning

This planning effort focused on ensuring that the Treasure Valley ITS Architecture was up to date regarding agencies partnering with Ada County Highway District (ACHD), ITS deployments in Canyon County, and the Interagency Regional Operations Center (IROC). The next planning efforts should match needed technologies to available funding within more refined time frames and identify further cooperative relationships to optimize the use of available transportation data. In addition to the potential upcoming modifications to data-flows noted in Table 2, changes to systems ownership and/or responsibilities of some ITS Stakeholders may change. These include, but are not limited to the following:

- State Communications facility. Currently under the oversight of the Idaho Department of Health and Welfare.
- ITS deployments including cameras and other sensors along state routes in the Treasure Valley. Currently, these are deployed and maintained by the Ada County Highway District; however, this agency will be working with ITD District 3 to develop a forward-looking agreement for traffic data in the Treasure Valley.

5.0 Project Sequencing

5.1 Project Identification

Several ITS deployments exist or are underway in the Treasure Valley region. The full build-out of the Regional ITS Architecture will be implemented through many individual ITS projects that will occur over the course of several years. In this step of the ITS architecture development, the architecture is defined as a list of implementable ITS projects. Additionally, the development of

a sequence, or ordering, of the ITS projects is defined. The project sequencing will contribute to the integrated regional transportation system depicted in the Regional ITS Architecture.

Both the traditional planning process and the Regional ITS Architecture planning process have the same goal: to use local knowledge and a consensus process to determine the best sequence of projects to create a transportation network that meets the needs of the region. Translating this goal into a specific regional focus results in the following objectives:

- to create an efficient list of ITS projects;
- to build out the ITS architecture; and
- to fill in system gaps based on regional needs, project readiness, and capacity to deploy.

The Treasure Valley Stakeholders also recognize that development of this sequenced project list is a specific requirement of the FHWA/FTA ITS Architecture Rule and Policy.

The term “build-out of the architecture” refers to projects that deploy the system connections and information flows from a center-to-center perspective as identified in the architecture. Each “center” or central system may have many other functions or features beyond those defined in the high-level descriptions included in this report. Those functions should be explored as part of a robust system engineering process during individual project deployment, but the regional architecture does not capture that level of detail. The architecture is also not focused on technology or infrastructure solutions; the architecture is technology-independent and the projects identified attempt to reflect that independence.

5.2 Project Sequencing Process

To move forward in the actual sequencing of projects, each of the projects identified has been assigned a place in the sequence, designated as Near-Term, Medium-Term or Long-Term. For planning purposes, estimated implementation time-frames are 0-4 years for Near-Term, 5-10 years for Medium-Term, and 10 or more years for Long-term. This creates groups of near-, medium- and long-term projects instead of attempting to establish specific decreasing priority ranking for all identified projects. This approach is preferable because it does not discretely identify near-term “Project A” as being a higher priority than near-term “Project B,” thus potentially pitting one project or agency against another when competing for funding. This method of sequencing projects also brings structure to the planning process and gives focus to eventual project selection and deployment without establishing a “pre-defined” funding priority for specific projects.

The project sequencing designations have been assigned to the respective projects based on two primary factors. The first factor considered is the need for a particular ITS function for the region as outlined in previous draft project deliverables including Deliverable No. 3 - Needs, Services and Operational Concepts and Deliverable No. 4 – Functional Requirements and Interface Flows. Information on High, Medium and Low priority needs identified in these documents has been carried forward in the project sequencing process. The second factor is a

logical ordering of projects based on dependencies. For example, in order for emergency responders to be able to improve their incident response, they will need better monitoring devices in place. So, incident management projects benefit more from being planned after incident detection systems such as traffic cameras.

The prioritization of projects should be used as a guide and not a prescription; it does not indicate that funding is or will be available. Some of the projects should be considered longer-term efforts because near-term deployment may represent an unacceptable risk or capital cost. In some cases, major events in a region may shift a region's priorities and a project identified as medium- or long-term can be shifted to the near-term to address the new high-priority needs.

In other cases an early opportunity to deploy a medium- or long-term project in the region, with relatively low risk, may present itself. Or, perhaps a technology or system may advance more quickly than was originally anticipated in the development of this ITS Plan. Neither of these scenarios should preclude implementation of a medium- or long-term project before a near-term project, if it makes sense in the context of the local setting and changing priorities of local needs. This plan should provide flexibility to the region in project deployment and not necessarily restrictions.

The act of project sequencing also takes into account deployment timelines and dependencies. Project dependencies were used to identify project elements that must be implemented before other projects can begin. By applying dependencies, an efficient sequence can be developed so that projects incrementally build on the elements deployed before them, saving money and time as the Region invests in future ITS deployments. The project descriptions in this report identify the major dependencies that may impact a project.

The actual deployment of ITS projects could also be dependent on other factors including the data or policy decisions that support the projects. For example, the deployment of roadside devices such as cameras and Dynamic Message Signs may be dependent upon upgrades in the region's communication network. Certain project deployments may benefit by the needed results from a study on costs and benefits. Other system integration projects may require a ratified national standard. These types of dependencies should be recognized not just in the prioritization and sequencing of projects but also in the selection and planning of projects.

Table 3: Treasure Valley Region ITS Plan Project Sequencing

Project Name	Description	Stakeholders	Geographic Scope
NEAR-TERM			
Airport Parking Management	Automated management of parking facilities at the airport, and provide travelers with information about parking conditions at the airport.	<ul style="list-style-type: none"> Boise Air Terminal 	Treasure Valley
CCTV Camera Expansion	Expanded deployment of CCTV Cameras on both state and county routes	<ul style="list-style-type: none"> Ada County Highway District ITD 	Treasure Valley
Commuteride –Park and Ride Surveillance	Commuteride manages a number of park and ride lots and uses them to arrange ride-sharing. Many of the lots are remote and used during early morning and late evening hours. Users have expressed concerns regarding both personal safety and vehicle security. These cameras could be made accessible to Commuteride operations personnel, State EMS Communications Center, ITD, ISP, or others deemed appropriate and could be configured to record video for playback if needed.	<ul style="list-style-type: none"> Commuteride 	Treasure Valley
Commuteride In-Vehicle Safety	Currently, Commuteride does not provide communications for vanpool vans. The drivers are volunteers and are allowed to carry their own personal cellular devices. However, a more focused approach deploying in-vehicle equipment such as an MDT or palmtop device for the purpose of providing drivers access to the ITD 511 system and other weather and road condition reports will add significantly to the safety of vanpool trips. This technology could also be combined with GPS capabilities for the purpose of incident response. Because of the nature of vanpool operations AVL for dispatch is unnecessary but the use of GPS and communications for response to incidents involving a vanpool van such as a crash or disabled vehicle will greatly enhance overall safety.	<ul style="list-style-type: none"> Commuteride 	Treasure Valley

Project Name	Description	Stakeholders	Geographic Scope
Commuteride Vanpool Management	<p>Commuteride currently uses an ACHD resident system to manage some of the business elements such as financial and maintenance recording. However, management of vanpool operations is currently being done using a Microsoft Access database developed in house. A more robust and comprehensive system would greatly streamline the vanpool management and improve the accuracy, reporting and efficiency of the vanpool management activity.</p> <p>Several options are envisioned to meet this need.</p> <ol style="list-style-type: none"> 1. Purchase an off-the-shelf system and tailor to Commuteride's needs 2. Contract to have a system built from scratch. 3. Contract to build upon and expand the capabilities of the existing Access system 	<ul style="list-style-type: none"> • Commuteride 	Treasure Valley
DMS Expansion	Deploy additional DMS in the region on highways	<ul style="list-style-type: none"> • Ada County Highway District 	Treasure Valley
Downtown Boise Multimodal Center	Multimodal center being developed to serve transit, traffic, pedestrians by coordination trips and providing travelers with information.	<ul style="list-style-type: none"> • Valley Regional Transit 	Boise City
Downtown Boise Parking Management	Manage parking facilities through parking information and control	<ul style="list-style-type: none"> • Ada County Highway District • Capital City Development Corporation 	Treasure Valley
Emergency Services Upgrade 1	The deployment of ITS systems to improve the efficiency, safety, and quality of emergency planning and response	<ul style="list-style-type: none"> • Ada County 	County
Emergency Services Upgrade 2	A continuation of the integration and deployment of ITS to improve the coordination, efficiency, safety and quality of emergency response.	<ul style="list-style-type: none"> • Ada County 	County
Ramp Metering	Deployment of ramp metering at discrete locations on I-84 within the Treasure Valley	<ul style="list-style-type: none"> • Ada County Highway District • ITD District 3 	Treasure Valley
RWIS Expansion	Deploy additional RWIS for use at the state and regional level at discrete locations in the northeast of the Treasure Valley	<ul style="list-style-type: none"> • Ada County Highway District 	Treasure Valley
Traveler Information Upgrade	An upgrade to remote traveler information systems such as telephone and Internet access. The upgrade will be primarily an extension of information and locations covered by current system.	<ul style="list-style-type: none"> • Ada County Highway District • ITD 	Treasure Valley
Transit Operations Upgrade 1	ITS upgrade for Valley Regional Transit including several integrated components to improve transit operations and customer service	<ul style="list-style-type: none"> • Valley Regional Transit • Treasure Valley Transit 	Treasure Valley

Project Name	Description	Stakeholders	Geographic Scope
Transit Operations Upgrade 2	Continuation of the initial transit operations upgrade project with additional hardware and integration to improve transit efficiency.	<ul style="list-style-type: none"> • Valley Regional Transit • Treasure Valley Transit 	Treasure Valley
VRT-Automated Stop Annunciators	Stops are announced on buses in accordance with ADA requirements. Announcements can be made manually by the operator or automated to varying degrees - via push button, GPS trigger, transponder, etc. This technology will deploy automatic stop annunciators on VRT buses to integrate with the AVL/GPS system. Stops will be automatically announced based on GPS information as compared with the next stop location without input from the operator.	<ul style="list-style-type: none"> • Valley Regional Transit 	Treasure Valley
VRT-On-board Surveillance	While security issues on busses occur only rarely, video monitoring systems can provide a significant measure of safety for passengers and drivers as well as support to law enforcement and emergency responders. The systems being considered consist of CCTV cameras and communications links to allow remote monitoring of busses and bus facilities. Once deployed, the cameras will provide real time video images to dispatchers who could then initiate a response to any security related issues.	<ul style="list-style-type: none"> • Valley Regional Transit 	Treasure Valley
VRT-Personalized Push-based Traveler Information	With this technology in place users can sign up for transit information and news. The information can be prioritized and the system can be configured so users can select a level of priority for which they would like to get messages. These systems can allow service area based messaging, route level based messaging or both depending on the robustness of system and data collection and the needs of users.	<ul style="list-style-type: none"> • Valley Regional Transit 	Treasure Valley
VRT Web-based Route/Trip Planning	Closely associated with trip planning technology, traveler information is provided to on-line customers from a combination of static data and real-time information. Users are able to more effectively consider transit options for future trips or to assess immediate transportation options and scheduling. The real-time information relies on automatic vehicle location and can provide users with up-to-the-minute delays and schedule adjustments.	<ul style="list-style-type: none"> • Valley Regional Transit 	Treasure Valley

Project Name	Description	Stakeholders	Geographic Scope
VRT Web-based Traveler Information	This technology allows transit users to effectively plan transit trips via Internet-based applications that couple users needs with available services. When users input trip related needs, the system works with stored data to select the appropriate route and timing. The output is then presented to the user for on-screen viewing or printing and can include route designations, stop locations, required fares, transfer information, walking times or distances, and overall transit time estimates.	<ul style="list-style-type: none"> Valley Regional Transit 	Treasure Valley
MEDIUM-TERM			
Commuteride Dynamic Rideshare Matching	Commuteride currently provides ridesharing services and has programs in place to help users with rideshare matching for carpools. The application was developed for the King County Washington region and is not entirely effective for the Treasure Valley needs. In addition, the current service is not set up to work for the vanpool services and does not yet meet the near real time measure for dynamic ridesharing. This effort will implement a solution that meets both the carpool ride matching and vanpool ride matching needs as well as providing a near real time service via the internet.	<ul style="list-style-type: none"> Ada County Highway District 	Treasure Valley
VRT Automated Passenger Counters	Several technologies exist to count passengers boarding and alighting from buses. Most use either infrared or optical scanning technologies. Automated passenger counters can provide a useful means of more accurately reporting ridership data to the NTD and provide better data for effective transit systems operational refinements.	<ul style="list-style-type: none"> Valley Regional Transit 	Treasure Valley
VRT-Real-time Bus Stop Displays	Transit travelers often need transit related information while at a bus stop or transit center. Information displays such as video monitors and reader boards can help to provide real-time information to users helping them to assess delays and estimated arrival times. This technology would be deployed at select locations where large numbers of users' access transit and utilities are available.	<ul style="list-style-type: none"> Valley Regional Transit 	Treasure Valley
LONG-TERM			
IROC	The regional operations center will serve to manage traffic and exchange information among several agencies in the region, including the cities, counties and state.	<ul style="list-style-type: none"> Ada County Ada County Highway District Idaho Transportation Department-District 3 	Treasure Valley

Attachments

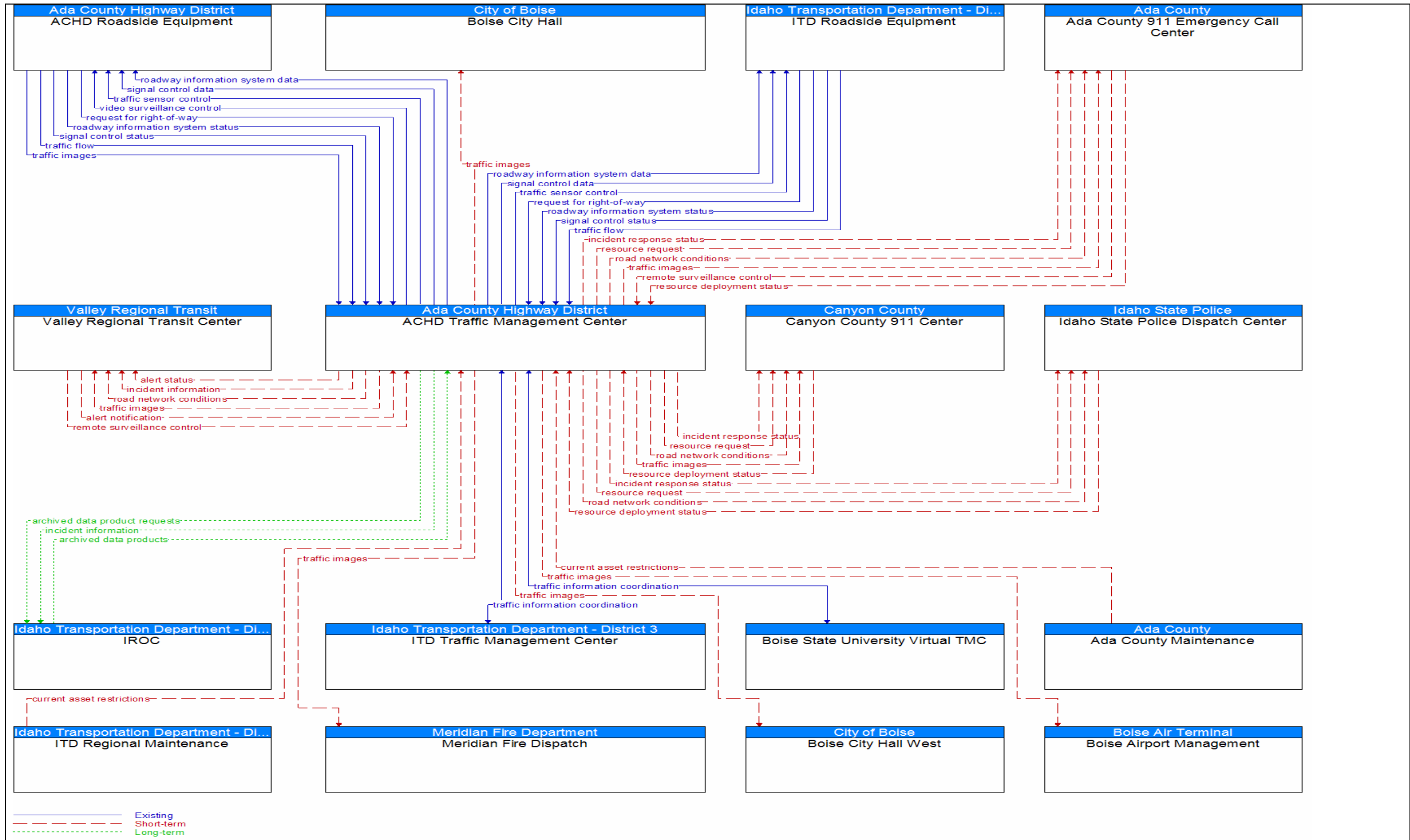
- A. Turbo Architecture Output
 - Context Diagrams
 - Data Flow Diagrams
- B. Architecture Maintenance change form

ATTACHMENT A – TURBO ARCHITECTURE OUTPUT

The following diagrams are automatically generated by Turbo Architecture. While not all diagrams have been included, those below are the most relevant and, taken together, summarize all data flows and architecture interfaces.

Context Diagrams are constructed with **BLUE** headers. These diagrams focus on a particular Element and depict all of its associated data-flows.

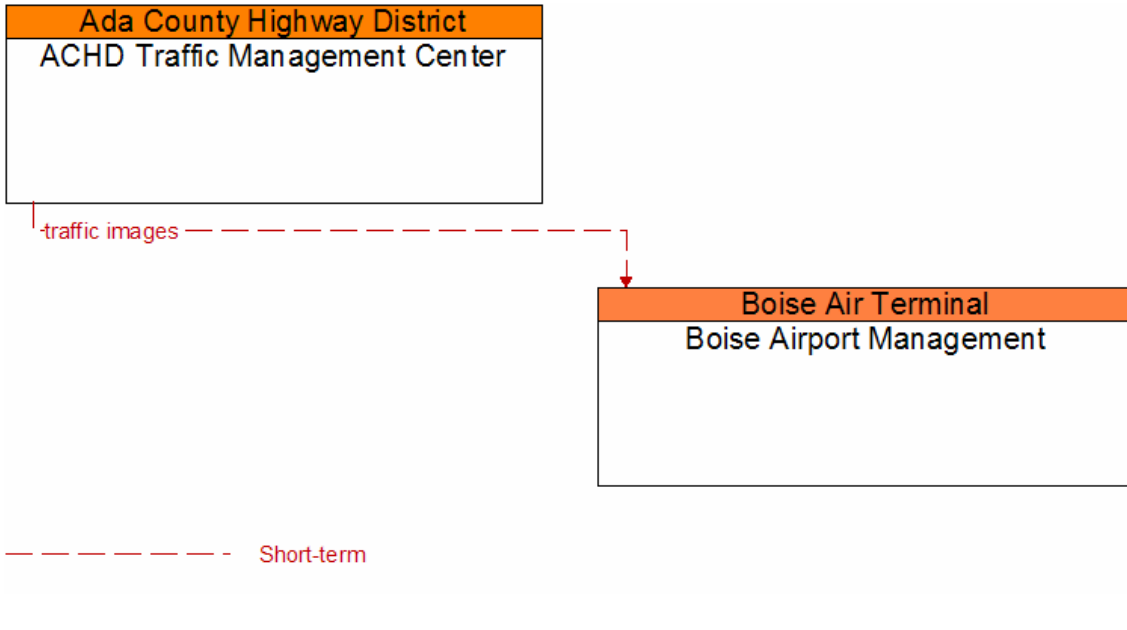
Flow Diagrams are constructed with **ORANGE** headers. The total number of Interface diagrams generated by Turbo for the Treasure Valley is 97. The only Flow Diagrams included are those that depict *new* or *modified* data flows. These diagrams are located below the related Context Diagram.



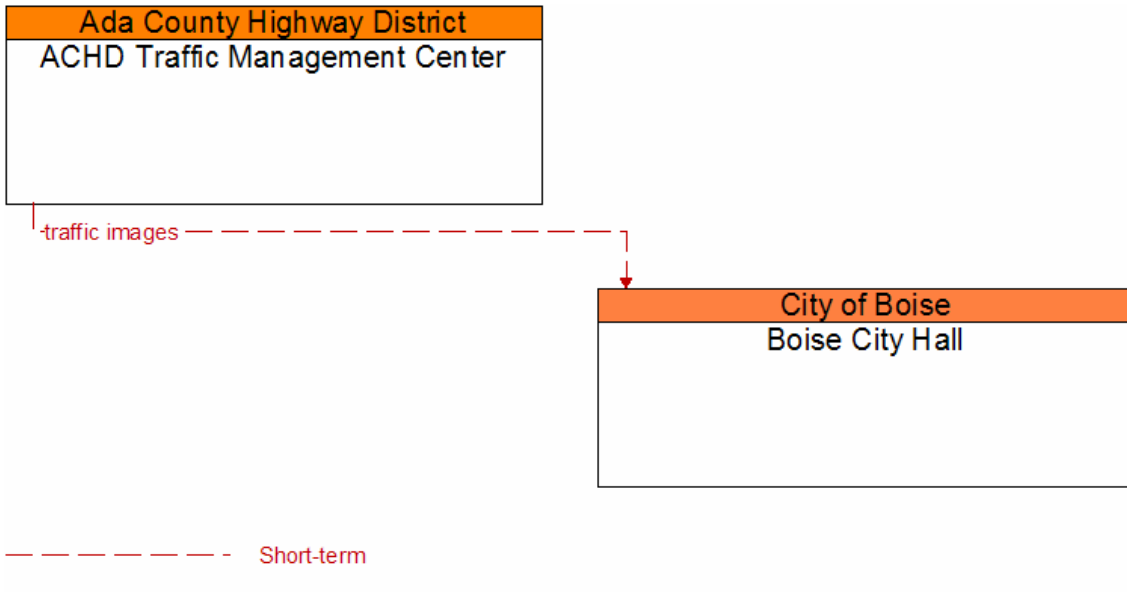
CONTEXT Diagram - ACHD Transportation Management Center

ACHD plans to provide *traffic images* to the following stakeholders in the short-term: Boise City Hall, Boise City Hall West, Meridian Fire Dispatch, Canyon County 911 Center, Boise Airport Management,

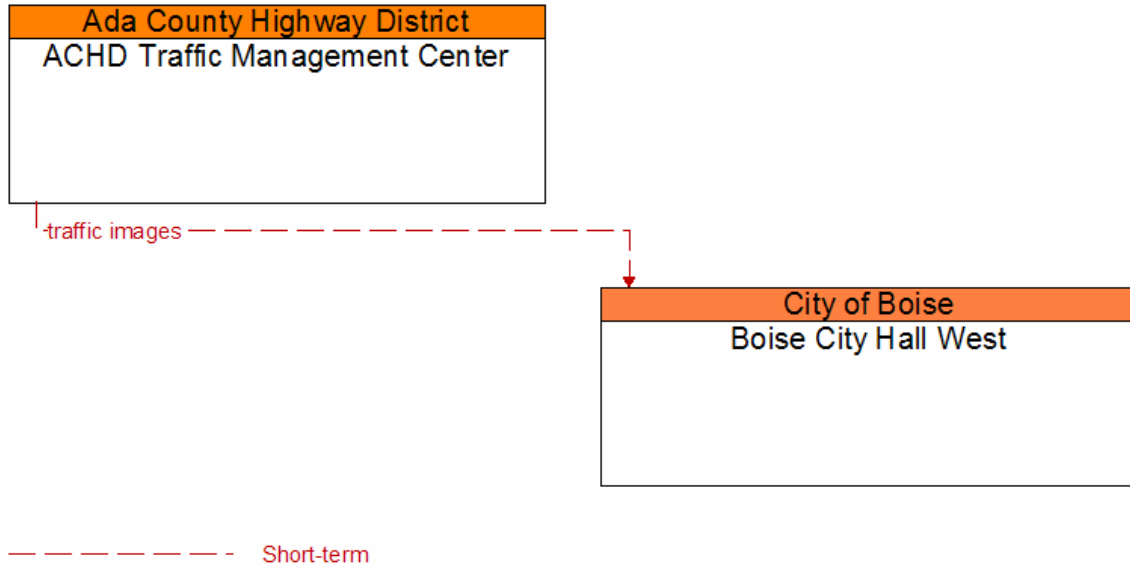
ACHD TMC and Boise Airport Management



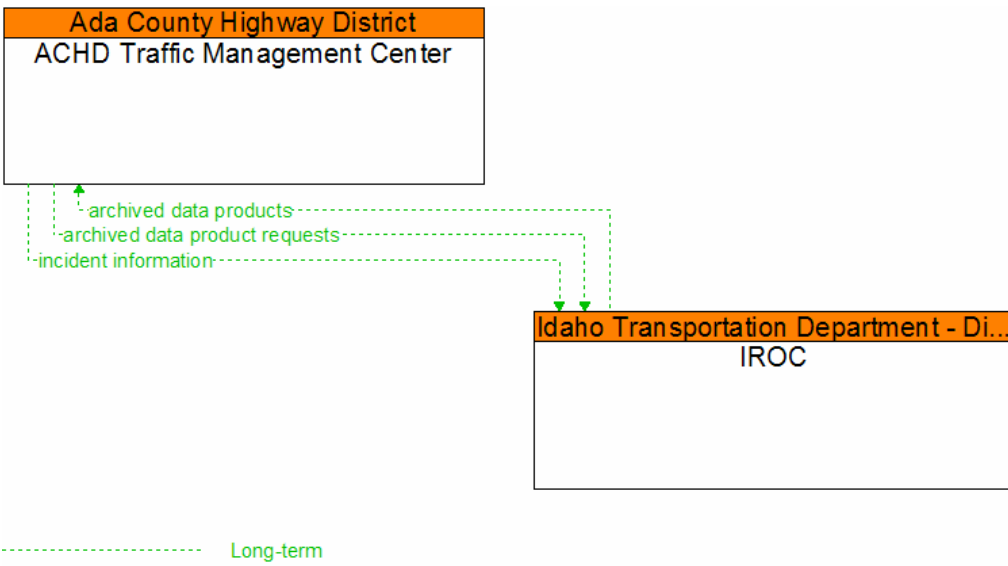
ACHD TMC and Boise City Hall

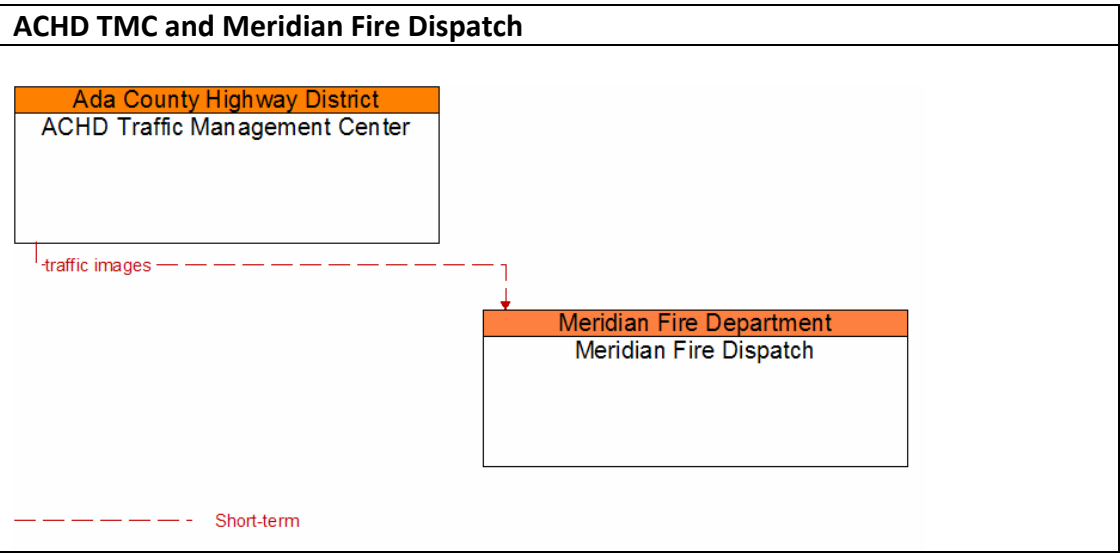


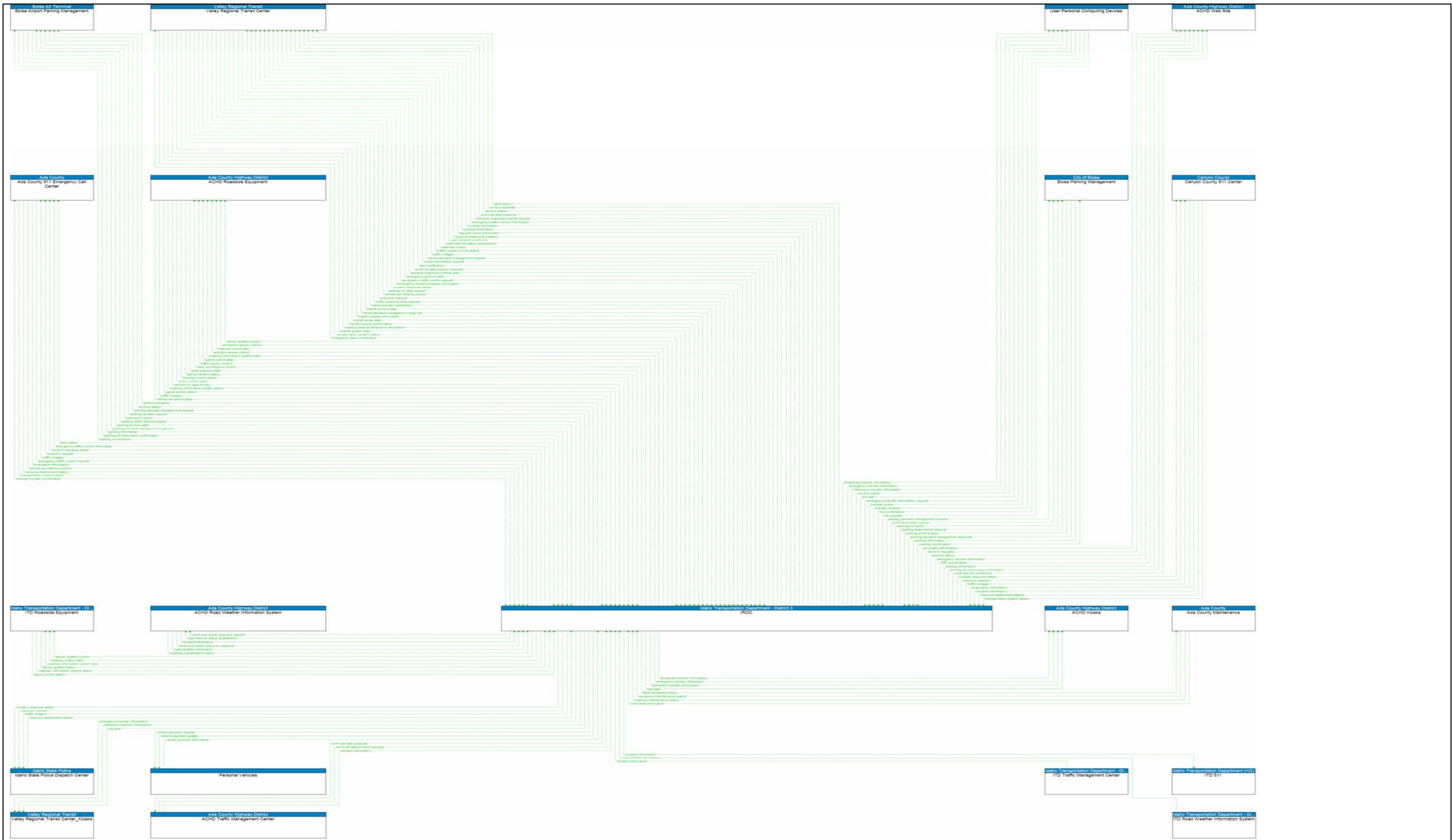
ACHD TMC and Boise City Hall West



ACHD TMC and IROC

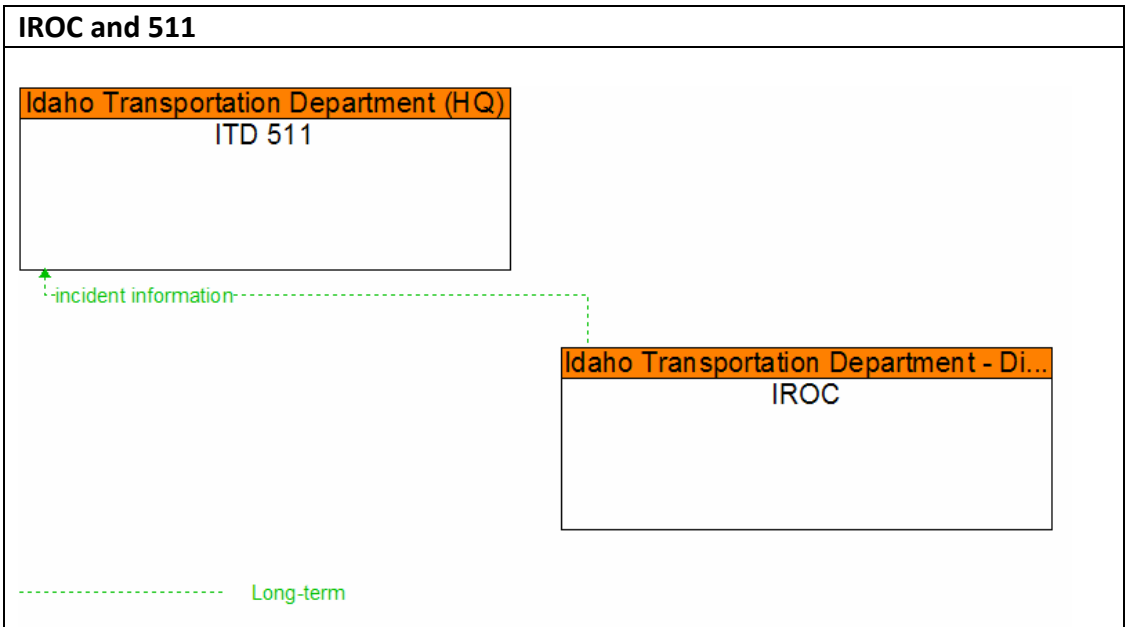
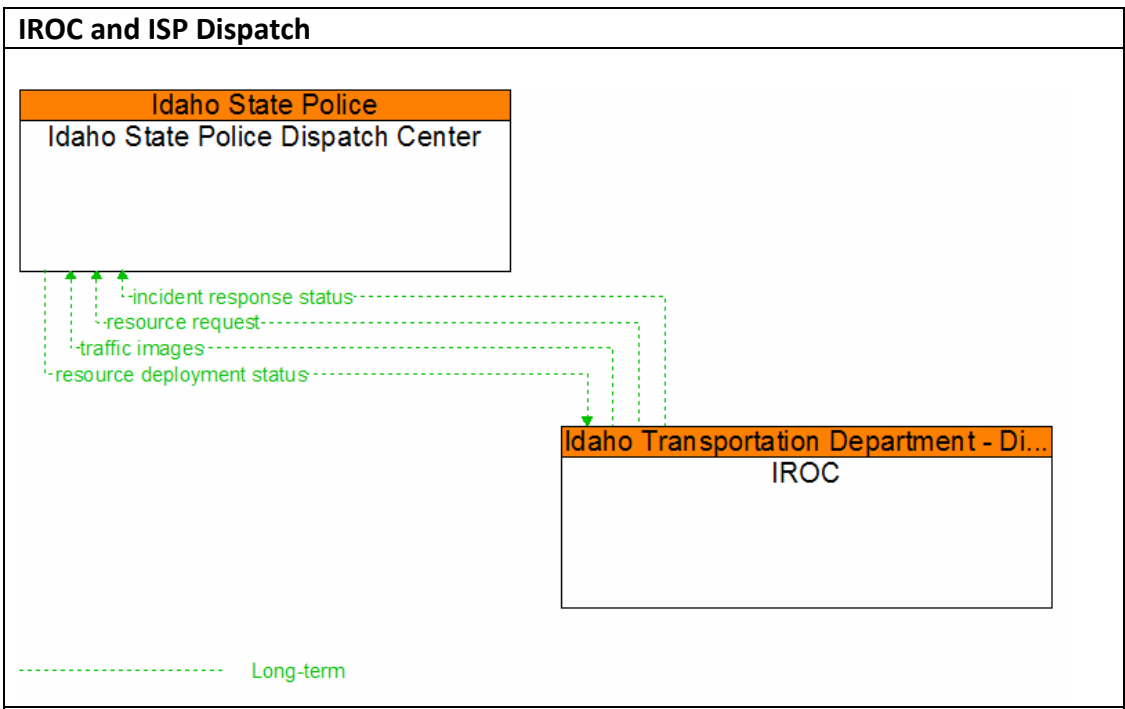


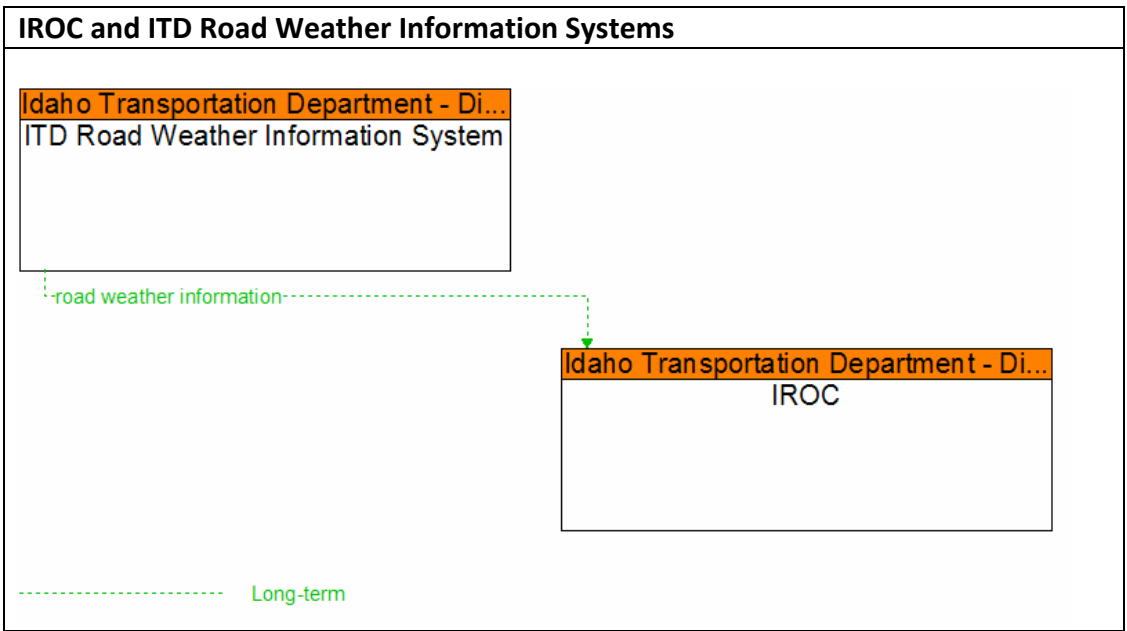
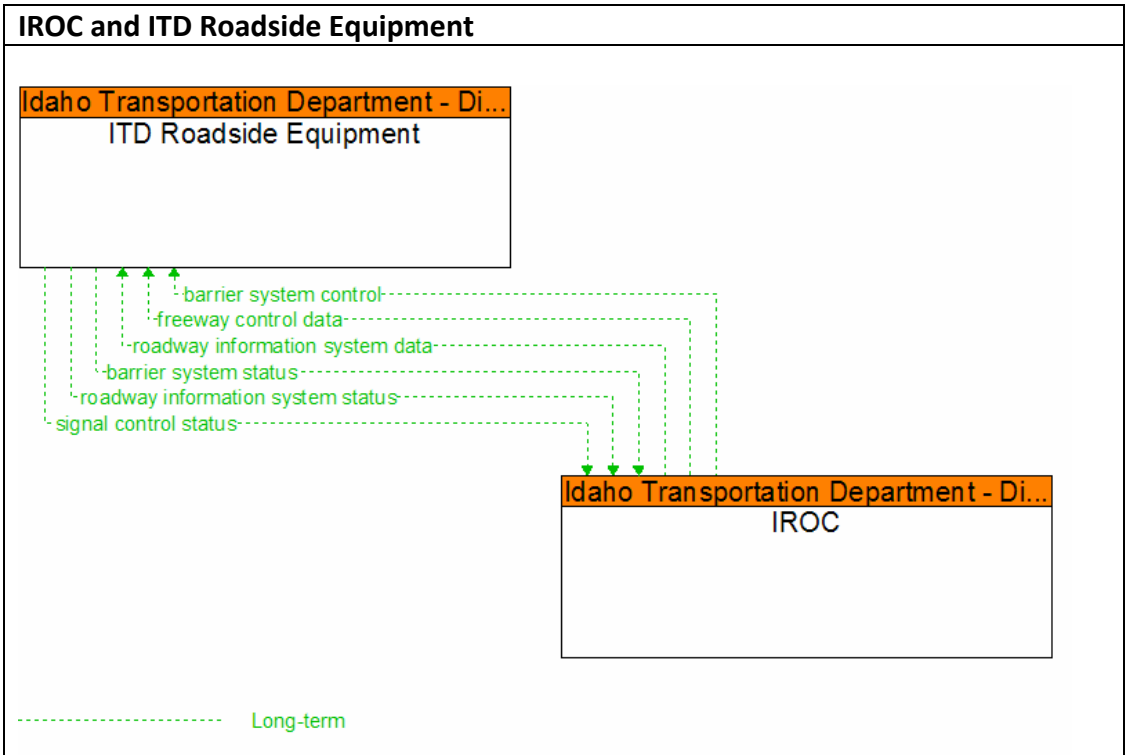


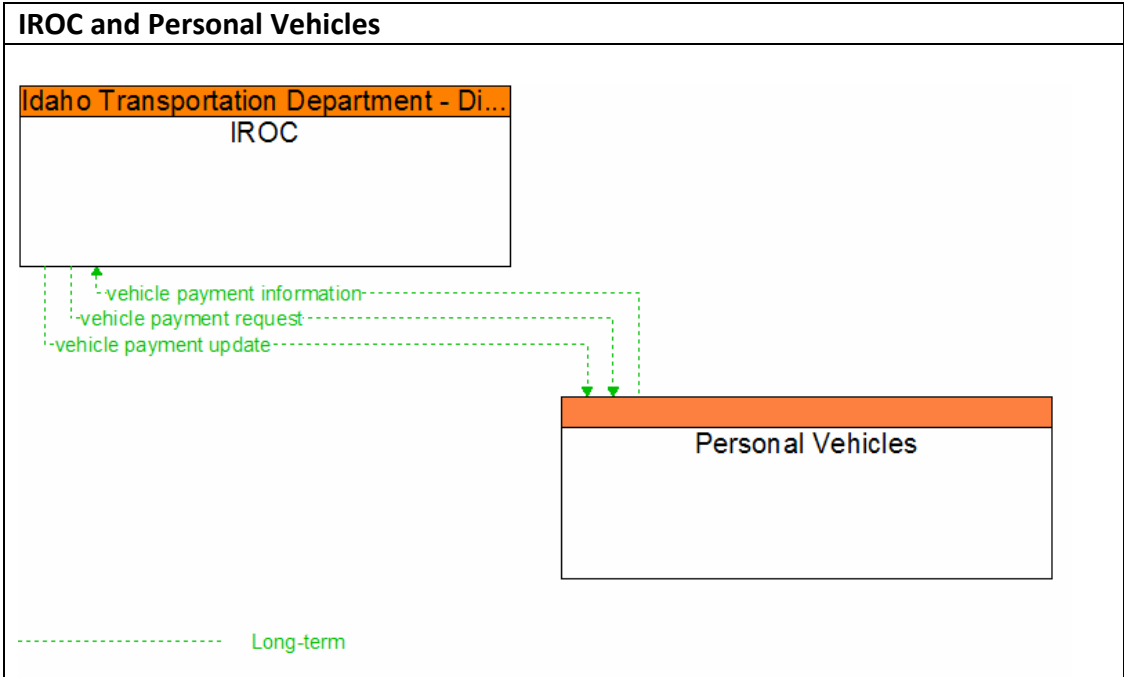
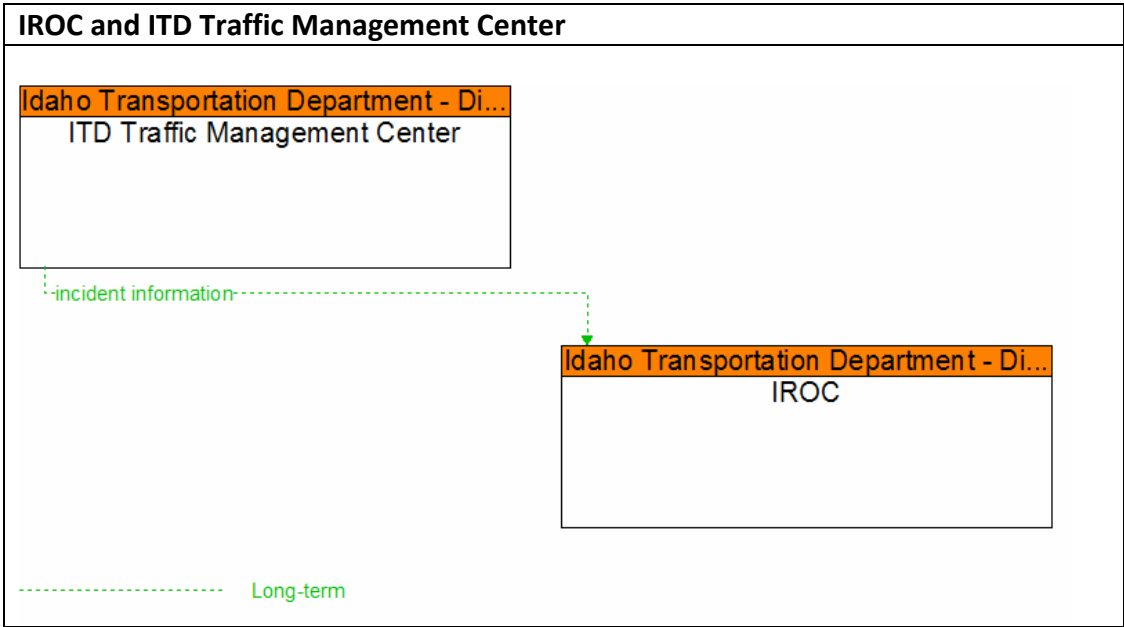


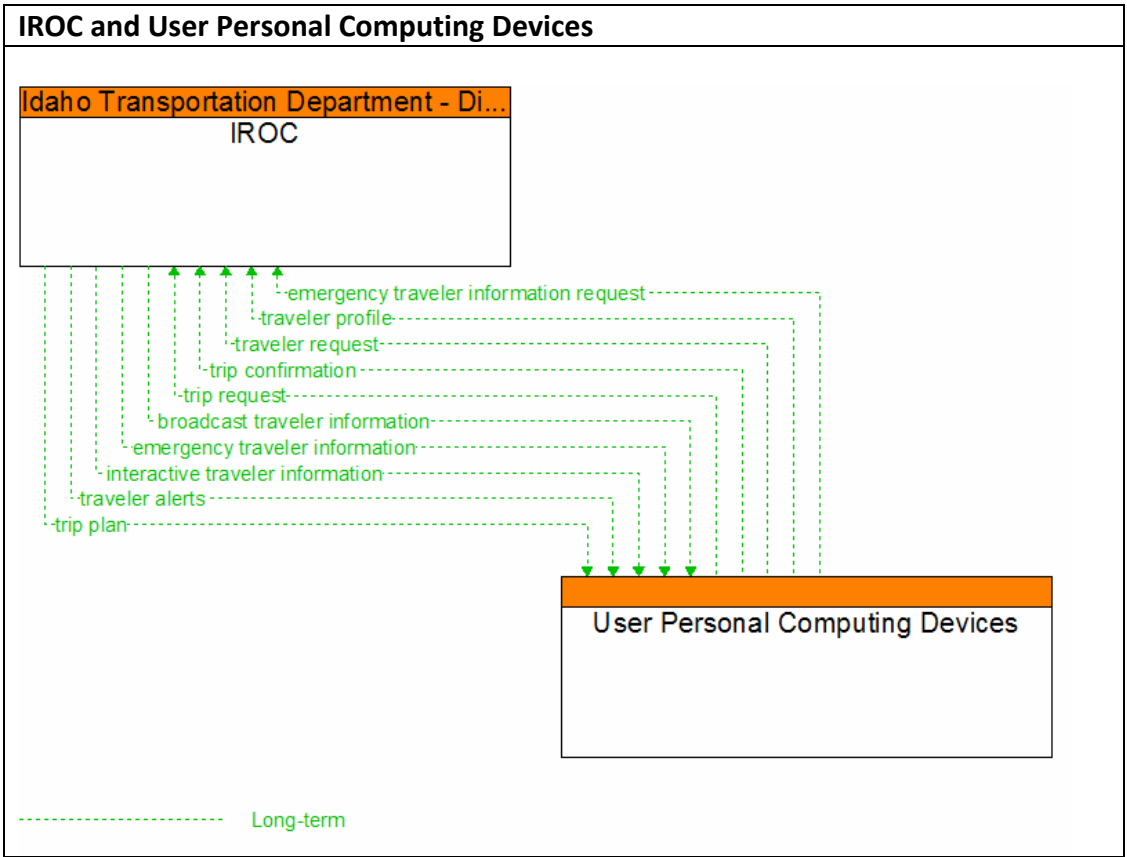
CONTEXT Diagram - IROC

All flows previously planned for the short-term have been shifted to long-term

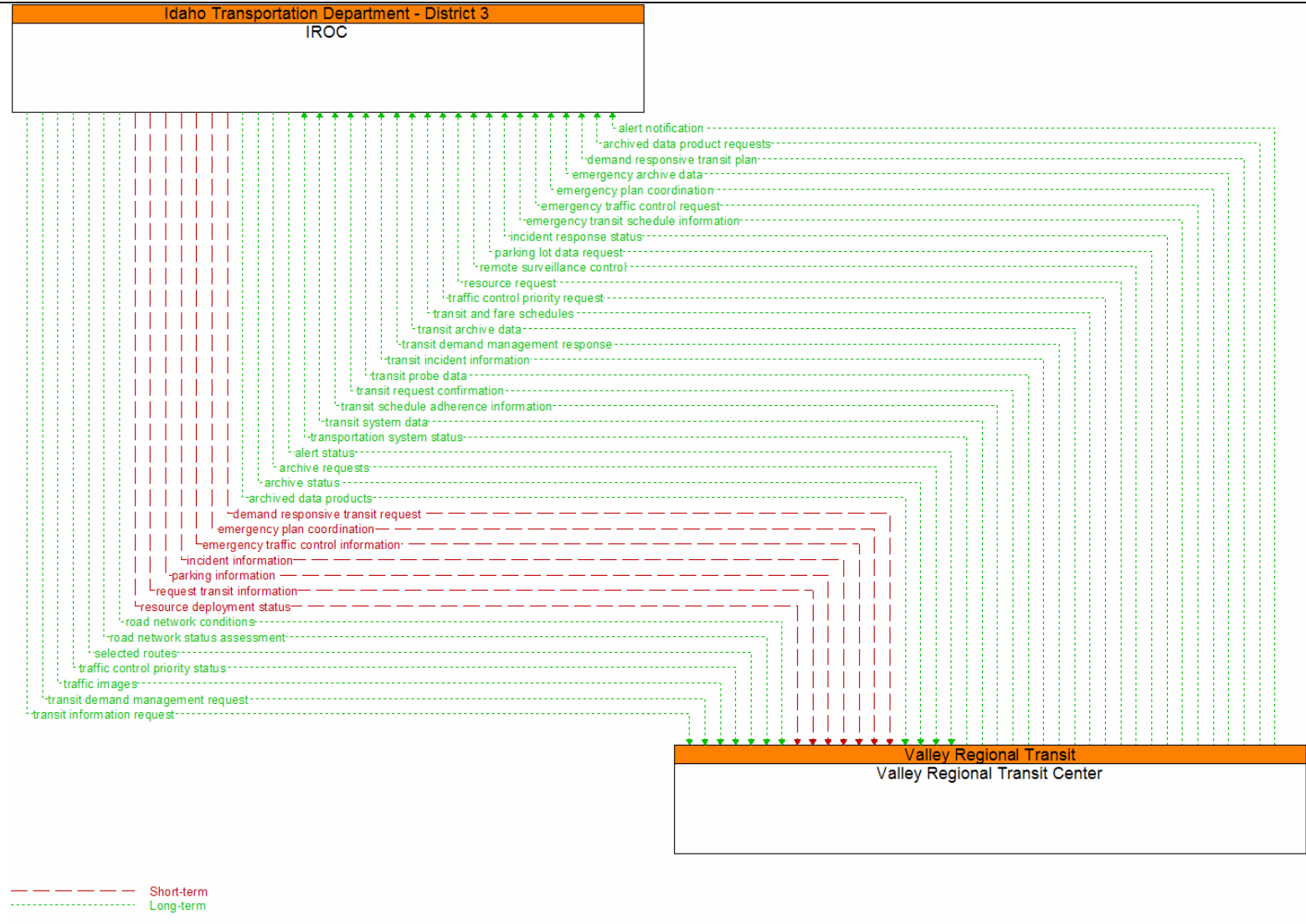


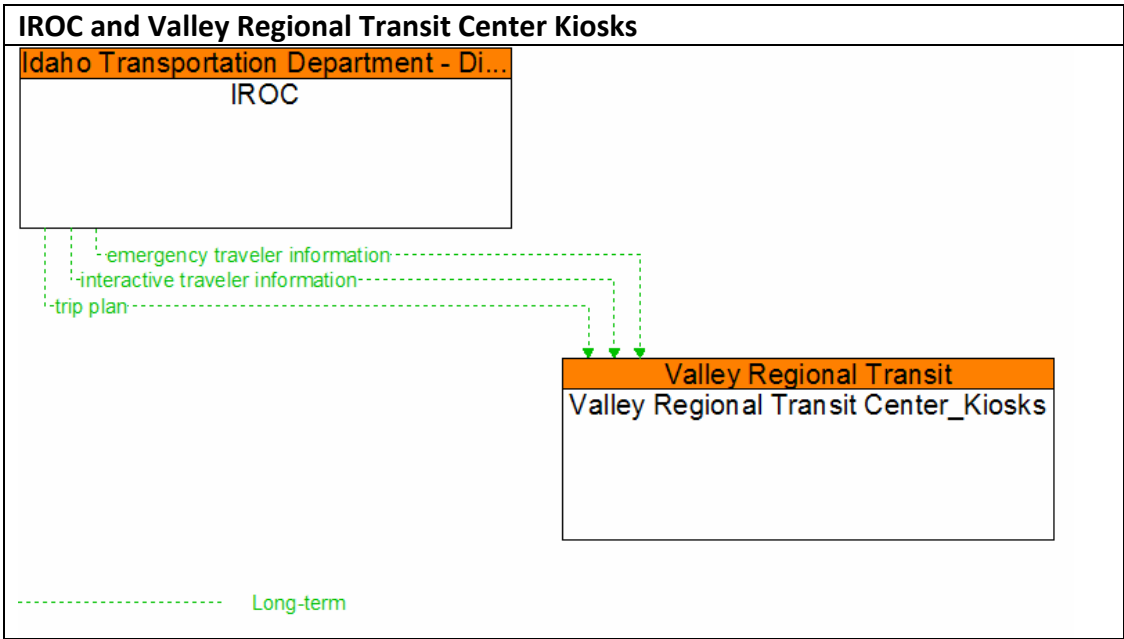


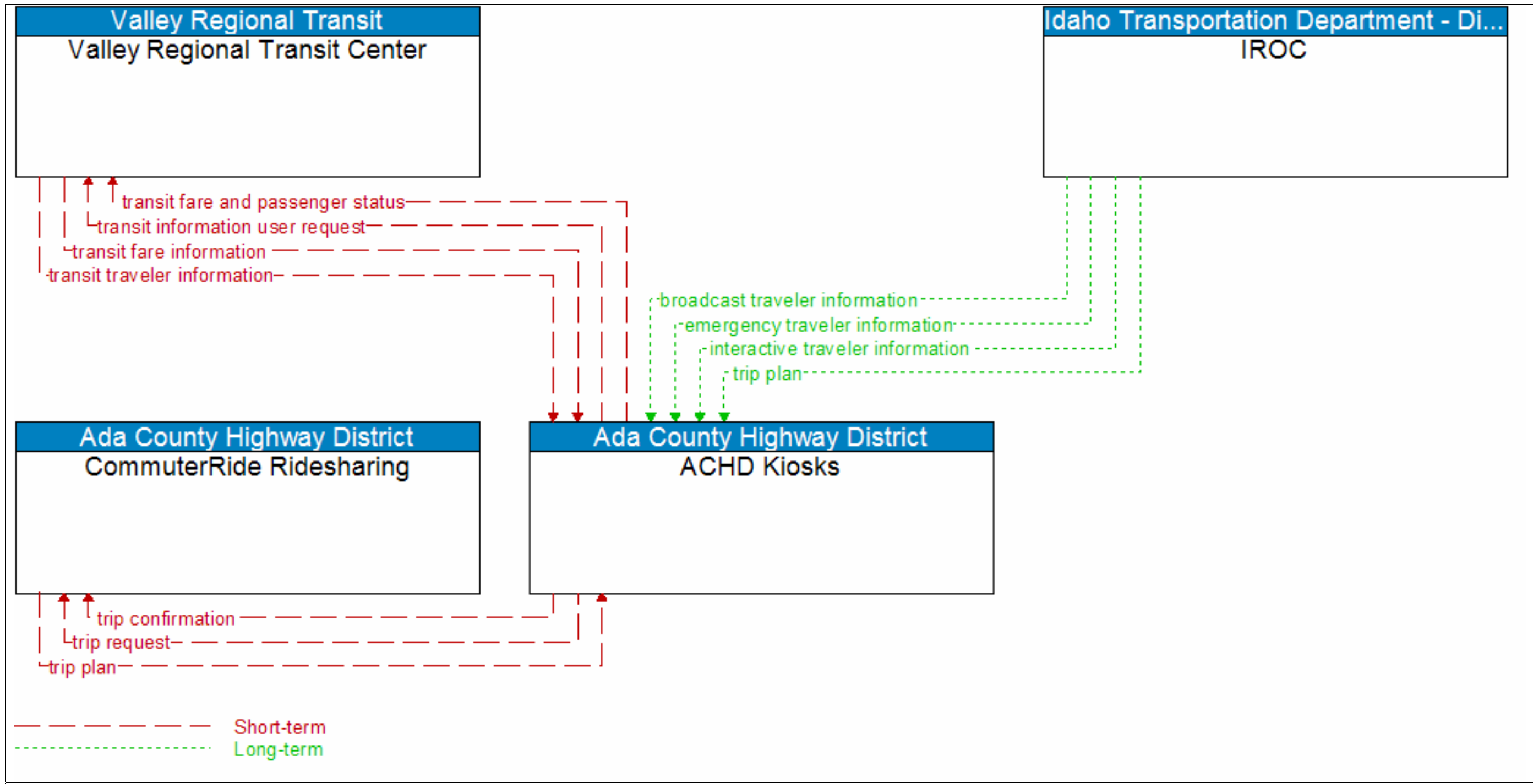




IROC and Valley Regional Transit Center

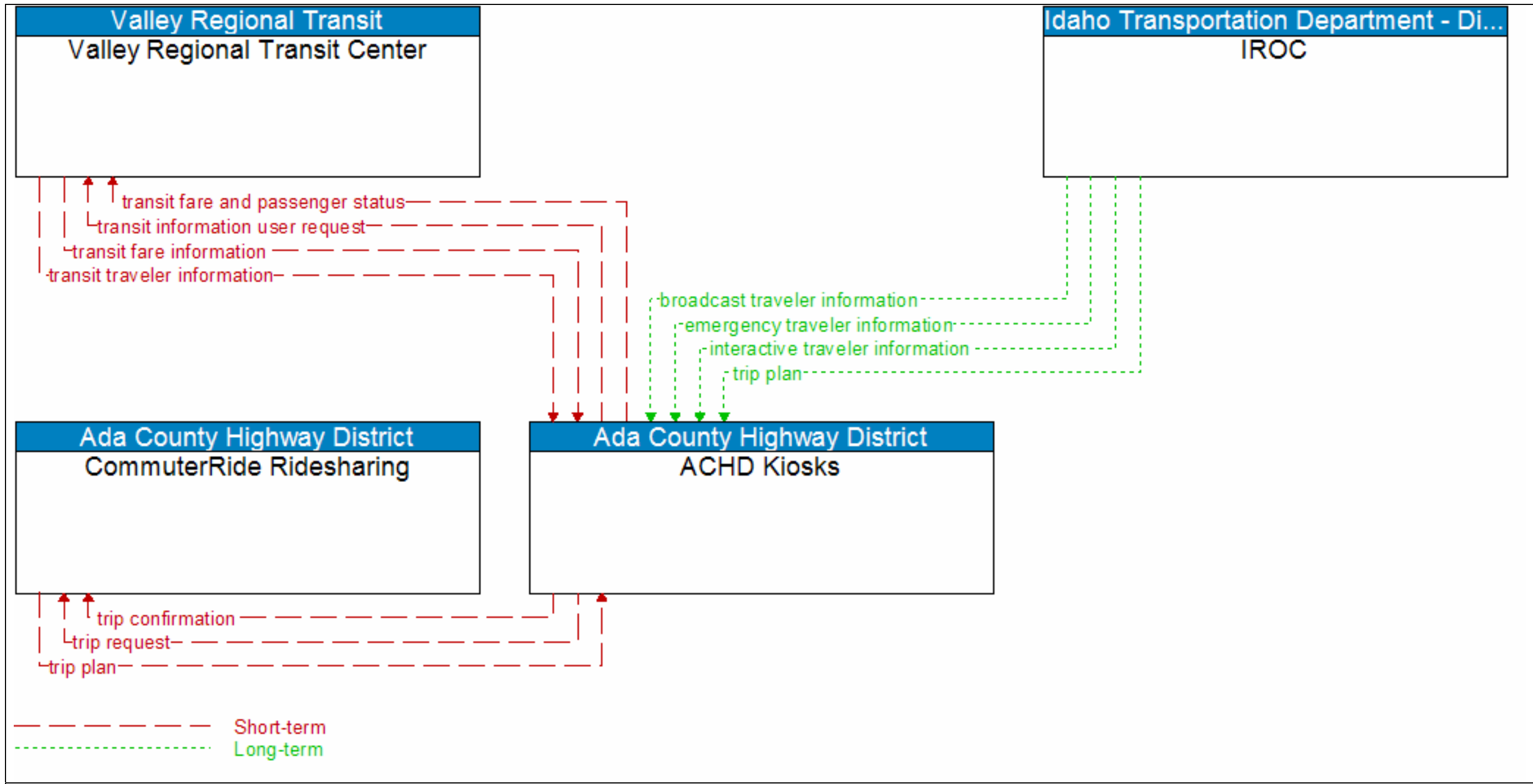






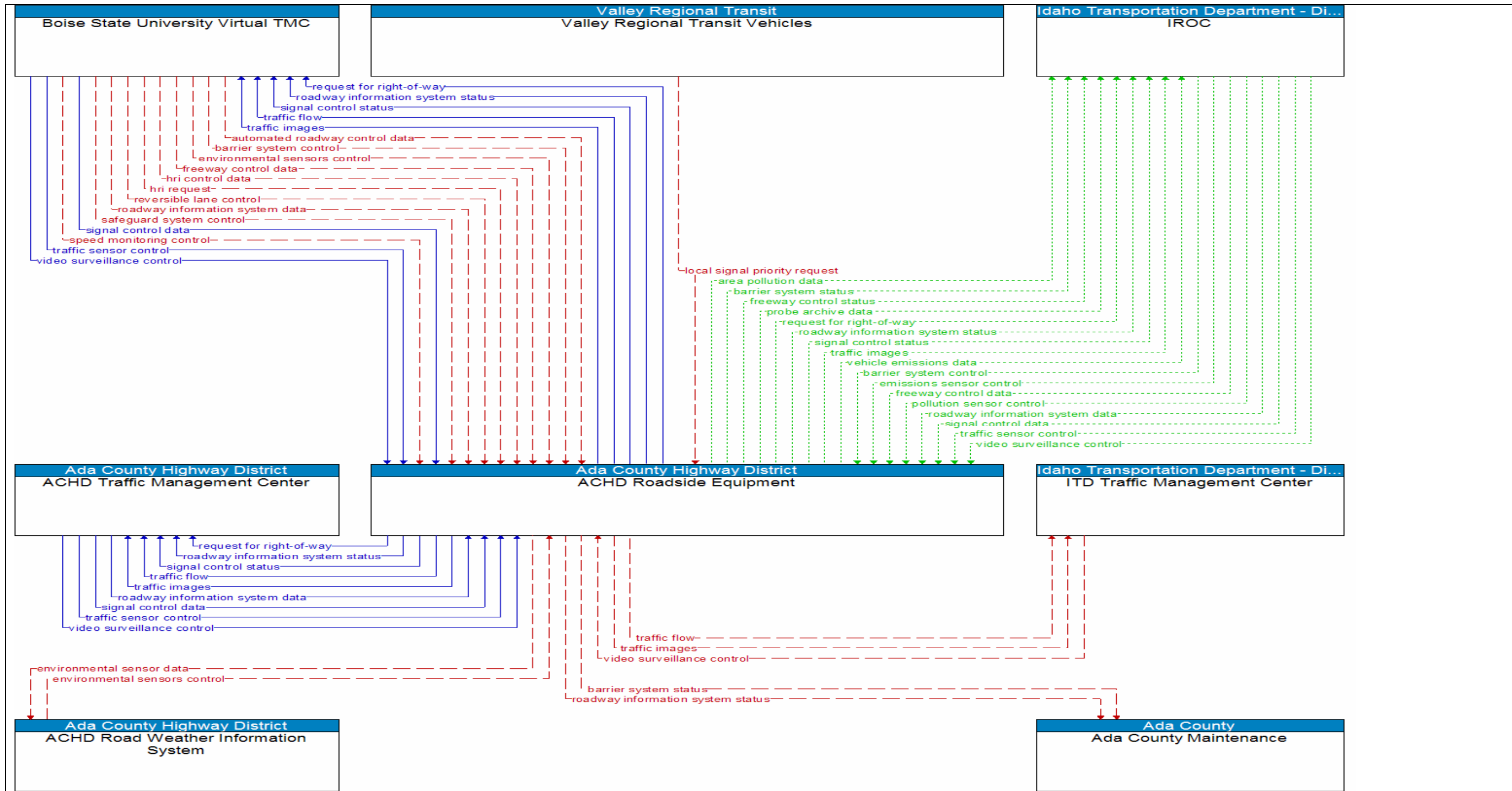
CONTEXT Diagram - ACHD Transportation Management Center

No Changes



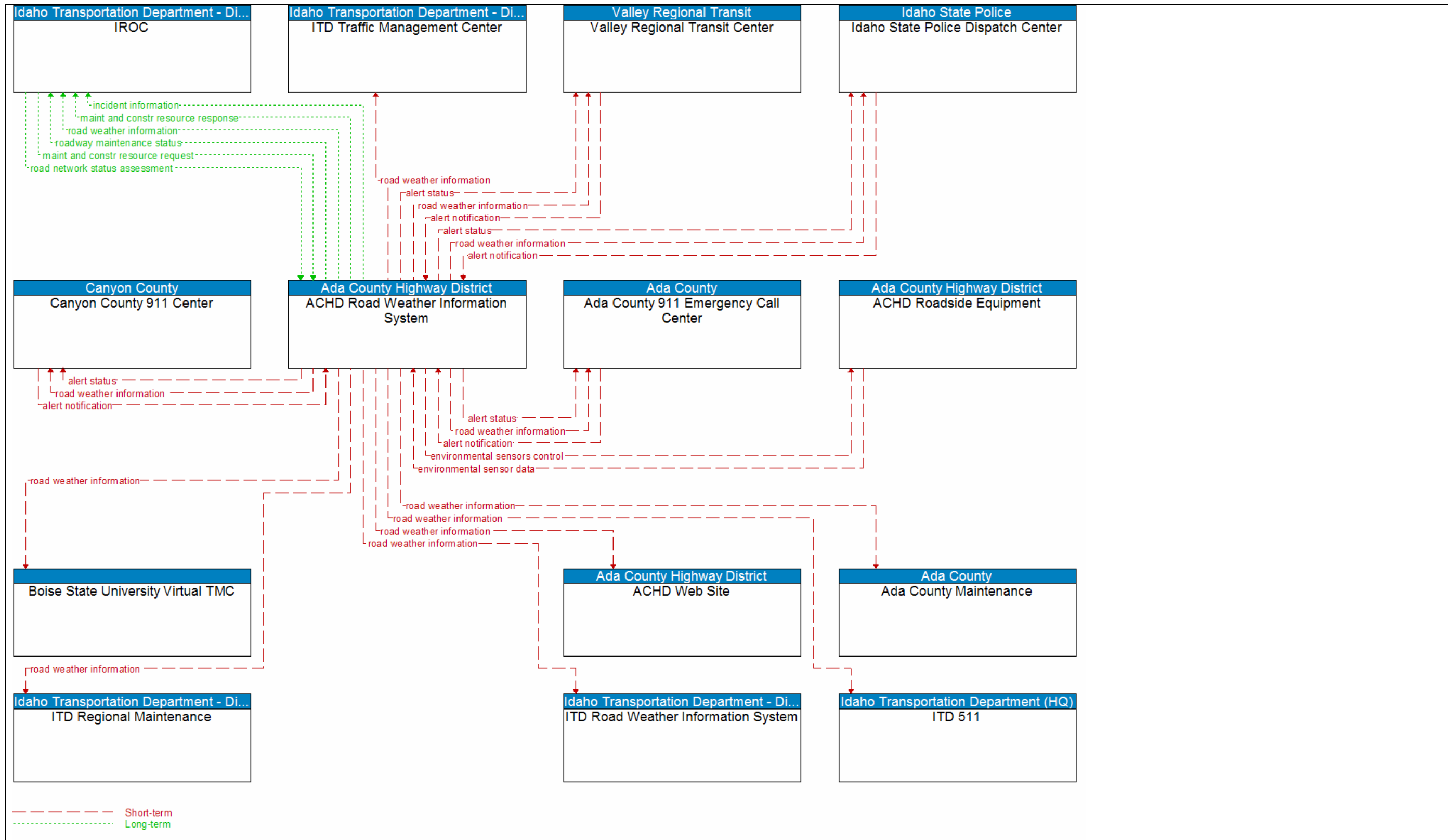
CONTEXT Diagram - ACHD Kiosks

No Changes



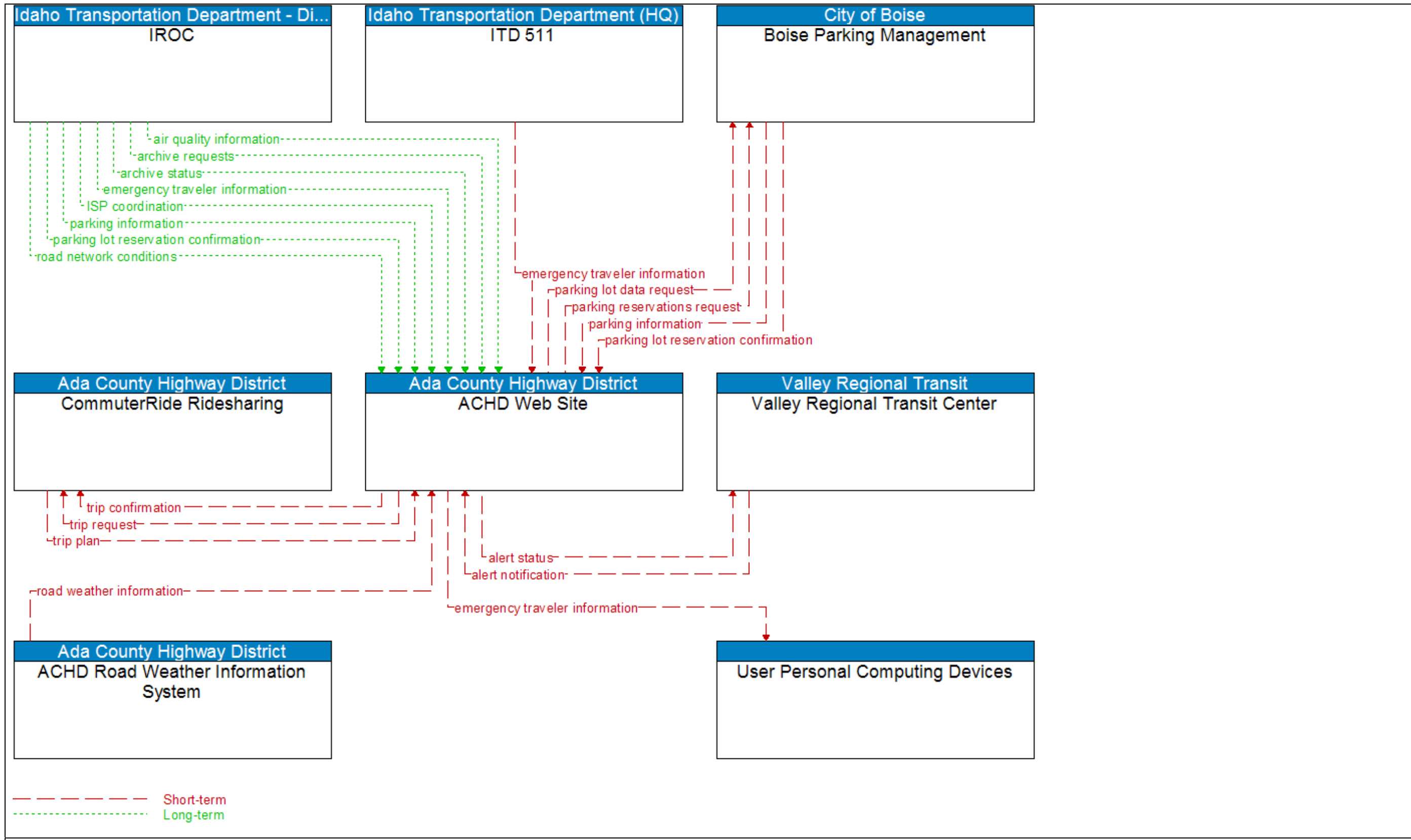
CONTEXT Diagram - ACHD Roadside Equipment

No Changes



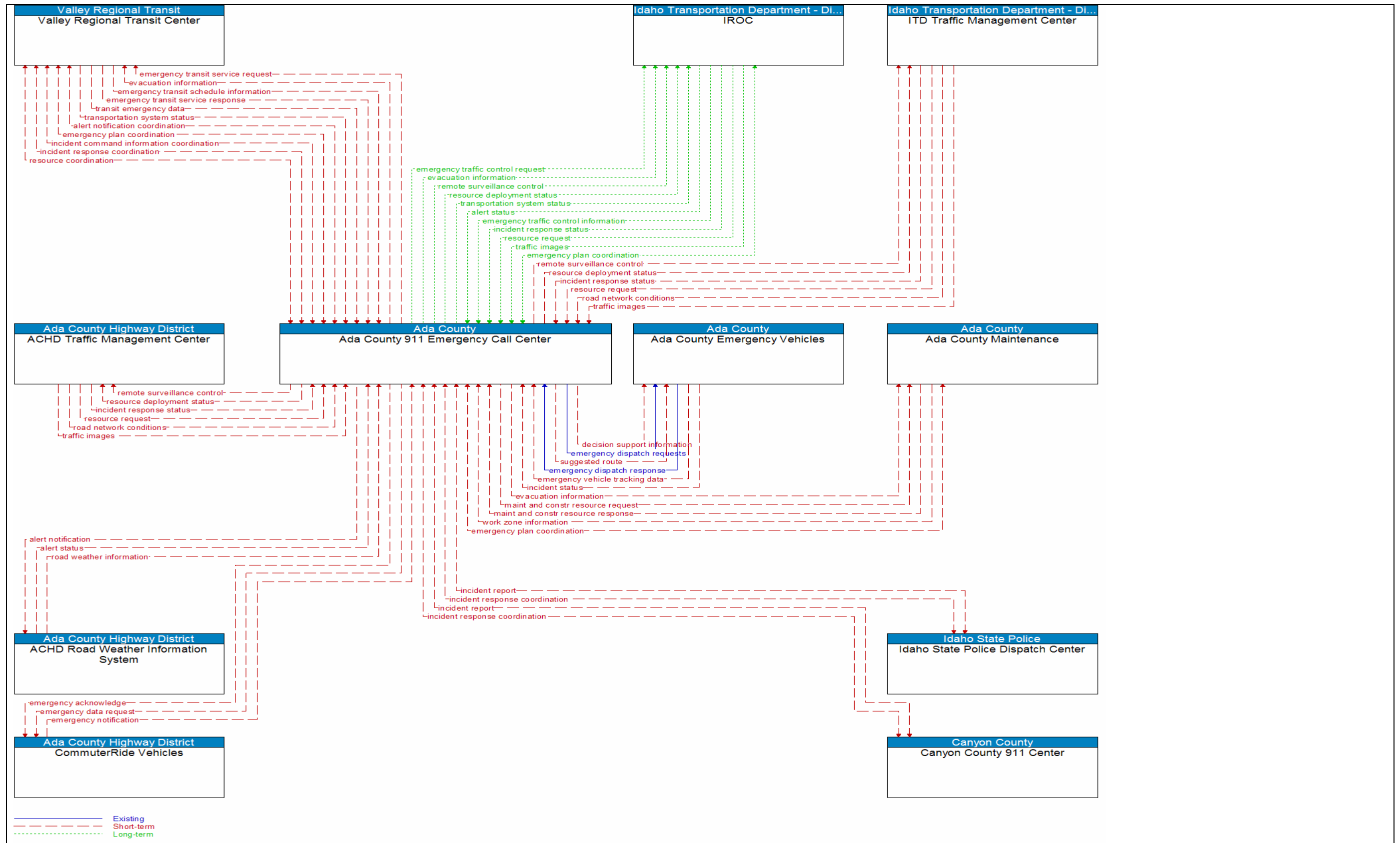
CONTEXT Diagram - ACHD Road Weather Information Systems

No Changes

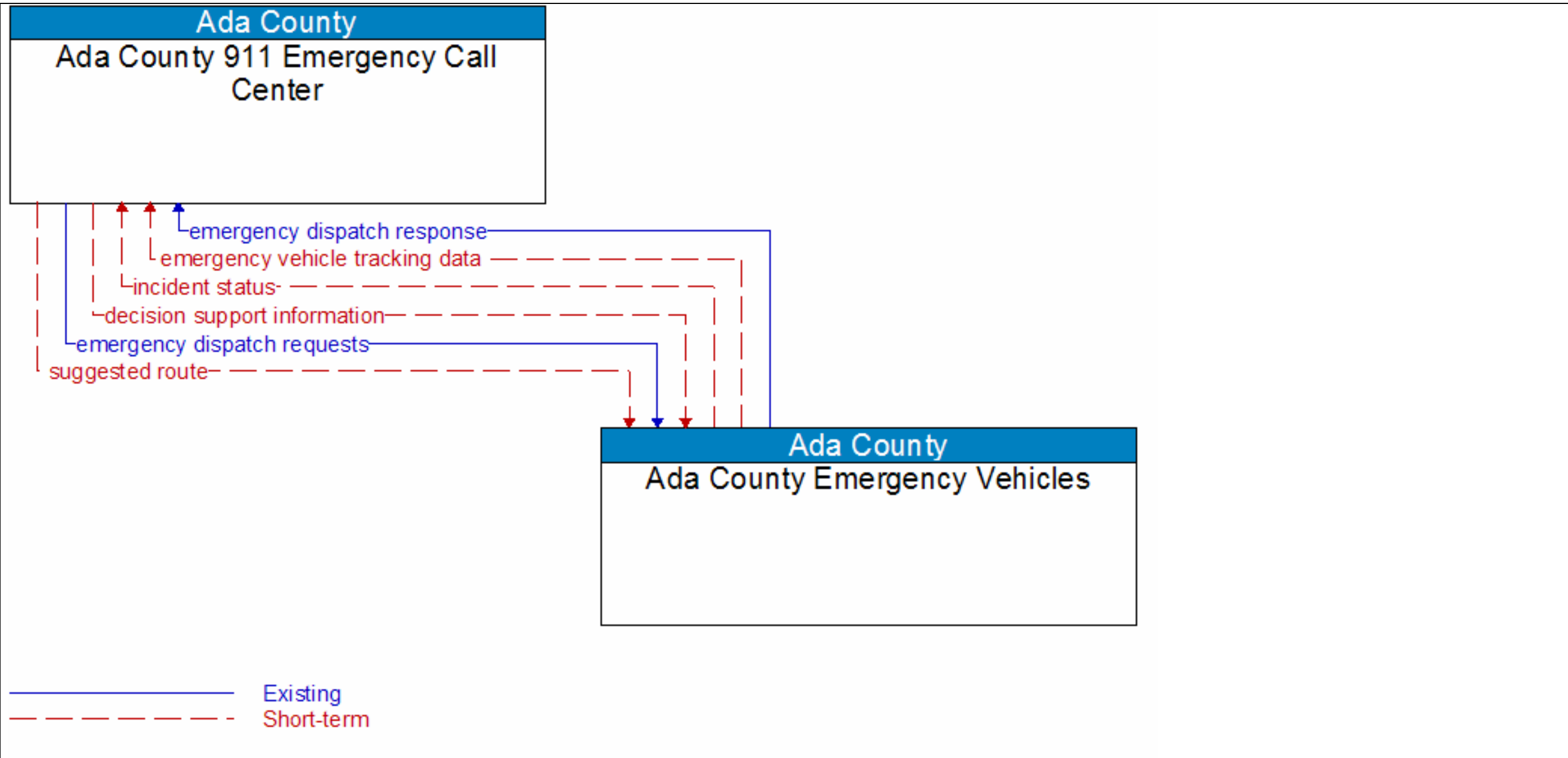


CONTEXT Diagram - ACHD Website

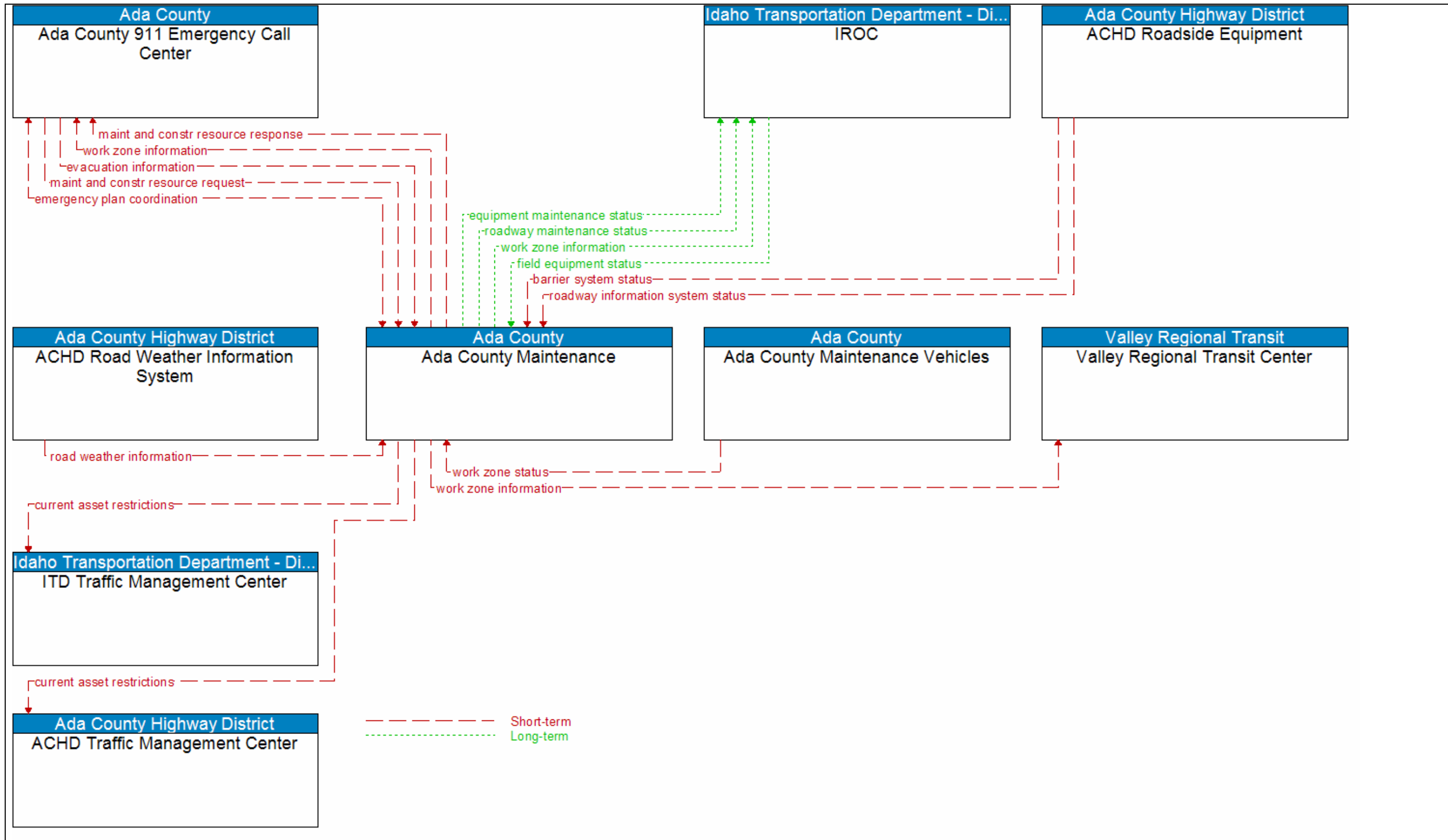
No Changes



CONTEXT Diagram – Ada County 911 Emergency Call Center

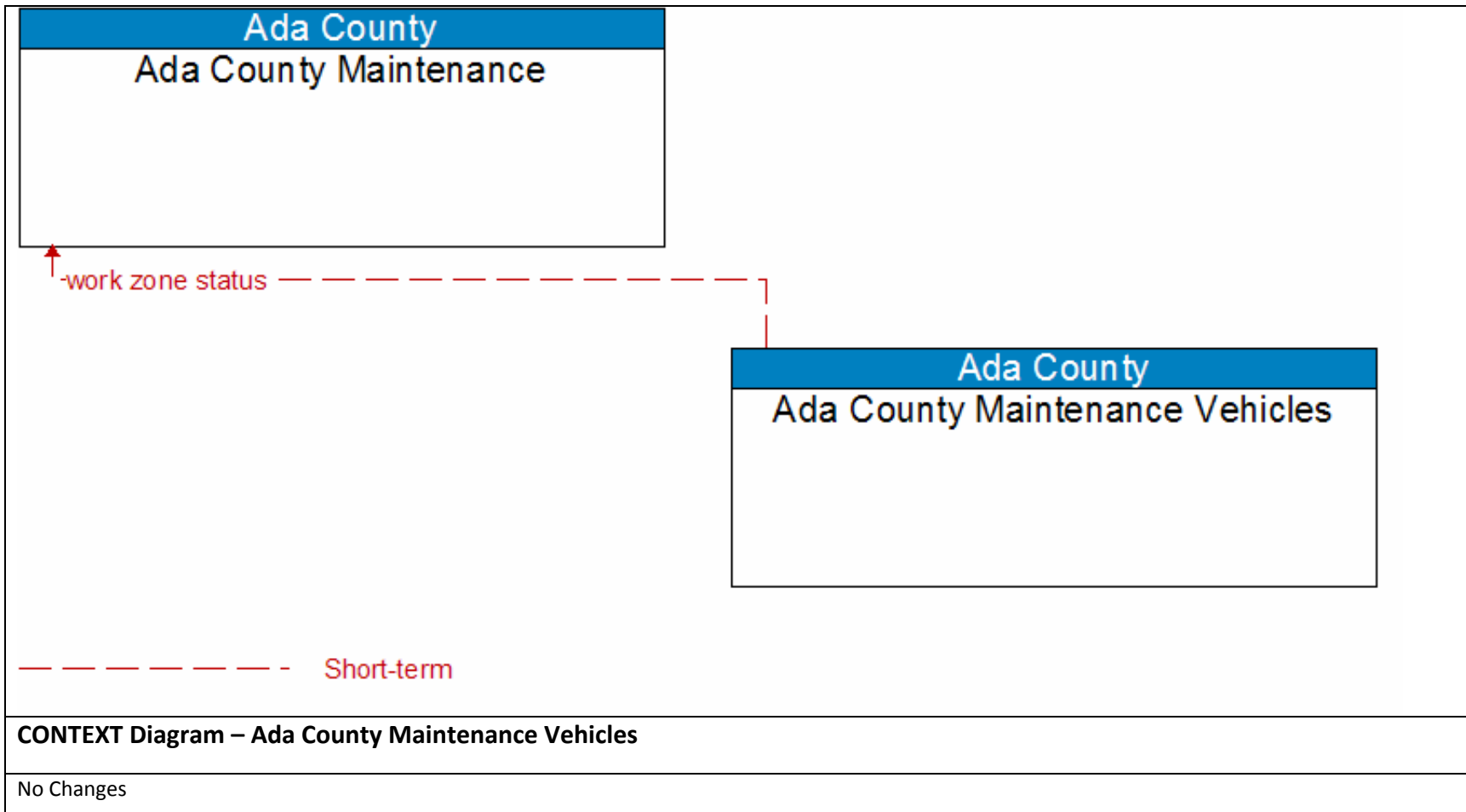


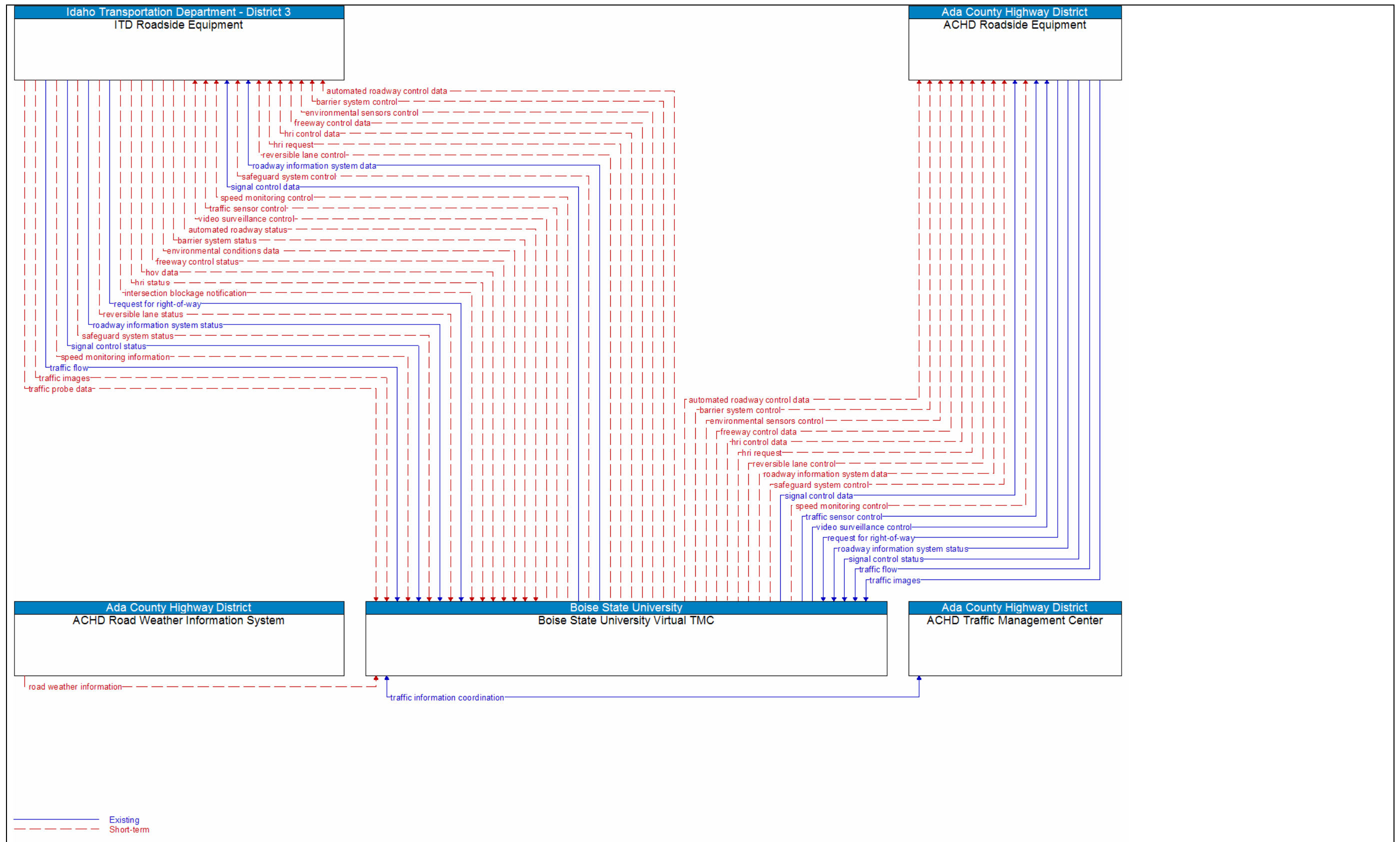
CONTEXT Diagram – Ada County Emergency Vehicles



CONTEXT Diagram – Ada County Maintenance

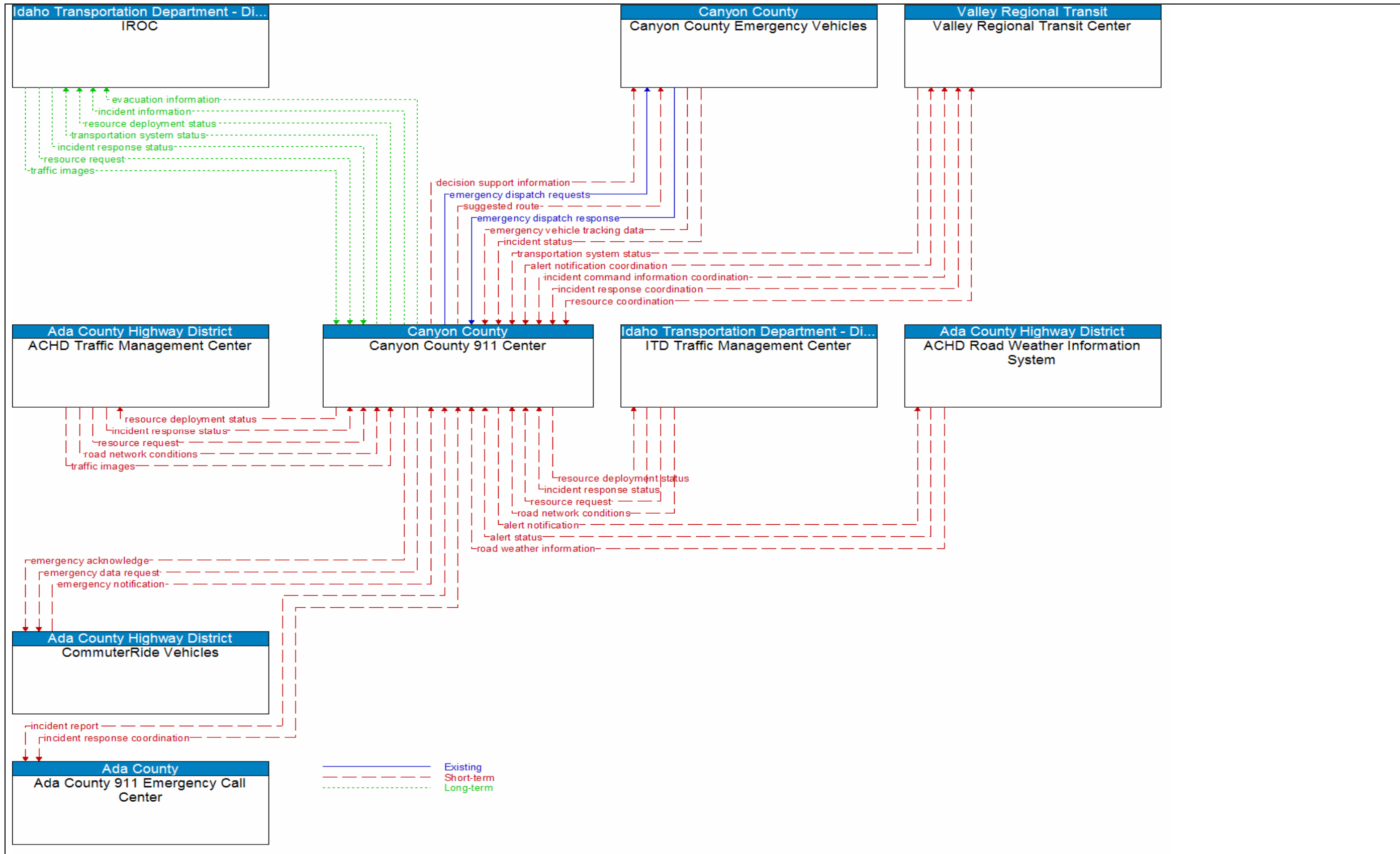
No Changes



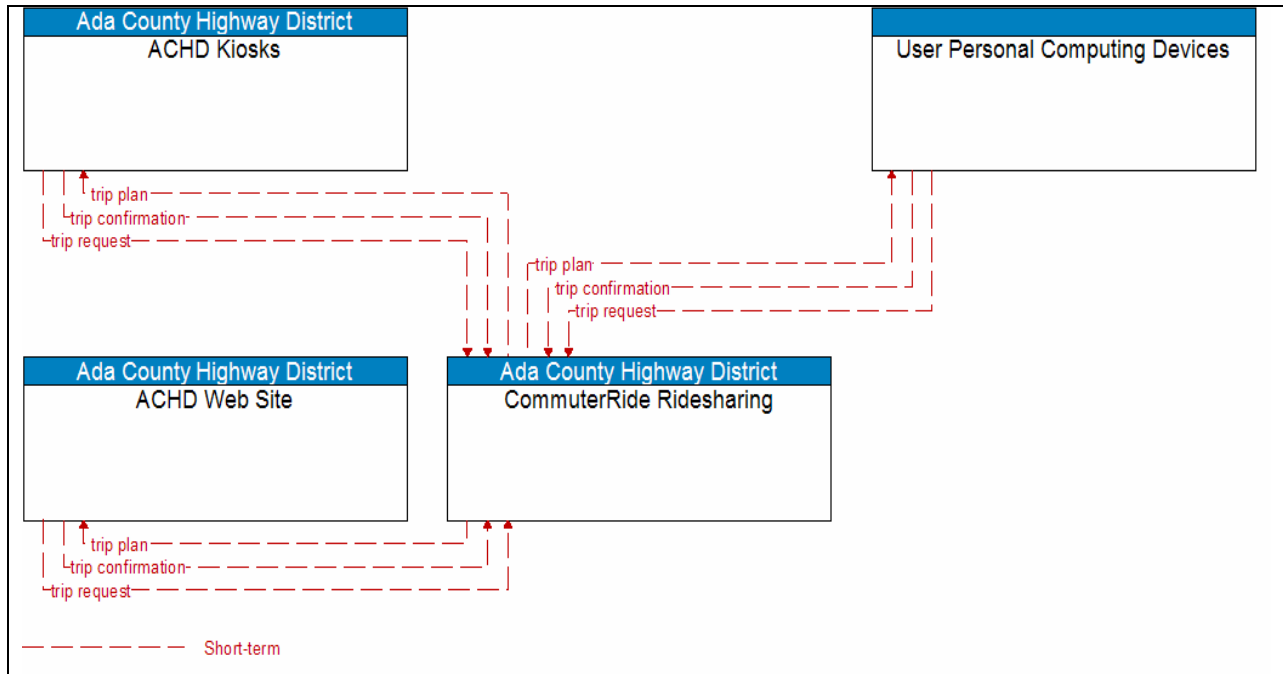


CONTEXT Diagram – Boise State University Virtual TMC

No Changes

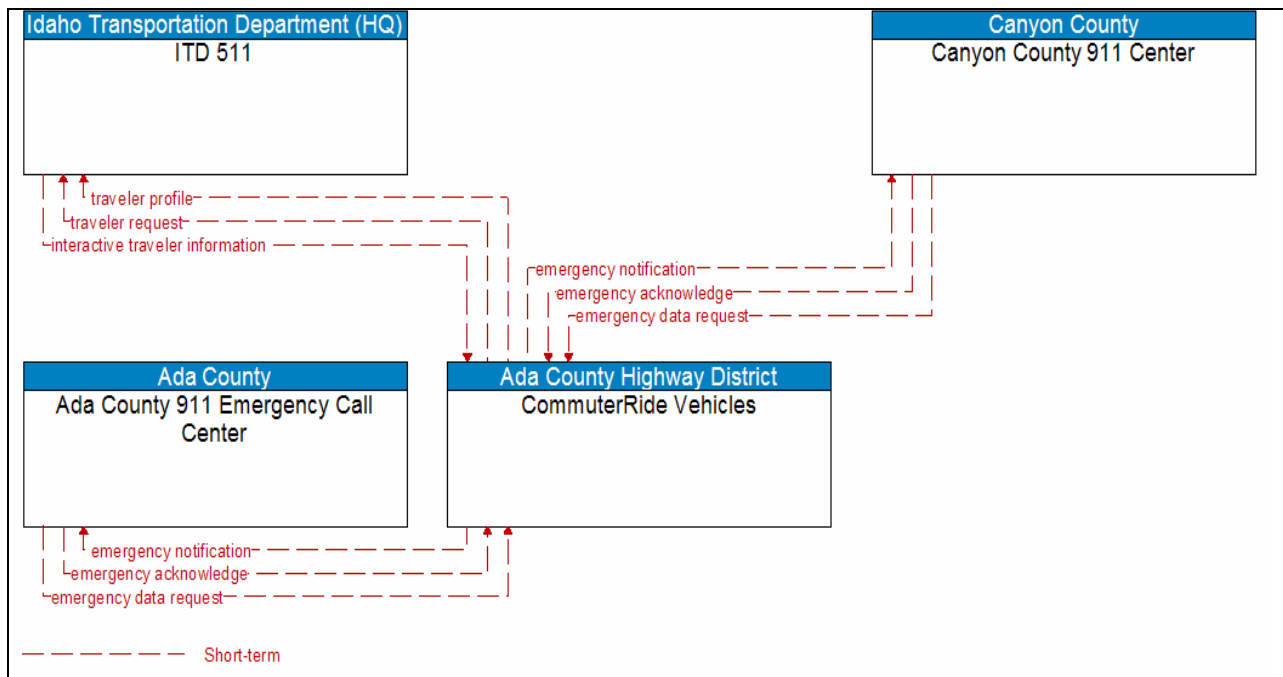


CONTEXT Diagram – Canyon County 911 Call Center
 Connections to IROC changed to long-term planned, ACHD TMC will provide *traffic Images* to Canyon County 911 Center in the short-term.



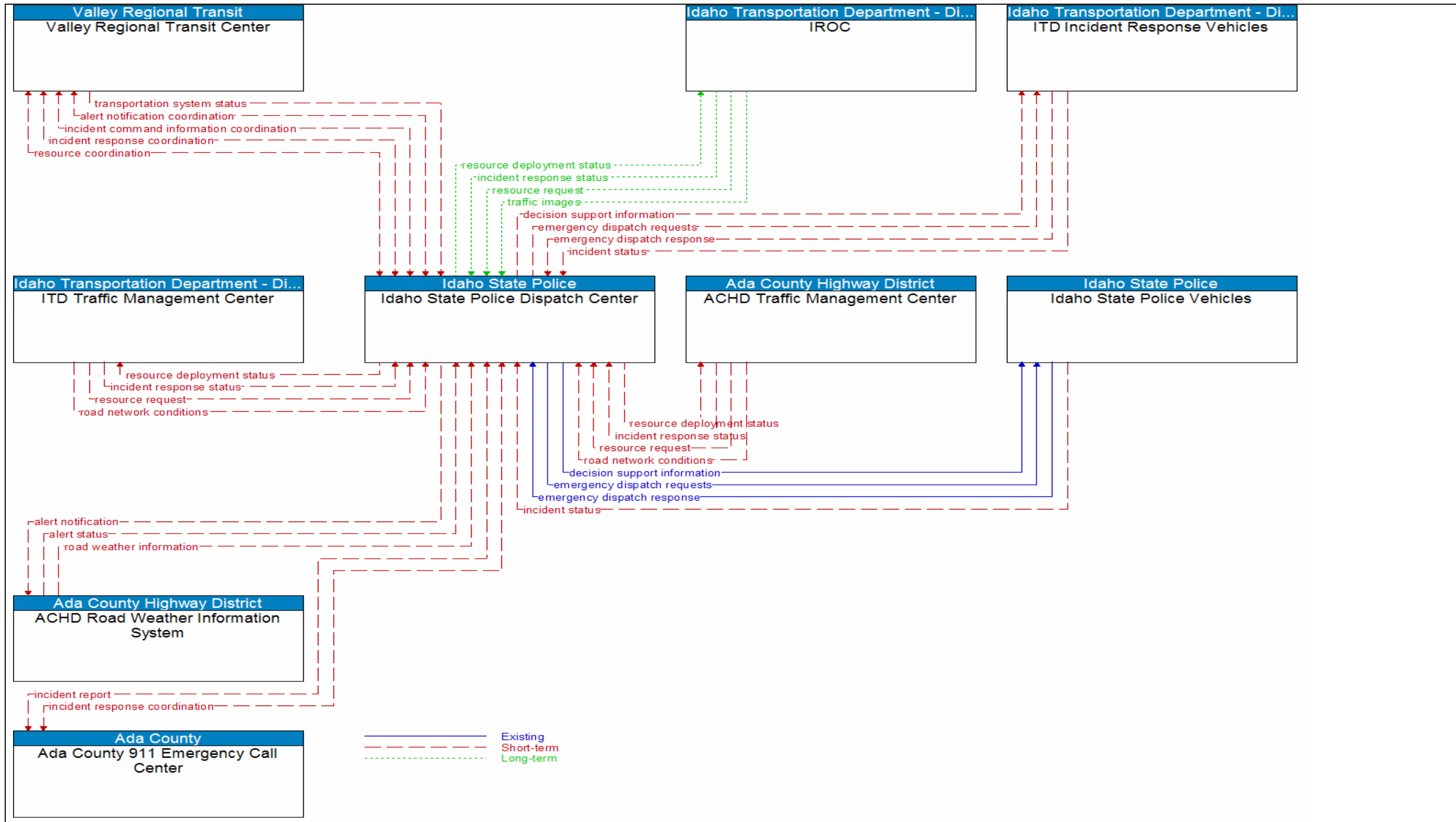
CONTEXT Diagram – CommuterRide Ridesharing

No changes



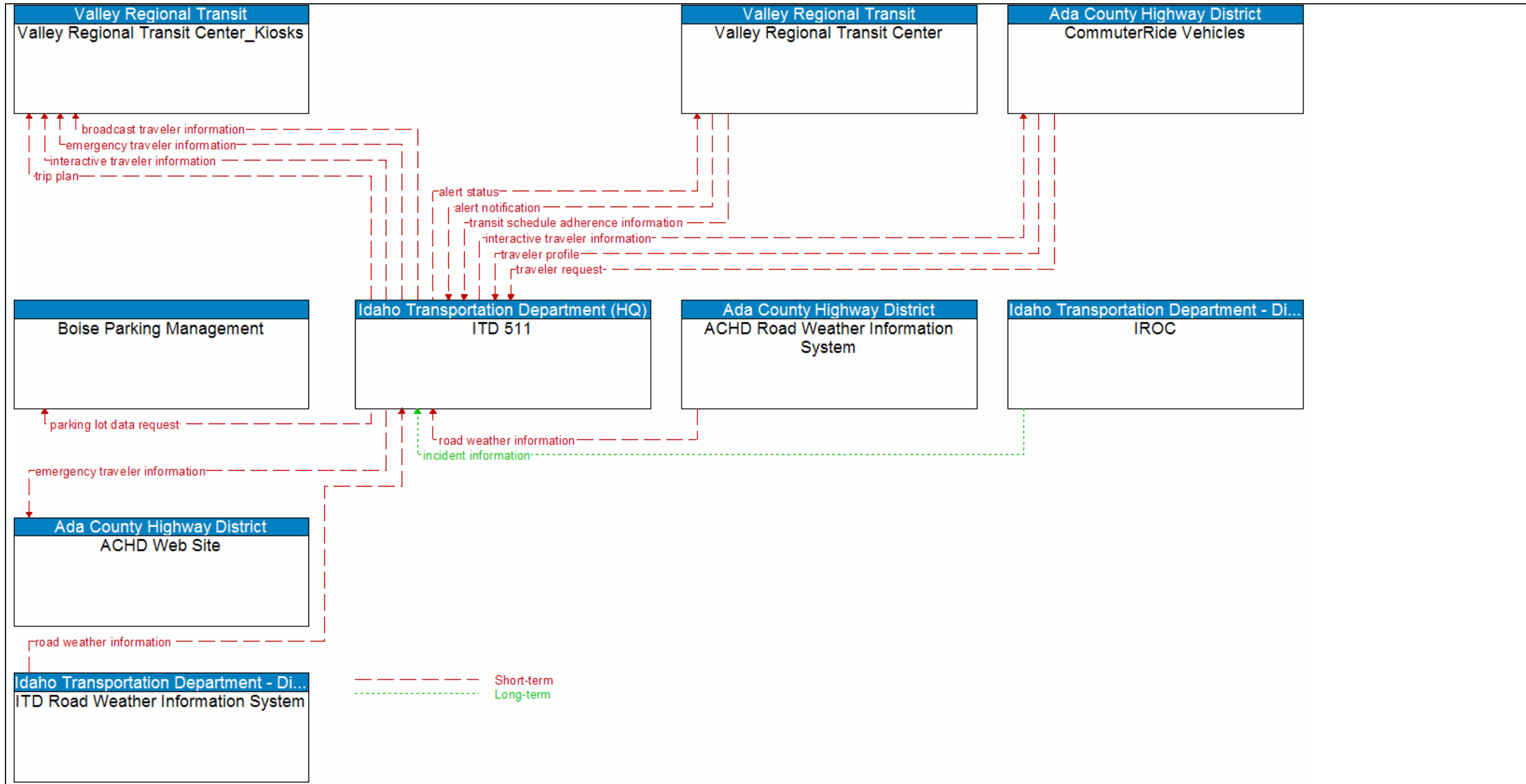
CONTEXT Diagram – CommuterRide Vehicles

No changes



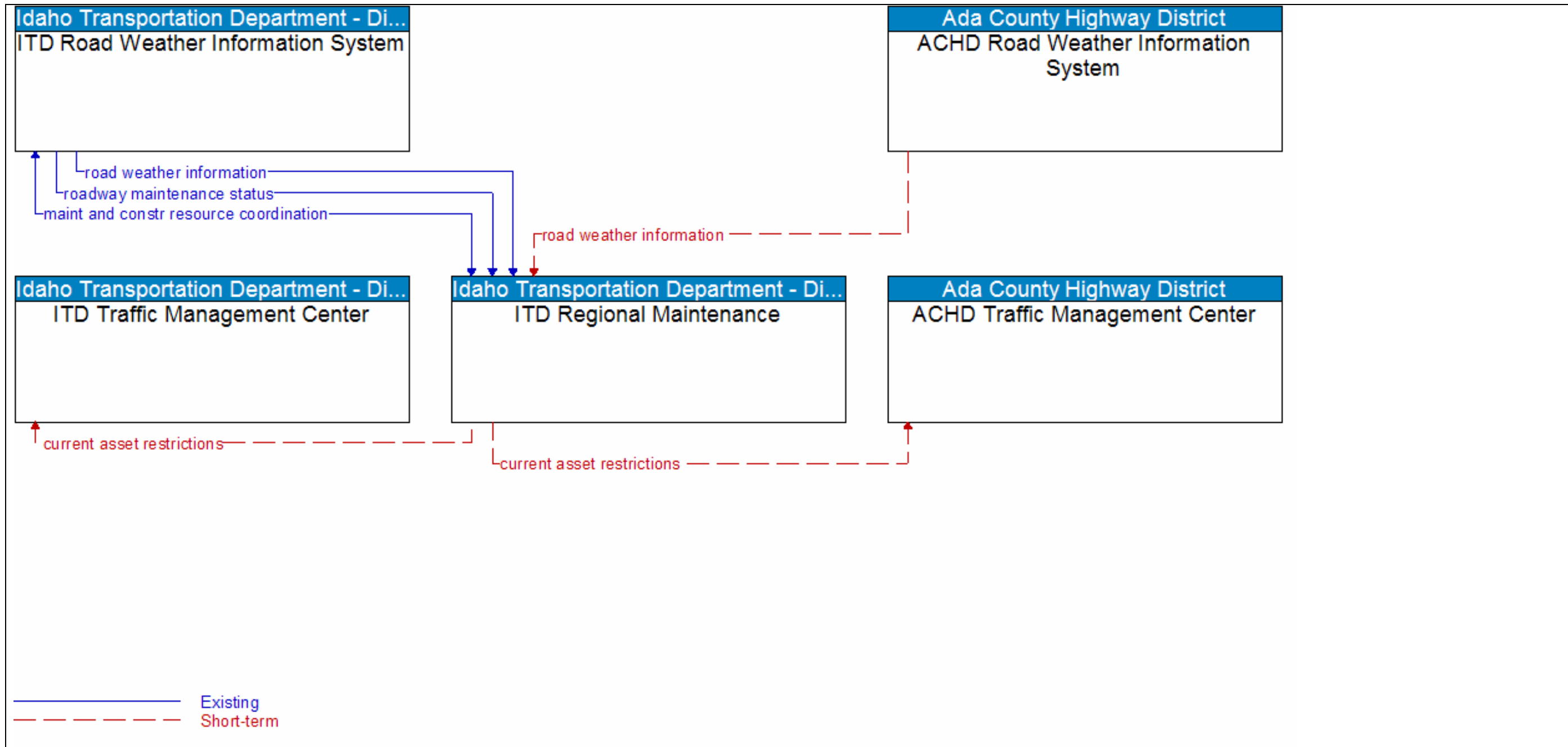
CONTEXT Diagram – Idaho State Police Dispatch

No changes



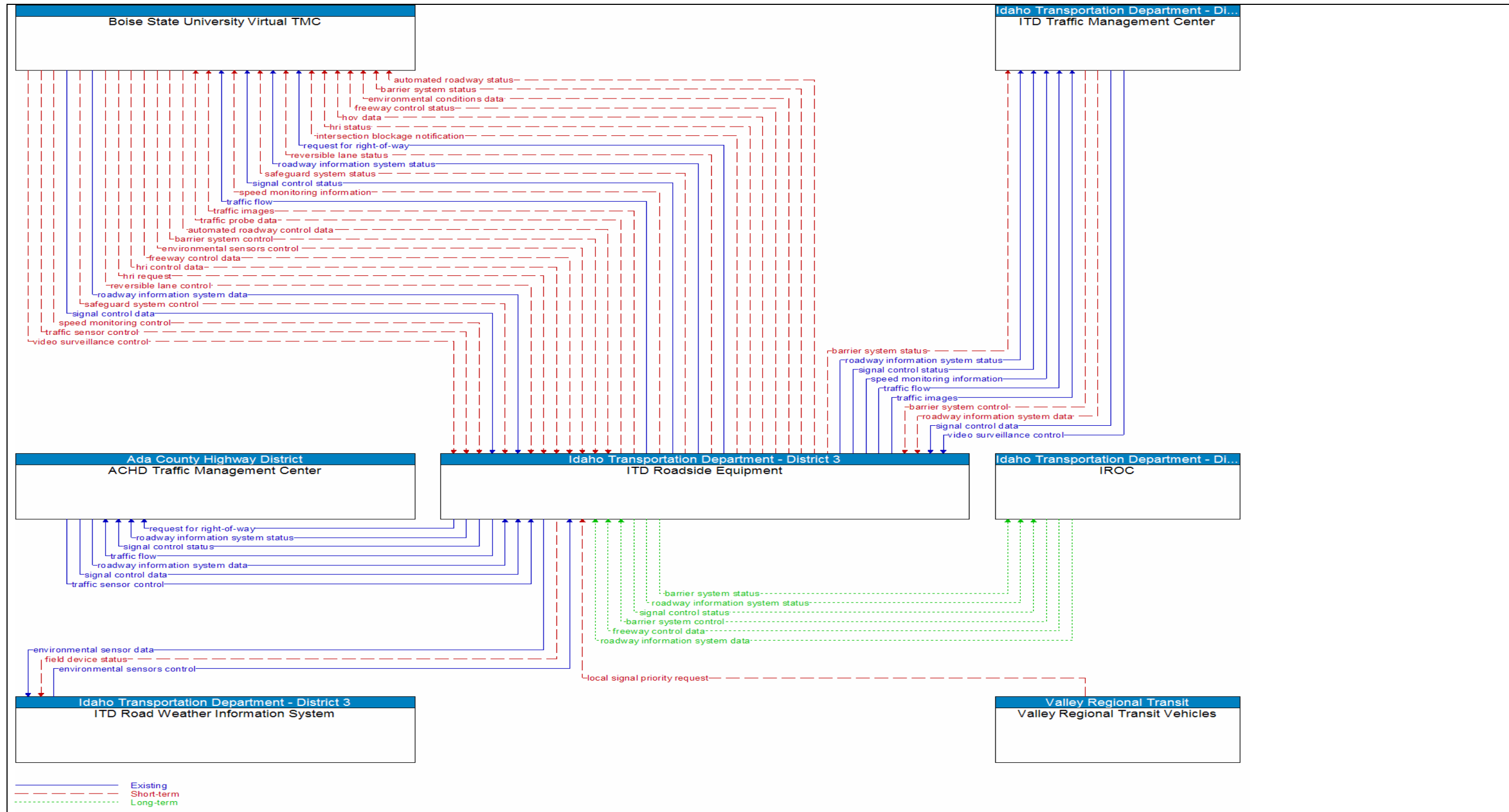
CONTEXT Diagram – ITD 511

No changes

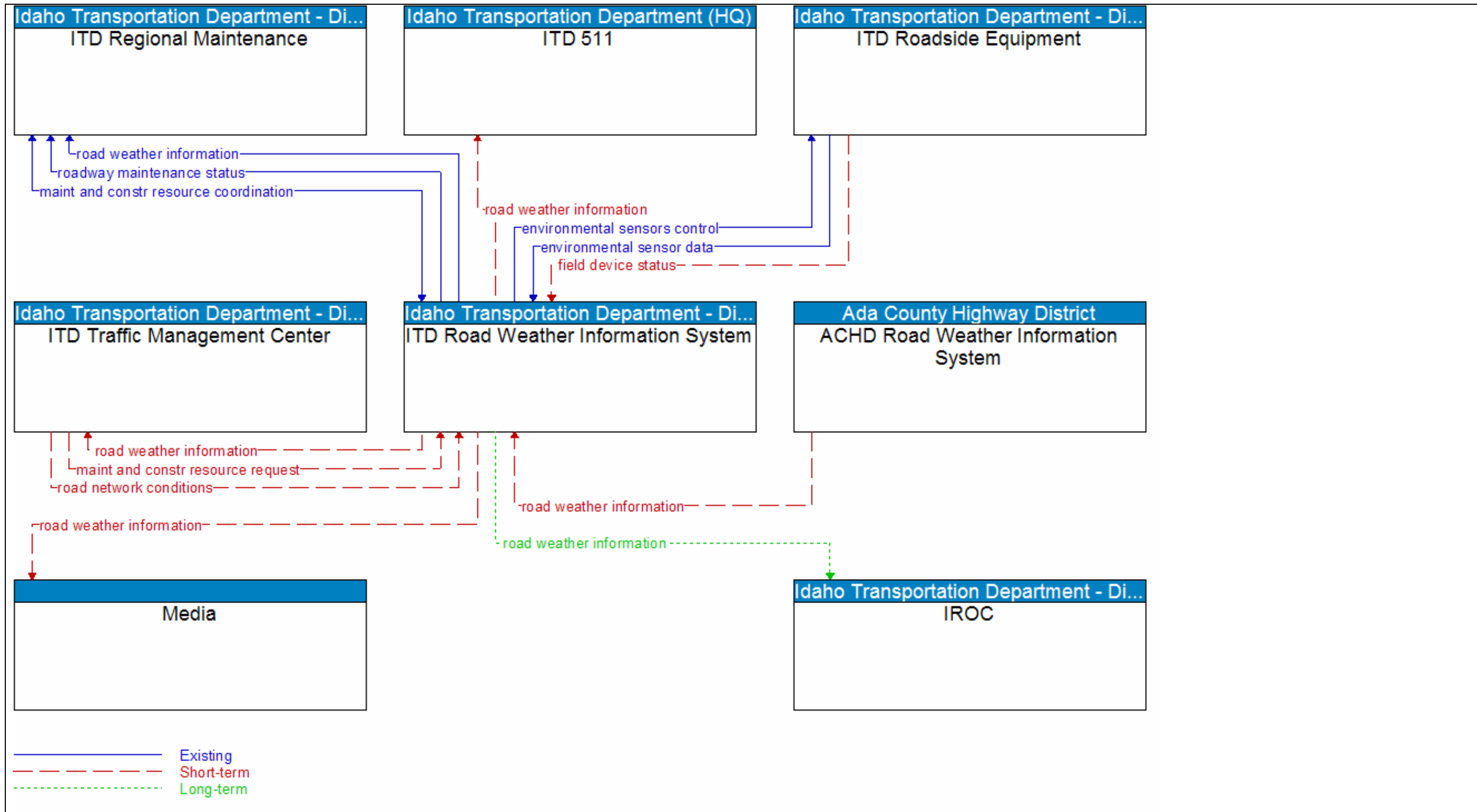


CONTEXT Diagram – ITD Regional Maintenance

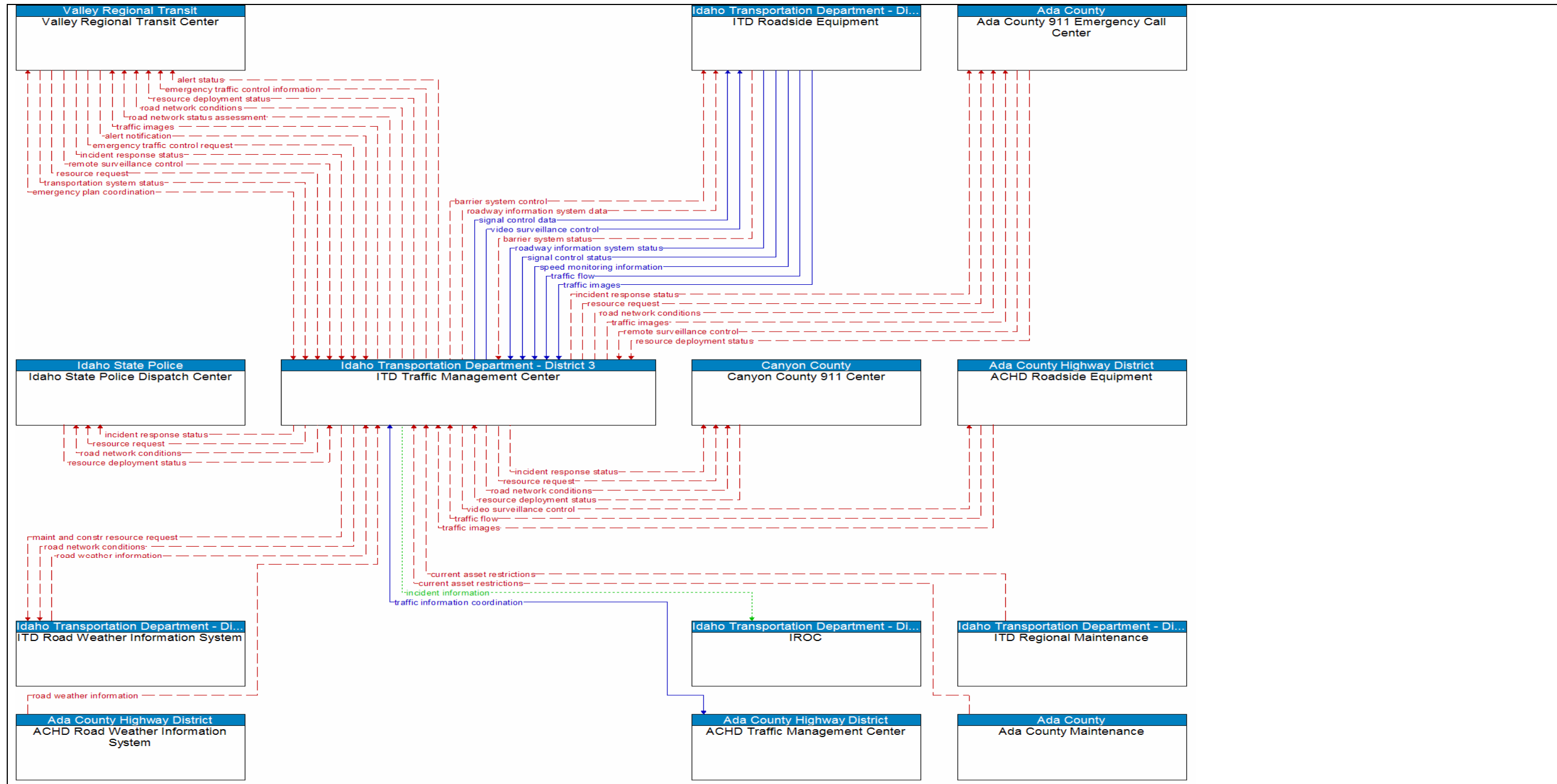
No changes



CONTEXT Diagram – ITD Roadside Equipment
 No changes

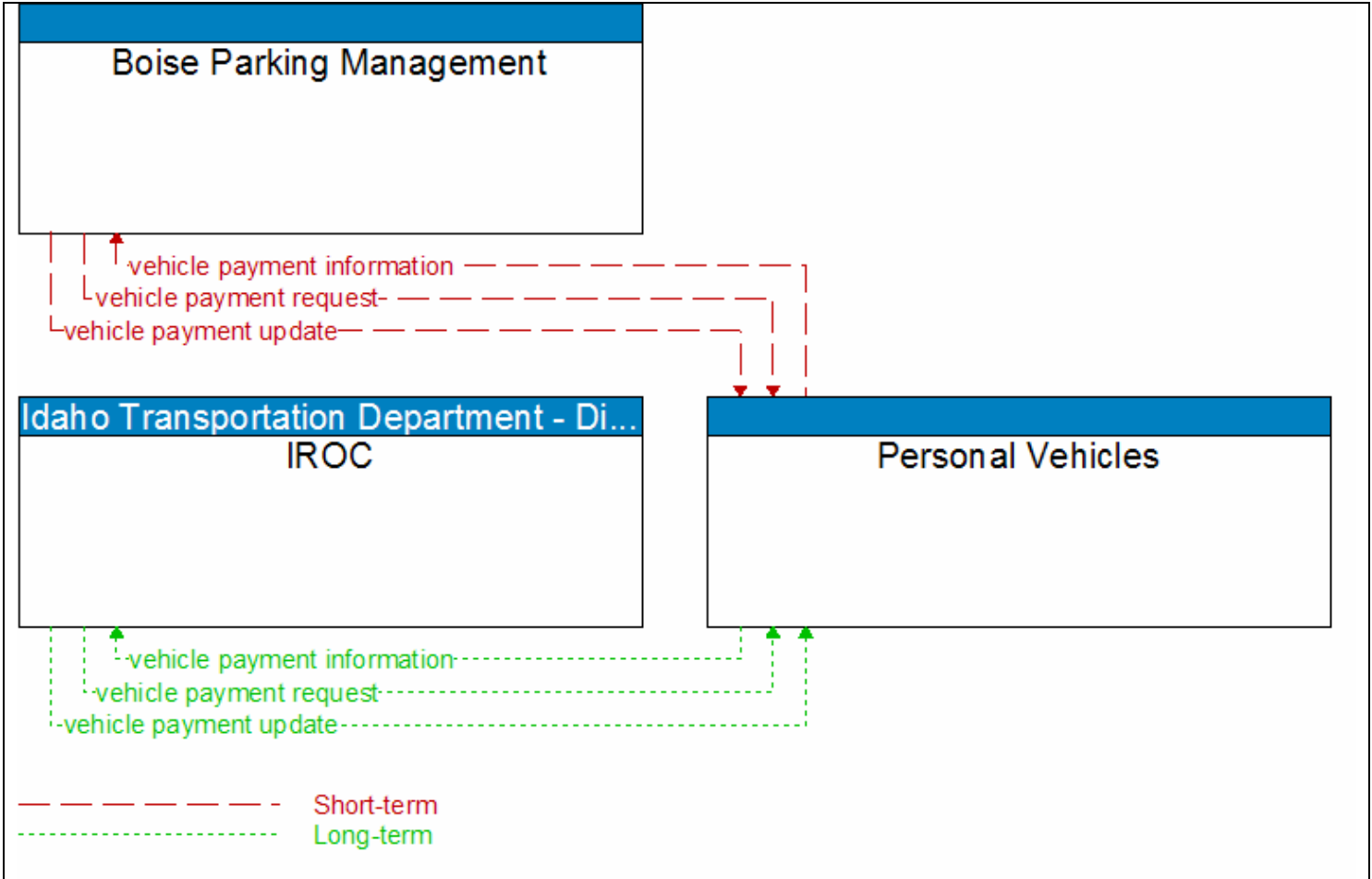


CONTEXT Diagram – ITD Road Weather Information System
 No changes



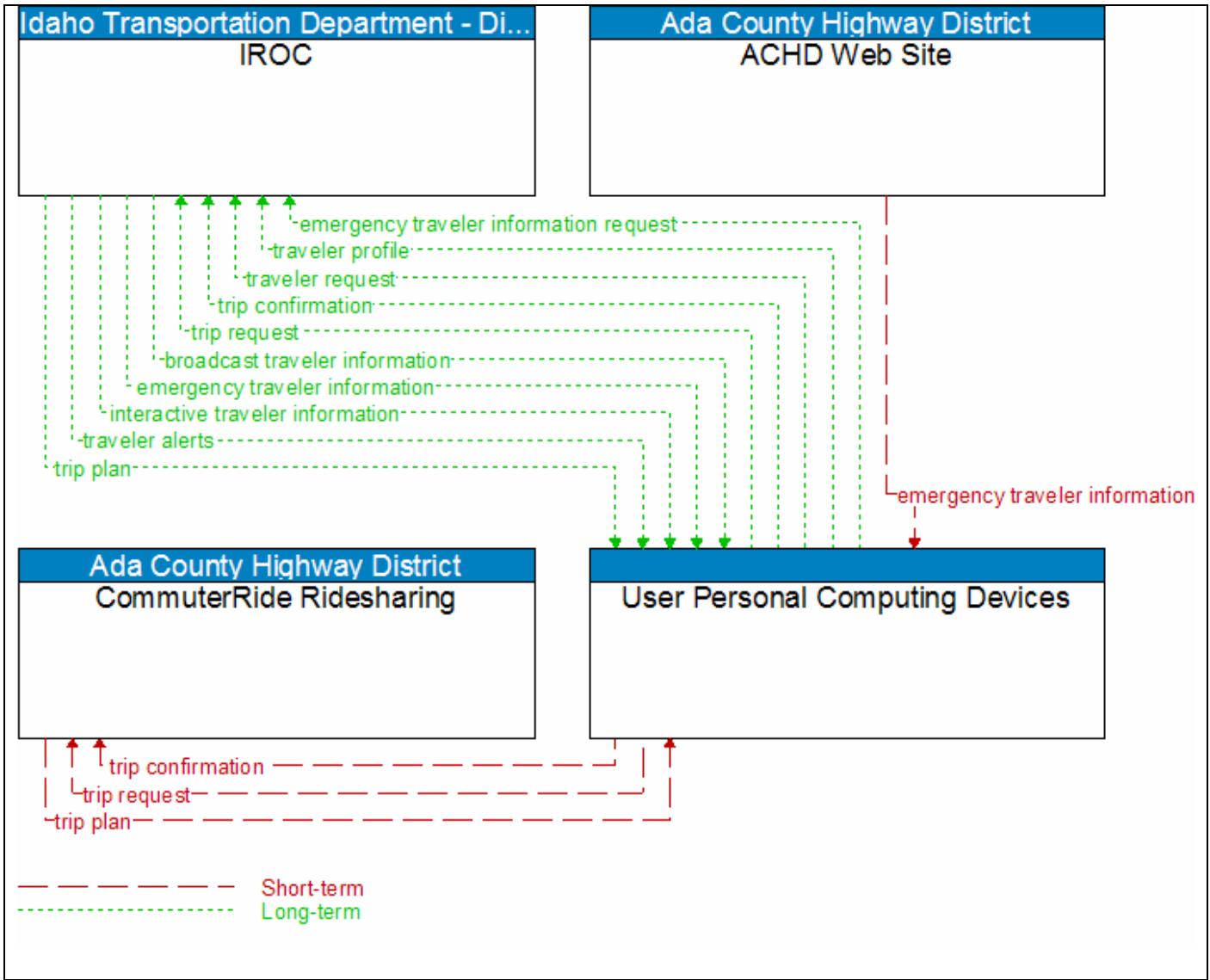
CONTEXT Diagram – ITD Traffic Management Center

No changes



CONTEXT Diagram – Personal Vehicles

No changes



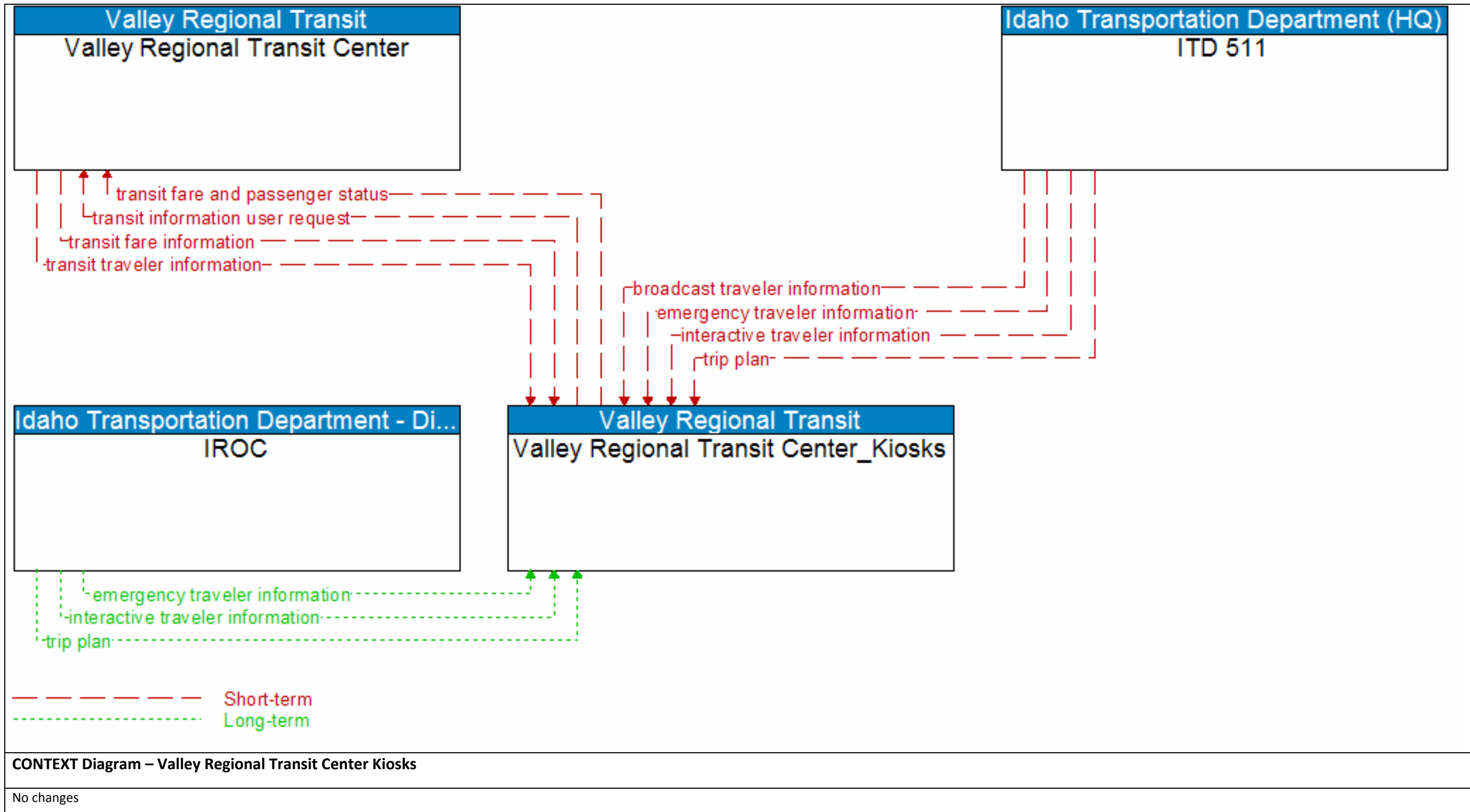
CONTEXT Diagram – CommuterRide Ridesharing

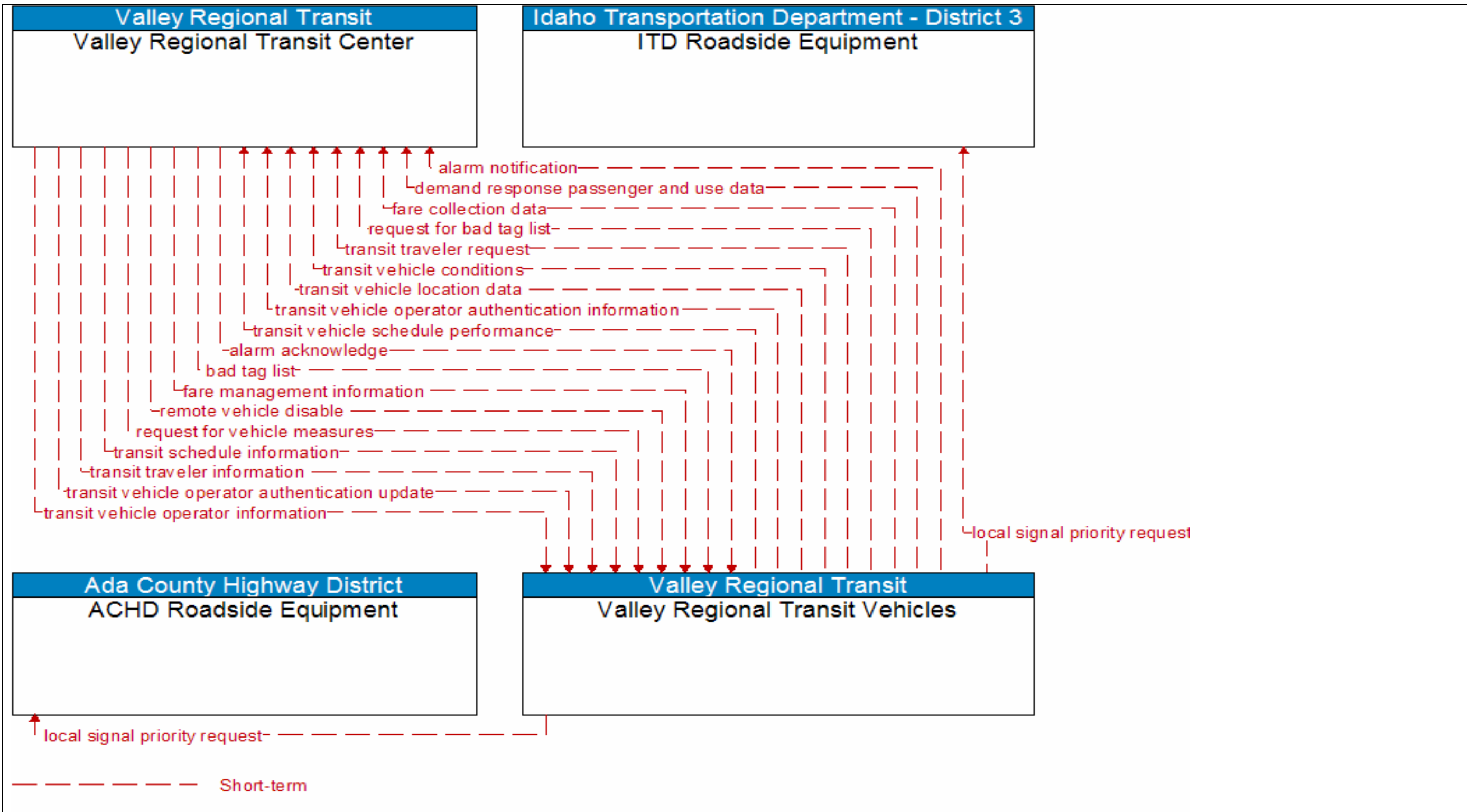
No changes



CONTEXT Diagram – Valley Regional Transit Center

No changes





CONTEXT Diagram – Valley Regional Transit Vehicles
 No changes

ATTACHMENT B – ARCHITECTURE UPDATE FORM

Change Title:	<i>Treasure Valley ITS Architecture Maintenance</i>	Date of Origination:	<i>September 2009</i>
Description of Suggested Change:	<i>The Treasure Valley Architecture developed in 2006 needs to be updated in several key categories: agencies partnering with the Ada County Highway District, ITS deployments in Canyon County, and the Interagency Regional Operations Center (IROC).</i>		
Rationale for Change:	<i>The Treasure Valley Architecture developed in 2006 needs to be updated in order to incorporate changes in ITS deployments, interagency relationships, and revisions to the sequencing of the Interagency Regional Operations Center (IROC).</i>		
Request Originator Name:	<i>Community Planning Association of Southwest Idaho</i>		
Phone Number:	<i>Liisa Itkonen</i>		
Email:	<i>litkonen@compassidaho.org</i>		
To Be Filled Out By Maintaining Organization			
Change #:			
Change Disposition:	Accept	Reject	Defer
Baseline Affected:			
Disposition Comments:			
Disposition Date:			