

**APPENDIX G – STAKEHOLDER WORKSHOP SUMMARY
DOCUMENT**

JOC Project Background and History

The Nebraska Joint Operations Center (JOC) project began with the initiation of the Phase 1 contract between NDOR and Kimley-Horn and Associates, Inc. The Joint Operations Center was envisioned to be a multi-agency operations center, with the primary agency partners being NDOR, NSP, NEMA and the Army National Guard. The JOC was envisioned to be constructed on the ARNG base in Lincoln, concurrent with the ARNG construction of the STARC building. Phase 1 of the Nebraska JOC project was intended to conduct the ITS planning for this project and included a number of ITS planning tasks including conducting stakeholder workshops, determining user requirements, determining functional requirements, developing an architecture for the Statewide JOC and DOC system, preparing a communications report and recommendations, developing an implementation plan for Nebraska's ITS program and summarizing all of these items in the High Level System Design Report.

With this goal in mind, Kimley-Horn and Associates, Inc. began the JOC project by conducting stakeholder workshops in each of the eight districts of NDOR, along with a ninth workshop in Lincoln focused on the features and functions of the JOC. The purpose of the stakeholder workshops were to conduct a comprehensive inventory of the ITS and non-ITS equipment and processes that were in use throughout the State of Nebraska by the stakeholders, to solicit specific input as to the issues that stakeholders frequently encounter in carrying out their day to day functions, to identify the needs (user needs) for ITS that the stakeholders have, and to prioritize their needs. The results of the Stakeholder workshops are summarized in the *Stakeholder Workshop Summary* document.

The *Stakeholder User Requirements* document was developed by Kimley-Horn and Associates, Inc. utilizing the information that was collected in the Stakeholder workshops and in subsequent follow-up conversations with various stakeholders. The *Stakeholder User Requirements* document forms the foundation for developing subsequent aspects of the planning process including developing the functional requirements for the JOC project and developing the Architecture for the JOC project. The *Stakeholder Workshop Summary* document and the *Stakeholder User Requirements* document were both finalized in November 2002. Building upon these documents, the *Draft Functional Requirements* document and the *Draft Statewide JOC/DOC System Architecture* document were submitted to NDOR in November 2002 and December 2002, respectively.

In January 2003, as the State of Nebraska governor and legislature were going through an important process of establishing budgets for the upcoming fiscal year, the Governor pulled the state's portion of the funding for the Joint Operations Center out of the capital facilities portion of the state budget. This action meant that the soonest that funding for the JOC could be included in the capital facilities budget would be in approximately two years, for Fiscal Year 2006, and the window of opportunity for constructing the JOC along with the ARNG's STARC building closed.

However, it is important to understand that the entire ITS planning process that had been going on during the previous nine months is still entirely valid, in that the needs of the users have been identified, and the resulting functional requirements and architecture under development are for the most part still valid. The primary aspect that changed was that the opportunity for co-locating NDOR, NSP, NEMA and ARNG in the same physical building could not occur, but the agency relationships and responsibilities by and large are still the

same and will continue whether the agencies are co-located in the same physical building, or whether they are linked virtually.

Hence, the planning efforts continued, appropriate modifications were made to the Functional Requirements, Architecture, and Communications documents to address the change in course that had occurred, and to reflect the new concept of having a Statewide Operations Center in the Omaha metropolitan area that will serve the same NDOR functions as the JOC in Lincoln was originally envisioned to serve.

In the interest of forging ahead with the project planning process, and not significantly delaying the project by restarting the planning process, it was decided by NDOR and Kimley-Horn and Associates, Inc. that the *Stakeholder Workshop Summary* and the *Stakeholder User Requirements* documents would not be “revised” to reflect the deletion of JOC terminology and replacement by Statewide Operations Center (SOC) terminology, but rather that this JOC project background and history write-up would be included at the front of these two documents to explain how the project transitioned from a “Joint Operations Center” focus to a “Statewide Operations Center” focus.

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1. INTRODUCTION

1.1 Background

In recent years, the use of advanced technologies has emerged as one of the leading ways not only to better utilize roadway capacities, but also to improve safety and reliability for commuters. Federal and state governments have recognized the benefits and have developed programs for Intelligent Transportation System (ITS) deployment. In 1998, an ITS statewide strategic plan was developed for the state of Nebraska by Nebraska Department of Roads (NDOR) and the U.S. Department of Transportation, Federal Highway Administration (FHWA). A number of projects were outlined for deployment, and a key component of the strategic plan was the identification of the need for a statewide Joint Operations Center (JOC).

NDOR, Nebraska State Patrol (NSP), and Nebraska Emergency Management Agency (NEMA) are slated to jointly operate the JOC. The JOC will be the statewide focal point for improved coordinated response and management of transportation and incidents including accident management, event management, emergency management, and traveler information services. Information about traffic, accidents, congestion, road closures and restrictions, weather conditions, emergency notifications, and special event conditions will be reported to the public through traveler information disseminated media, for example: 511, television, radio, internet, and archived for future planning, research and traffic engineering needs. Another critical function of the JOC will be to provide information and coordinate activities between NDOR Districts and agencies throughout the state and with adjacent states.

Creation of a centralized JOC involves implementation of compatible ITS devices and systems throughout the entire state. This effort will require close coordination between each district and the NDOR – JOC project. The initial phase of the JOC project involved the identification of ITS system elements within each local jurisdiction of the state, as well as identification and prioritization of unmet ITS deployment needs statewide. This effort involved over 500 stakeholders and a total of eight workshops.

1.2 Project Overview

The initial implementation of the envisioned JOC will consist of three major phases:

- Phase 1 – High Level System Design and ITS Architecture;
- Phase 2 – System Design; and
- Phase 3 – System Integration and Building Construction (JOC physical plant, central system elements, communication system elements and field devices).

In addition to construction activities, Phase 3 comprises the following major categories of activity: system management, system installation, system integration and construction support.

This report has been compiled as part of Phase 1, High Level System Design (HLSD) that will delineate specific elements to be included in the statewide JOC and develop an ITS system architecture that will serve to build consensus among Nebraska's JOC stakeholders. The HLSD elements developed during this project will be based on sound engineering principles and conform to the National ITS Architecture. During this project, the documents necessary to define design requirements for the Nebraska statewide JOC will be developed. High-level

communications requirements along with an implementation plan that will serve as a blueprint throughout the life of the JOC deployment also will be produced.

This project includes the following tasks:

- Task 1 – JOC Stakeholder Workshops;
- Task 2 – Definition of User Requirements;
- Task 3 – Definition of Functional Requirements;
- Task 4 – Develop System Architecture;
- Task 5 – Prepare Early ITS Application Report;
- Task 6 – Prepare System Communication Report;
- Task 7 – Prepare Implementation Plan;
- Task 8 – Prepare HLSD Report;
- Task 9 – Project Management, Meetings and Project Schedule; and
- Task 10 – Prepare Phase 2 Scope.

The first major task undertaken by the project team was to conduct needs assessment workshops in each NDOR District. These workshops presented a high level overview of “What is ITS,” project work plan, and defined the stakeholder role in the study. The stakeholders provided information on currently deployed ITS devices and systems, information on ITS needs and issues related to the implementation of the recommendations. In addition, a Joint Operations Center workshop was conducted with management level personnel from the four JOC partner agencies, ARNG, NEMA, NSP and NDOR.

This document, the Task 1 deliverable, discusses the stakeholder involvement in these workshops, summarizes the existing statewide ITS inventory, identifies the user needs, list the District Operations Center (DOC) and JOC functions envisioned and presents a list of institutional issues and needs as identified by the stakeholders. The project team will use the summaries in this report as input for Tasks 2 and 3.

1.3 Purpose of Workshop Summary

The objective of this Task 1 subtask is to summarize the stakeholder needs as expressed during JOC Workshop and the eight NDOR district workshops. The project team also completed a review of earlier statewide and regional ITS needs-assessment documents so that there would be no significant omissions from earlier efforts.

This statewide summary of user needs forms the basis for the list of user services and user service requirements for the deployment of ITS systems. In addition, this step in the process will aid NDOR and the other JOC partners in defining the role and functions of the DOC’s versus those of the Statewide JOC. This list of services and high-level functions will provide a basis for the development of the system architecture and other parts of the high-level system design.

1.4 Acronyms

The following list outlines the acronyms used throughout the document and is provided for reference.

24/7	24 hours a day, 7 days a week
AMS	Arterial Management System
ARNG	Army National Guard
ATIS	Advanced Traveler Information System
ATMS	Advanced Traffic Management System
ATR	Automated Traffic Recorder
AVI	Automatic Vehicle Identification
AVL	Automatic Vehicle Location
CCTV	Closed Circuit Television
CMS	Changeable Message Sign
CVO	Commercial Vehicle Operations
DAS-DOC	Nebraska Department of Administrative Services – Division of Communication
DSRC	Dedicated Short Range Communication
DMS	Dynamic Message Sign
DOC	District Operations Center
DOT	Department of Transportation
DTN	Data Transmission Network
EM	Emergency Management
EOC	Emergency Operations Center
FHWA	Federal Highway Administration
FMS	Freeway Management System
GIS	Geographic Information System
GPS	Global Positioning System
HAR	Highway Advisory Radio
HLSD	High Level System Design
ITS	Intelligent Transportation Systems
JOC	Joint Operations Center

NAWAS	National Advanced Warning and Alarm System
NDOR	Nebraska Department of Roads
NEMA	Nebraska Emergency Management Agency
NOAA	National Oceanic and Atmospheric Administration
NSP	Nebraska State Patrol
NWS	National Weather Service
RWIS	Road Weather Information System
SC	Stakeholder Committee
VID	Video Image Detector
WIM	Weigh-in-Motion
XML	Extensible Markup Language

2. NEEDS ASSESSMENT PROCESS

A critical component to the development of a statewide JOC is the needs assessment process. For this project, this process was included as part of the stakeholder workshops that facilitated the participation of stakeholders identified throughout the state. This broad range of involvement of stakeholders allowed a comprehensive set of needs to be identified, increased awareness, and increased information sharing among stakeholders and established a solid platform upon which JOC deployment consensus may be achieved and maintained. It is through this vital input that the JOC ITS architecture will be drafted.

2.1 Stakeholder Identification and Involvement

An integral aspect in the development of the Nebraska statewide JOC includes involvement and input from individuals from all participating organizations and entities. A JOC Task Force was initially created with eight members from NDOR, NSP, ARNG, NEMA, DAS-DOC, and FHWA. These members represent the major stakeholders for the project and are empowered to render decisions and make any required commitments. This Task Force is expected to provide guidance on high-level policy and coordination issues, as well as to provide technical input and guidance. The mission statement of the Task Force as identified at the January 10, 2002 JOC Task Force Meeting is summarized below.

“Facilitate, coordinate, support, and assist the creation of the JOC and see that it is fully deployed and operational within three years.”

In order an effort to obtain a statewide multi-agency perspective of Nebraska's ITS needs, a more expansive Stakeholder Committee (SC) was created with individuals from organizations and entities from the entire state. Over 500 potential stakeholders were identified to participate in the initial planning and needs assessment update process. Coordination with the identified stakeholders was necessary to build broad consensus, obtain feedback on important issues, and identify specific operational needs. Following are the organizations/entities that are represented within the SC:

- Adams County;
- Aeronautics;
- Buffalo County;
- City of Grand Island;
- City of Hastings;
- City of Lincoln;
- City of Norfolk;
- City of North Platte;
- City of Omaha;
- City of York;
- Civil Defense;
- Dawes County;
- Dawson County;
- Federal Highway Administration;
- Furnas County Emergency Manager;
- Grand Island Police Department;
- Health and Human Services (HHS);
- Lincoln County;
- Metropolitan Area Planning Agency (MAPA);
- Morrell County;
- Nebraska Army National Guard;
- Nebraska Department of Roads;
- Nebraska Emergency Management Agency;
- Nebraska Game and Parks;
- Nebraska State Patrol;
- Niobrara River Council;
- North Central Development Center;
- National Weather Service;
- Omaha Fire Department;
- Omaha Police Department;
- Phelps County Emergency Manager;
- Region 21 Emergency Management;
- Sarpy County; and
- Scotts Bluff County.

2.2 Stakeholder Workshops

Eight district workshops and one statewide workshop were held with members of the Task Force and SC, and approximately 170 stakeholders attended the workshops. The workshop dates are outlined below.

- District 1 Workshop: June 5, 2002;
- District 2 Workshop: June 4, 2002;
- District 3 Workshop: June 3, 2002;
- District 4 Workshop: April 25, 2002;
- District 5 Workshop: May 22, 2002;
- District 6 Workshop: May 15, 2002;
- District 7 Workshop: May 14, 2002;
- District 8 Workshop: April 24, 2002; and
- JOC Workshop (Statewide): July 2, 2002.

The purpose of the workshops was two-fold; a) to review each agency's ITS programs and equipment (both existing and planned) within the district area and b) to identify unmet operations center needs that had not been defined previously. The existing ITS inventory and needs are discussed in Sections 3 and 4, respectively.

3. EXISTING ITS INVENTORY

During the district workshops, an inventory of existing and planned ITS programs and devices was gathered and classified in the user needs category. Collection of the inventory data will help to identify the existing systems that will need to be incorporated into the proposed statewide system as well as any system gaps. **Table 1** provides a summary of the inventory per district. **Figure 1** has been provided to illustrate the NDOR District boundaries within the State of Nebraska.

Table 1 – Summary of Existing ITS Inventory per District

	ITS Element	District 1		District 2		District 3		District 4		District 5		District 6		District 7		District 8	
		Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned
Travel and Traffic Management	CB Wizards	8		1	1	8		X		11		6		2	2	22	
	Highway Advisory Radio (HAR)							X				X					
	RWIS	2	1	15	2	5		4	4	16	1	6		3		2	7
	Dynamic Message Signs (portable)	23	10	20	2	8	X	12		12		16	2	2	4		
	Dynamic Message Signs (permanent)	1	2	9	14					8	3						
	Lane Use Signs and Signals			X													
	CCTV Cameras	5	X	5	1					X							X
	Autoscpoe Cameras	>100		9	4												
	Loop Monitoring Stations	6															
	Emergency Vehicle Pre-emption	X		50		X		X									
	Railroad Pre-emption							X									
	Speed Monitoring Units	5		6	3	4		8		10		5		2	2		
	Railroad Crossing Monitors	X															
	Railroad Gate Malfunction and Status Monitor System		X														
	Railroad Gates											X					
	DTN Displays	X															
	Traffic Signal Systems	X		X		X		X						X	X		
	Air Quality Monitoring Stations	2		2													
	On-board Cameras/Mobile Data Units	X															
	Motorist Assistance			X													
	511 Deployment			X				X		X		X		X			
	Bridge Anti-icing System					X				X		1					
	Ramp/Mainline Gates											X					
	GPS on Snow Plows or Emergency Vehicles					X		X			X						
	Incident Management Response Plan	X															
Public Transportation Management	AVL		X	X	X			X	X	X	X		X				
	Electronic Fare Payment		X														
	"Next Bus" Technology Deployment				X												
	Transfer Center Kiosks				X												
Electronic Payment	Parking Guidance System/Fare Collection System		X														
	DCRC for Motorist Operations			X													
	Revenue Control System			X													
Commercial Vehicle Operations	Weigh in Motion/Inspection Stations	X		X		X		X		X		2				X	
	Portable Scales													X		X	
	Automated Permitting System		X					X	X			X				X	
	Commercial Fleet Management System		X	X													
Emergency Management	Mobile Command Post	X															
	In-Vehicle Video	X															
	Emergency Weather System (NOAA, NWS, etc.)	X								X		X					
	Nebraska Motorist Assist Program	X		X													
	National Advanced Warning and Alarm System (NAWAS)									X							
	Hazmat Teams	X		X			X	X		X		X					
	Radio Dispatch	X		X												X	
Information Management	Emergency Response Team							X		X		X					
	ATR Data	X				X		X		X		X				2	
	Accident Records	X				X		X		X							
	Traffic Volume Data	X		X		X											
	Weather Data			X												X	
	Travel Time Delay Studies	X															
	Construction and Detour Maps															X	
	Photo Logging System					X											
	Kiosks															2	
Maintenance and Construction Operations	Equipment Logs					X											
	Work Zone Management and Safety Systems		X	X		X						X					
	Permits/Restriction Management Program	X															
Legend: # - Indicates quantity of devices X - Indicates existing or planned implementation of device or system																	

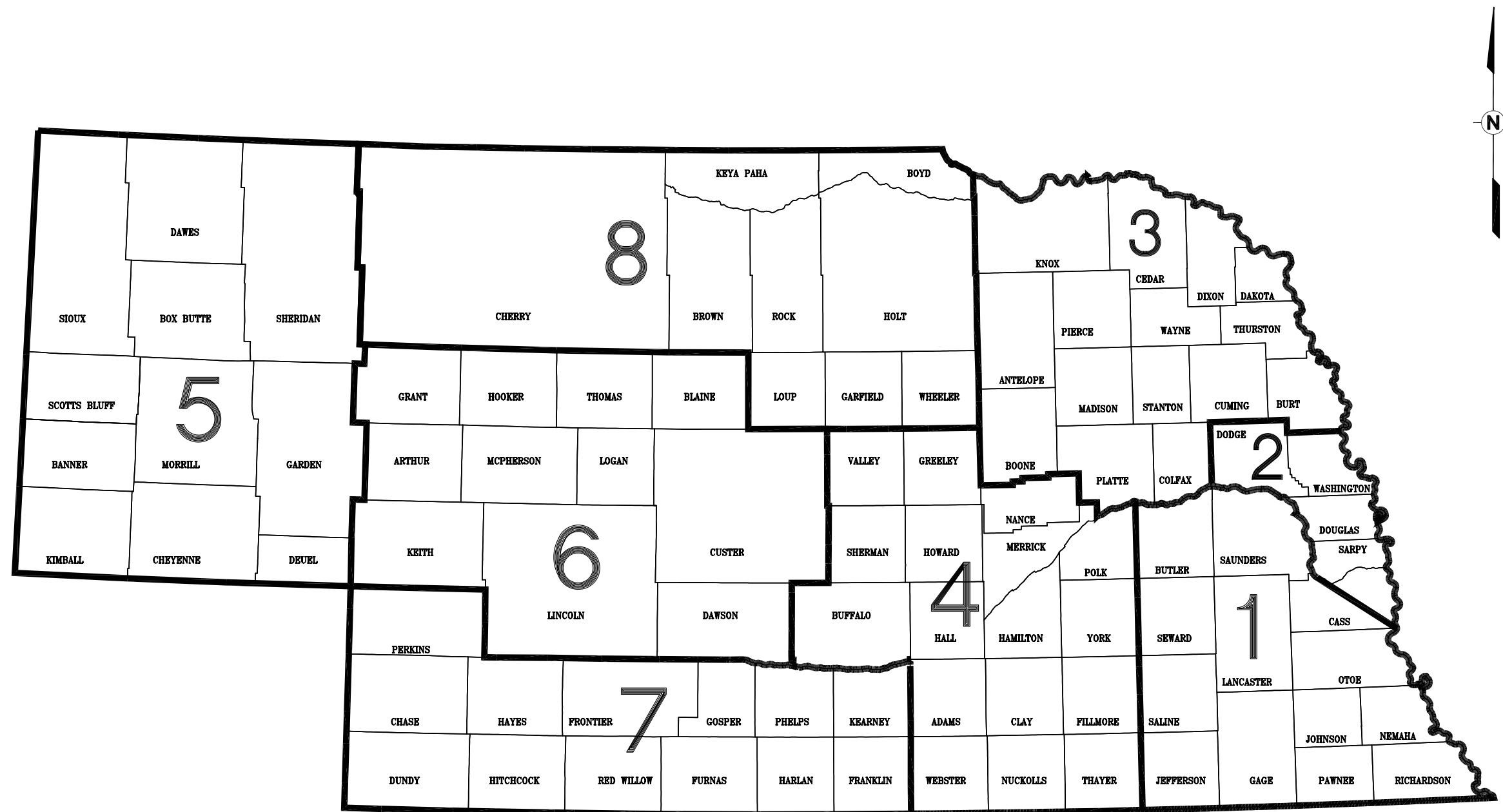


FIGURE 1 - NEBRASKA STATE MAP WITH DISTRICT BOUNDARIES

4. IDENTIFICATION AND PRIORITIZATION OF USER NEEDS

Section 4 summarizes the transportation needs and issues recorded during the eight NDOR – JOC district workshops. Stakeholders consisting of representatives from NDOR, NSP, NEMA, local law enforcement and emergency responders, city and county transit and public works agencies provided input into the needs assessment process.

The format used to record the information from the stakeholders generally follows the eight User Service Bundle categories contained within the ITS National Architecture; however, in order to assist the stakeholders in defining their needs and in an effort to acquire a more refined list, the project team added three additional categories. The three added categories were Institutional Issues/Needs, Traveler Information Needs and Data Needs.

The needs expressed by the stakeholders during the workshops have been edited, in some cases moved into a more appropriate user needs/service category, and tabulated. The first column of each table lists the needs, the second column reflects the district workshops in which the need was expressed and the third column reflects the relative importance assigned to the need by the participating stakeholders. The information presented below is a summary of the ITS needs recorded within the eleven categories.

Subsections 4.1 through 4.10 identify stakeholder needs representing deployment and/or implementation of field devices and field system support. Section 4.11 summarizes stakeholder input on Institutional Issues/Needs covering items that may directly effect operation of the JOC but can only be resolved through changes in procedures and policies and/or through the legislative process. Section 4.12 summarizes the functions of the DOCs. Section 4.13, in turn summarizes the functions envisioned for the JOC from a Department of Roads perspective (in regard to statewide transportation management functions) as well as a statewide Emergency Operations Center (EOC) perspective.

The needs expressed in Sections 4.1 through 4.10 can be addressed through technical and/or design solutions.

4.1 Travel and Transportation Management Needs

The Travel and Transportation Management user service bundle includes a broad range of user services as listed below:

- Pre-Trip Travel Information;
- En-Route Driver Information;
- Route Guidance;
- Ride Matching and Reservation;
- Traveler Services Information;
- Traffic Control;
- Incident Management;
- Travel Demand Management;
- Emissions Testing and Mitigation; and
- Highway Rail Intersection

These user services aim to maintain and enhance mobility, reduce “down-time” as a result of incidents, and provide drivers with information allowing them to make informed decision for route selection. Field devices such as closed circuit television (CCTV) cameras, loop detectors, and video image detectors (VIDs) support these user services to collect “real-time” data on vehicle speeds, occupancy, and lane use. These devices and the information they generate are used to detect and verify incidents. The data is processed and the appropriate response is

disseminated via dispatch of emergency response teams for incident management, traffic signals and ramp meters for traffic control, or message displays on dynamic message signs for en-route driver information. The user needs identified by the stakeholders that may be classified under the Travel and Transportation Management User Service Bundle are outlined in order of importance in **Table 2**.

Table 2 – Identification of Travel and Transportation Management Needs per District

Travel and Transportation Management Needs	Districts that Responded	Number of Stakeholders that Responded
Strategic ITS device (CCTV/DMS) deployment and shared use control	1,4,5,6	44
Automated ramp closure system with status verification	2,4,5,6	27
Joint use and control of ITS devices	1,2	23
Deploy CCTV at RWIS and anti-icing system locations	4,5,6	21
Implement a fully functional AMS and support incident, special event management, and smart corridor deployment	1,2	19
Deploy CCTV at DMS locations	5,6	17
Implement an ATMS, freeway and expressways	1,2	16
Notification of train location, crossing gates status, implement intersection warning systems	1,3,6	13
Deploy road closure systems on state routes	6	12
Implement multi-agency traffic operations plans	1	10
Implement a parking management system	2	9
Ability to control traffic signals on site	2	5
Deploy rest area closure system	5	5
Deploy vehicle speed warning systems	6	5
Incorporate ITS into bikeway system	1	3

4.2 Traveler Information Needs

Information on Traveler Information Needs was collected as a separate category but is included within the Travel and Transportation Management User Service Bundle described above. To remain true to the workshop process, the traveler information needs also are included in this document as a separate category. This also serves to highlight the high number of responses within this category – indicating the need for an advanced traveler information system. Traveler information systems benefit motorist by providing real-time information on road conditions that enable the motorists to make informed decisions regarding mode, time of departure and route selection. The Traveler Information Needs identified by the stakeholders are outlined in order of importance in **Table 3**.

Table 3 – Identification of Traveler Information Needs per District

Traveler Information Needs	Districts that Responded	Number of Stakeholders that Responded
Timely and reliable statewide ATIS dissemination including HAR at strategic locations	1,4,5,6,7,8	56
Centralized ATIS data/information collection, fusion and dissemination, accessible through a common protocol, e.g. XML	1,2,3,4,5,6,7,8	55
Implement real-time DOC/field condition reporting capability	2,3,4,5,6,7,8	51
Statewide coverage of a fully functional 511 system, access to yellow pages, tourist attractions/information, and emergency services	3,4,5,6,8	39
Implement arterial en-route traveler information system	2	13
Implement an ATIS fully supported by the FMS	2	11
Improve dissemination during National Emergencies	1	2
Include tourist information at rest areas	4	2

4.3 Data Needs

Information on Data Needs also was collected as a separate category. As indicated earlier, the project team is aware that the ITS National Architecture does not include a Data Needs user service bundle; therefore, during subsequent tasks of this project, the needs identified under this category will be placed within the appropriate ITS National Architecture User Service Bundle. The foundation of a reliable system is the collection and archival of data for planning, research, and operational purposes. Stakeholders have identified five specific data needs to enhance the statewide system. These needs are outlined in **Table 4**.

Table 4 – Identification of Data Needs per District

Data Needs	Districts that Responded	Number of Stakeholders that Responded
Access to data and information from adjacent regions/states	1,2,3,5,7	30
Local Emergency Operations Plan web accessible	5,6,7	24
Enhance accident records data entry/submittal process and access	1,4,5	16
Implement an infrastructure inventory and status reporting system	6,7	16
Access to ATIS data/information by public and agencies	1, 5	12

4.4 Public Transportation Management Needs

The Public Transportation Management User Service Bundle focuses on providing “real-time” data exchange between commuters, public transportation facilities, and public transportation vehicles. Functions associated with the services from this user service bundle include vehicle identification for scheduling and real-time delay notifications, traffic signal preemption, and data

collection for planning purposes. Benefits of implementing these services include improved scheduling, reduced traveler delay and an enhanced planning process. The technologies implemented to provide the services included in this bundle could support the surveillance of public transportation facilities for security purposes. This bundle essentially monitors the public transportation operations and vehicles via real time data collection technologies, and allows for dispatchers to recommend adjustments to drivers or notify patrons as to the status of public transportation. The user needs identified by the stakeholders that may be classified under the Public Transportation Management User Service Bundle are outlined in order of importance in **Table 5**.

Table 5 – Identification of Public Transportation Management Needs per District

Public Transportation Management Needs	Districts that Responded	Number of Stakeholders that Responded
Implement transit tracking, AVI and AVL (bus stop arrivals)	1, 2	3
Deploy web based real-time transit schedules/status	2	1
Implement a paratransit central system route/scheduler system	2	1

4.5 Electronic Payment Needs

The Electronic Payment User Service Bundle focuses on relaying “real-time” data on user status to the electronic payment facilities, electronic payment services, and vehicles outfitted with electronic payment devices.

No electronic payment needs were identified during these needs assessment workshops.

4.6 Commercial Vehicle Operations Needs

The Commercial Vehicle Operations (CVO) User Service Bundle focuses on commercial vehicle electronic clearance, automated roadside safety inspection, on-board safety monitoring, commercial vehicle administration processes, hazardous materials incident response, and commercial fleet management. A key component of this user service bundle is “real-time” data exchange between equipped vehicles and commercial vehicle operation facilities. These services ultimately provide a real-time assessment of the status of commercial vehicles for better management and information exchange. The user needs identified by the stakeholders that may be classified under the Commercial Vehicle Operations User Service Bundle are outlined in order of importance in **Table 6**.

Table 6 – Identification of Commercial Vehicle Operations Needs per District

Commercial Vehicle Operation Needs	Districts that Responded	Number of Stakeholders that Responded
HazMat tracking systems	6	11
Implement automated truck permitting process	4	9
Additional deployment of WIM and fixed location scales	5	3

4.7 Emergency Management Needs

The Emergency Management User Service Bundle focuses on two primary needs: Emergency Notification and Personal Security, and Emergency Vehicle Management. An essential component includes “real-time” data exchange between dispatchers, emergency response vehicles, and traffic management systems. In the event of an emergency, this would allow immediate notification of an incident for dispatch of the appropriate emergency vehicles and personnel. While en-route, the data exchange between dispatchers and roadside equipment allows the emergency vehicle to provide emergency vehicle status and location and emergency vehicle personnel to be provided with incident updates, route recommendations, and traffic signal prioritization. These services ultimately provide a real-time assessment of the emergency vehicles for better management and information exchange. The user needs identified by the stakeholders that may be classified under the Emergency Management User Service Bundle are outlined in order of importance in **Table 7**.

Table 7 – Identification of Emergency Management Needs per District

Emergency Management Needs	Districts that Responded	Number of Stakeholders that Responded
Improve multi-agency wireless communications system	1, 3, 4, 5, 7	40
Deploy AVI and AVL on enforcement/emergency vehicles	4, 5	23
Emergency response in-vehicle voice/data communications technology, Mobile Data Terminals	5	13
Coordinated incident response, multi-jurisdictional/agency teams	1, 8	10
Establish/maintain a state/local agency contact list	1, 3, 5	10
Develop alternate freeway emergency response access points and plans	2	9
Access to multi-agency GIS base map information	2	8
First responder remote transmission of video images	6, 7	7
Implement Lifelink systems	2, 5, 7	2
Mobile/portable RWIS system, emergency condition reporting	5	1
Pre-emption on emergency vehicles	7	1

4.8 Advanced Vehicle Safety Systems Needs

The Advanced Vehicle Safety Systems User Service Bundle includes seven specific user services that deploy varying degrees of advanced technologies to improve the safety and mobility for commuters. Three of the user services focus on implementing in-vehicle devices for the purpose of detecting the proximity of adjacent vehicles, identifying the collision potential, and finally alerting the driver to ultimately avoid lateral, longitudinal, and intersection collisions. This system may include temporary automatic control of the vehicle and/or graphical displays of data.

Advanced Vehicle Safety Systems also may include conveyance of data on vehicle and driver performance for safety readiness as well as pre-crash restraint deployment. The system would utilize monitoring systems to assess the vehicle and driver status and provide updates to the driver on current conditions. Ultimate deployment of Advanced Vehicle Safety Systems includes total

control of a vehicle outfitted with the automated system. A user need identified by the stakeholders that may be classified under the Advanced Vehicle Safety Systems User Service Bundle is outlined in **Table 8**.

Table 8 – Identification of Advanced Vehicle Safety System Needs per District

Advanced Vehicle Safety System Needs	Districts that Responded	Number of Stakeholders that Responded
Deploy snow plow safety systems, driver and approaching vehicle	4,5	20

4.9 Information Management Needs

The Information Management User Service Bundle focuses on the archival of ITS data and “requires ITS-related systems to have the capability to receive, collect and archive ITS-generated data for historical, secondary, and non-real time users.” The user needs identified by the stakeholders that may be classified under the Information Management User Service Bundle are outlined in order of importance in **Table 9**.

Table 9 – Identification of Information Management Needs per District

Information Management Needs	Districts that Responded	Number of Stakeholders that Responded
Deploy regional center to center communications network	1,3,6,7	26
Deploy additional data/information collection devices/systems	1,2	20
Historical data archive system	6	5
Develop GIS based relational data bases	2	4
Format and availability of ATIS data/information to public and agencies	1	2

4.10 Maintenance and Construction Operations Needs

The Maintenance and Construction Operations User Service Bundle focuses on providing operational support to monitor, operate, maintain, improve and manage the physical condition of roadways, the associated infrastructure equipment and the required resources. The user service focuses on four major functions: the Maintenance Vehicle Fleet Management function to monitor and track locations and conditions of fleets of maintenance, construction and specialized service vehicles; the Roadway Management function to monitor and forecast conditions and manage treatment of roadways during various travel conditions; the Work Zone Management and Safety function to support effective and efficient roadway operations during work zone activities; and the Roadway Maintenance Conditions and Work Plan Dissemination function to coordinate work plans and to communicate conditions. This user Service Bundle will utilize ITS systems and processes to support interchange of information among diverse groups of users, to improve efficiency and effectiveness of operational, maintenance and managerial activities. The user needs identified by the stakeholders that may be classified under the Maintenance and Construction Operations User Service Bundle are outlined in order of importance in **Table 10**.

Table 10 – Identification of Maintenance and Construction Operations Needs per District

Maintenance and Construction Operations Needs	Districts that Responded	Number of Stakeholders that Responded
Enhance NDOR internal, voice/data, communication capabilities	1,3,4,5,6,7	53
Implement a maintenance/construction smart work zone management program, include contractors	1,3,4,5,7,8	50
RWIS, deploy additional sites, implement data control/access, develop winter roadway maintenance program	1,2,3,5,6,8	42
AVL deployed on maintenance/construction vehicles/equipment	2,5,6	23
Incorporate ITS design into all construction projects	2,6	14
Deploy bridge anti-icing system	1,3,5	13
Deploy roadway anti-icing systems	5	12
Develop coordinated construction/maintenance traffic management plans including incident management plans, involve all effected parties	1,3	11
Increase portable CMS deployment	5	11
Deploy smart snow plow roadway location systems	5	9
Develop ITS deployment standard design and specifications	2	7

4.11 Institutional Issues and Needs

During the needs identification workshops stakeholders expressed a number of transportation and emergency response, traveler information, data and information management needs/issues. The project team has classified many of these statements as a policy, institutional and/or legislative issue/need. As a group these issues/needs cannot be resolved solely through implementation of ITS devices and/or systems. **Table 11** summarizes the institution issues and needs as identified by the stakeholders.

Table 11 – Institutional Issues and Needs

Institutional Issues and Needs	Districts that Responded	Number of Stakeholders that Responded
Implement a redundant statewide wireless communication system	1,2,3,5,6,7,8	61
Improved inter-agency communication, exchange or data/information, operation status information, and incident response coordination	1,2,6,8	47
Enhanced cell-phone coverage, public/private partnership	3,5,6,7,8	41
Improved state/local agency coordination/data exchange/incident response with Railroad, private industry, and US government agencies	2,5,6	30

Table 11 – Institutional Issues and Needs (continued)

Institutional Issues and Needs	Districts that Responded	Number of Stakeholders that Responded
Implement a statewide incident management coordination and mutual assistance program	2,5,6	25
Additional public safety and transportation staff resources and training	2,4,6,8	24
Implement ITS infrastructure shared use	1,2	23
Improved state/local agency traffic management coordination	1,2	21
Update State disabled/abandon vehicle removal policy, statutes	2,6	17
Update agency operation policies, interagency knowledge, cross-training	2,6	16
Implement interagency shared staff resources	6	13
Need caller and location ID for cell phone systems	4	12
Implement a GPS based accident record system	2	11
Establish standard policy for an incident chain of command	6	10
Implement clearing house of state and local agency equipment resources/utilization	4	9
Extended commercial vehicle parking in rest areas and along ramps	6	9
Phone companies notify state and local agencies of changes in 911 exchange status	4	9
Electronic submittal of accident records	1	9
Red light/speed enforcement	1	6
Implement a smart drivers license program	2	5
Implement a GIS-based asset management, infrastructure inventory and roadway status system	5	5
Increased deployment of EM agencies contact signage	1	2
Security and access related to JOC location on ARNG site	1	1
Realign NEMA districts with NDOR district boundaries	1	1

4.12 Functions of the NDOR District Operation Centers

Section 4.12 presents a non-prioritized list that summarizes the workshop stakeholder view of the role and/or functions of the DOCs. The stakeholder consensus is that primary monitoring/control/operation of NDOR ITS field devices and systems are a District responsibility. The following list includes technical, policy and procedural functions to be performed within the DOC. Depending upon the needs of the individual District, the DOC functions may include:

- Primary operational control of smart work zone system deployments;
- Primary operational control of Traffic Management System, ITS field device deployments;

- Intra-district, sub-regional and adjacent state weather data exchange, traffic response/management and emergency/incident coordination;
- Responsibility for interaction/coordination with local emergency response and law enforcement agencies;
- Primary responsibility for center-to-center communications with local transportation management systems, emergency response and law enforcement agencies;
- Maintaining a local emergency response contact list of staff and equipment resources;
- Collocation of NSP traffic management functions within the center;
- Implementation of an emergency situation/incident notification system;
- Point of contact for local media outreach/education activities;
- Support intra-district multi-agency communications network; and
- Operate as the regional EOC.

4.13 Functions of the Statewide Joint Operation Center

Section 4.13 presents a non-prioritized list summarizing the workshop stakeholders' view of the role and functional requirements for the Statewide JOC. The Statewide JOC will be jointly operated by NEMA, NSP, NDOR, and located within the ARNG facility. This partnership will be a critical element in the success of the JOC. The primary responsibility of the JOC from a statewide perspective would be to perform those functions consistent with a statewide Emergency Operations Center (EOC). Political and Department Directors have the expectation that the following high-level functions will be carried out via the JOC:

- Provide assistance with Homeland Security,
- Assist in the provision of statewide coordinated transportation and incident response, and
- Facilitate shared use of deployed infrastructure for data and information collection and system element monitoring.

The stakeholders viewed the NDOR JOC functions primarily as providing; first, statewide/regional/local traffic management coordination and/or support for the DOCs and as the focal point for the collection, fusion and dissemination of traveler information. In the support role the JOC will provide the "after hours" operation maintaining a 24/7 schedule. The JOC stakeholder functions recorded reflect the requirements and roles of the operations center and not the different agency administrative functions that will be performed on site. The following list includes technical, policy and procedural functions to be performed within the JOC. The role of the Statewide JOC will be to:

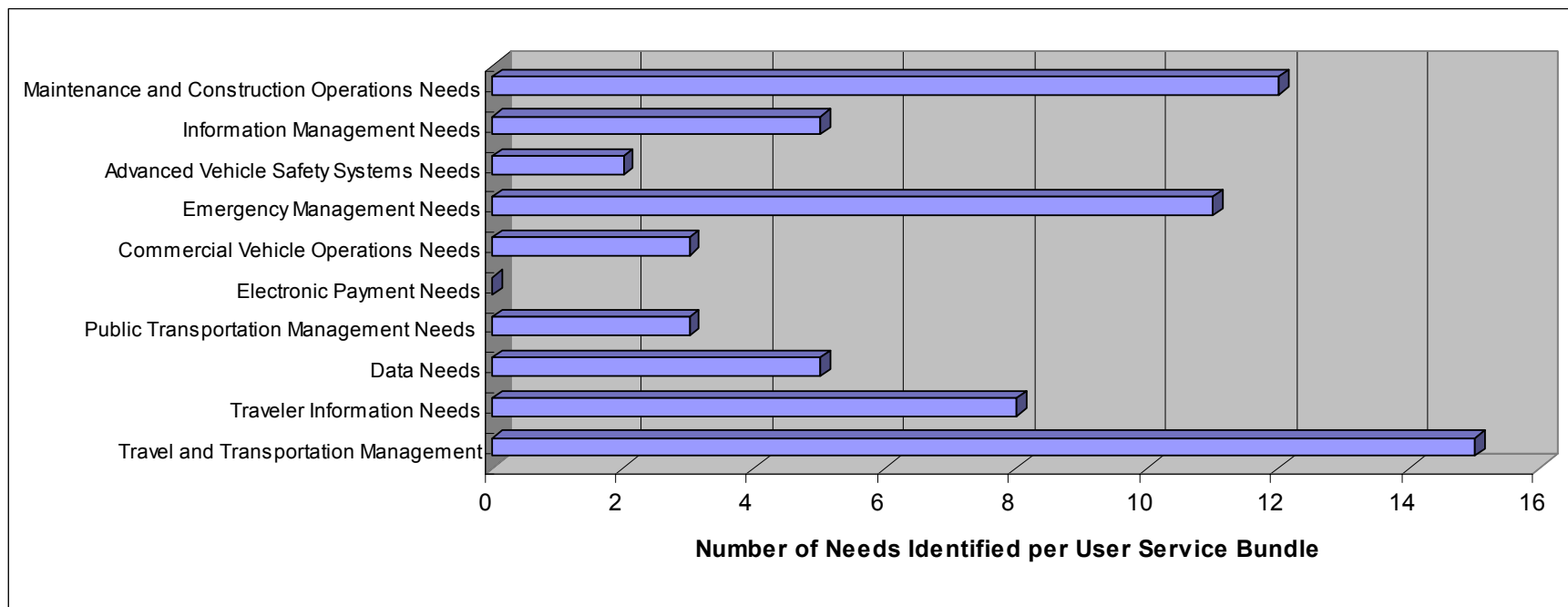
- Operate a statewide redundant system capable of communicating with all state and local agencies, system should support video conferencing;
- Operate 24/7/365, maintain monitoring capability for field deployed system elements of each agency statewide;
- Provide the required space, staff, equipment and technical resources to support statewide/local emergency/incident management activities;
- Perform NDOR inter-district activity coordination, including request for staff and equipment resources;
- Maintain statewide NSP Troop area communications and perform primary Headquarters Troop area dispatch;

- Establish data access interfaces with enforcement and permitting agency systems;
- Function as the statewide notification point for the transporting of hazardous materials or other commodities and/or operations requiring state notification;
- Coordinate statewide emergency/incident response/management outreach/education and agency review activities;
- Maintain secondary control, schedule and log operations for NDOR ITS field devices statewide;
- Coordinate development and establish appropriate statewide standards/policies and procedures for functional elements operated through the JOC;
- Coordinate response to all statewide and inter-regional emergency conditions, incident and special events, maintain statewide contact list for public agencies and private industry contractors and “call out list” of statewide resources;
- Function as the central point for collection, fusion and dissemination of all statewide and adjacent states’ traveler information;
- Operate the statewide ATIS, including both telephone (511) and internet based systems;
- Operate and maintain center-to-center communications with each NDOR District;
- Provide a data archive system and provide access to the information collected by the JOC;
- Provide a central point of contact for requests for coordination/decision making/information/assistance involving the ARNG, NEMA, NSP, and/or NDOR; and
- Assist agencies through data/information collected and operational experience to identify technical/system enhancements and training needs.

5. SUMMARY

The Needs Assessment process included an extensive Stakeholder involvement process. During this process, specific needs desired for future ITS deployment and system enhancement in conjunction with the development of a statewide JOC were identified. Over 500 stakeholders were identified from state, local agencies and organizations, and approximately 170 stakeholders actively participated in the nine workshops. These nine workshops were held to introduce the project, build stakeholder consensus, identify existing and previously planned ITS system and device deployments, and establish a comprehensive list of operations center related needs. **Figure 2** illustrates the number of needs identified per workshop user need category. As seen by this graphic the categories of: Travel and Transportation Management, Maintenance and Construction Operations, Traveler Information, and Emergency Management are the leading needs identified by the stakeholders. With the stakeholder needs identified, the next step will be to match the needs with a specific user service bundle and identify the User Services Requirements as defined in the ITS National Architecture.

Figure 2 – Number of Needs Identified per User Service Bundle



6. SOURCES

1. Iteris, Inc., and Lockheed Martin. "ITS Mission Definition." Federal Highway Administration, April 2002
2. Iteris, Inc. and Lockheed Martin. "Market Packages." Federal Highway Administration, April 2002
3. Nebraska State Highway System map obtained from <http://www.dor.state.ne.us/> and maintained by NDOR, GIS Sector, Transportation planning



SUMMARY OF EXISTING INVENTORIES, NEEDS AND ISSUES

Nebraska JOC
District 1
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
CB Wizards 6 on snowplows 1 on striper 1 on construction project when not in snow plow	8 E	NDOR	
RWIS - 2 total, 1 each on I-80 and US 136 1 RWIS planned with CCTV 1 or 2 more RWIS budgeted FY 2003	2 E 1 P	NDOR	
4 portable DMS for permanent locations Highway 2 – Nebraska City, Lincoln I-80 EB west of airport, WB east of 48 th Street 8 other portable DMS used in District – random sites -Telespot -Winkomatic - maybe other manufacturers	4 E 8 E	 NDOR	
Cameras - over 100 cameras purchased for “O” Street project for use at traffic signals	E and P	City of Lincoln	
CCTV with PTZ cameras at Baseball Stadium to monitor baseball/football traffic	2 E	City of Lincoln	Fiber to City operations in conference room – available on web site, camera tours
CCTV with PTZ cameras in football stadium area including skyboxes. Start installation in late 2002	17 P	City of Lincoln	RF studies underway to get frequencies approved
Loop monitoring stations	6 E	City of Lincoln	
11 Portable DMS 10 Portable DMS approximately 15 will have speed display readout	11 E 10 P	City of Lincoln	
Emergency Vehicle Pre-emption - 130 intersections with ambulance, fire, and railroad pre-emption out of 350-400 signals	E	City of Lincoln	
VMS Board @ 48 th /Cornhusker 1 deployed now for westbound 2 planned for other legs	1 E 2 P	City of Lincoln	
Speed monitoring units 2 post mounted 2 trailer mounted 1 portable	E	NDOR	
Railroad Crossings – at new railroad signals, installing monitoring equipment to monitor signal condition – gate up/down, etc.	E	BNSF and UP	
DTN displays – in rest area @ Goehner – upgrade with tourism	E	Nebraska Tourism	

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Traffic Signal Systems – City of Lincoln ATRA central system, direct communications to 98% of signals, approx. 85 miles of TWP with some fiber, considering some wireless (spread spectrum) and additional fiber, most detection is loops, some are “count stations”, Eagle controllers TS-2, going to M40’s and M50’s, VID’s – using TrafficCon and Iteris, no Autoscope,	E	City of Lincoln	
Emissions control/air quality monitoring station – 1 permanent location 1 portable unit	E	Health Department	
On-board cameras and mobile data units – being used by Lincoln PD	E	Lincoln Police Dept.	
Incident Management Response Plan – coordinating with other agencies to deal with issues related to shutting down I-80 and routing traffic through Lincoln – developing preliminary route planning, etc.	Ongoing	City of Lincoln Public Works	
Railroad gate malfunction and status monitoring system -	P	City of Lincoln and RR companies	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Considering AVL on PD, FD, snowplows	P	City of Lincoln	
Considering electronic fare payment	P	City of Lincoln	
AVL being considered by many paratransits if some access issues can be worked out – considering for school buses	P	Various agencies	

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Parking Guidance System/Fare Collection System City of Lincoln has requested RFI’s from vendors for this type of system	P	City of Lincoln	

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Weigh in Motion / Inspection Stations I-80 at Waverly - has mainline WIM and Pre-pass for EB & WB directions, IRD scales used on mainline	E	NSP Carrier Enforcement	
Highway 2 – fixed platform scale WIM requested, but not programmed Scale at 77/92 at Wahoo Scale on Highway 6 – east of Waverly	E	NSP Carrier Enforcement	
Installing automated permitting system – should be operational January 1, 2003	P	NDOR	Permits for 10 days – need to

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Overweight/over dimension permitting available on web, online in September for selected customers			interact with construction zone restrictions – key linkage
Commercial Fleet Management Systems <ul style="list-style-type: none"> PK's Trucking – Lincoln ARNG – satellite based system in truck cabs 			

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Mobile Command Post <ul style="list-style-type: none"> -Ham Radio – HF/VHF/UHF -Commercial – UHF/low band/high band -2 repeaters with 40 handhelds on UHF -Aircraft radio -Purchasing wireless network and satellite capabilities -Satellite cell phone 	E	NEMA	
Lincoln Police Department – in-vehicle video	E	City of Lincoln	
NOAA Emergency Weather System	E	NOAA	
Nebraska Motorist Assist Program <ul style="list-style-type: none"> 2 vans/volunteers I-80/I-180 Platte River to York 	E	NDOR	
Hazmat Teams <ul style="list-style-type: none"> -NSP -Lincoln Fire Department/Health Department -Army National Guard in select armories 	E	NSP, City of Lincoln FD, ARNG	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
City of Lincoln <ul style="list-style-type: none"> -accident data since 1991 -Electronic image – accident reports -Sign database – transitioning to cartograph -Signal inventory -Signing and marking 	E	City of Lincoln	
ATR Data	E	NDOR Traffic	
Accident records – electronic	E	NSP	
Need standards/accident records – part of traffic engineering responsibility 70,000 crashes per year National Model – accident record sent by MDT in unit GIS system – utilities/roads, etc.	E and P	NDOR	
Traffic Volume Data	E	City of Lincoln	
Travel time delay studies	E	City of Lincoln	

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Workzone Management and Safety Systems Some research projects looking at doing this more	P	NDOR	
Permits Program Restriction Management Program 8 Districts can provide input to system	E	NDOR permits	

Nebraska JOC

District 1

Summary of Needs and Issues

Institutional Issues/Needs

- Realignment of NEMA districts more in line with NDOR Districts/NSP troop areas (1)
- Statewide coordinated communication system (17)
- Increase public/traveler information disseminated in cases of National emergency (local/regional) (2)
- Shared use of ITS devices, data-timing plans (13)
- Electronic enforcement – Red light enforcement, speed (6)
- Electronic submittal of accident records *
- Security issues with multi-agencies on the National Guard site *

Traffic Management

- Advance warning and notification of railroad crossing – gates down – information to fire department and operations centers (6)
- Special event management in cooperation with the City of Lincoln (including State Fair) (10)
- DMS deployments district wide (10)
- Reconstruct I-80 (Omaha-Lincoln) (10)
 - Re-route traffic to expressways during I-80 reconstruct
- Traffic management on expressway system (2, 77, etc.) (5)
- CCTV deployment along I-80 and other routes at strategic locations (10)
- Bridge anti-icing system (I-80 @ Platte River) (2)
- Shared use of CCTVs/DMS devices (13)

Traveler Information Systems

- Roadway closure/restriction information – web based – real time (13)
 - Consistent communications/data among all sites (permits, 511, web page, etc.)
- Advance warning to travelers of National Guard vehicles moving in response to National Emergency (National Guard vehicles are getting larger, not smaller) (1)
- Development of an I-80 reconstruction traffic management control/information program – including incident management scenarios (11)
- Identification of data collection, summary lead agency *
- More emergency services information (signage) (2)

Data Needs

- Construction/maintenance activity information required by CVO permit (web based) NDOR system (2)
- Electronic submittal of accident records from enforcement to NDOR (8)
- Access to adjoining states weather (RWIS) data (8)
- Additional RWIS (9)

Emergency Management

- Emergency response teams (multi-jurisdictional focus) (8)
 - UNL Football Games
 - I-80 closures
- Need improved radio communications among agencies (16)
 - No common frequencies
 - Lack of repeaters
- Center to center communications (10)
 - District 1 to Lincoln to other agencies (TBD)
- Dispatch Center access to train locations for dispatch of fire department, EMAs, to avoid blocked rail crossings (7)

Information Management

- Roadway closure/restriction information flow to NDOR permit (CVO) system (2)

Maintenance and Construction Operations

- “Smart” workzone traffic management system (13)
- Need gaps in radio communication system within district filled (8)
- Consideration of size of military vehicles during construction (trucks not getting smaller – new trailers 15’ wide) (3)

Public Transportation

- Bus arrival times at bus stops – reader boards (2)

Other Needs/Issues

- Incorporating ITS into bikeway system (3)

* - Items are informational or operational notes, and not an identified need or issue that was prioritized.

(12) – Number in parenthesis is the number of stakeholders attending workshop who voted for this issue as a high priority. There were 19 voting stakeholders.

JOC Requirements/Functions

- Special events central coordination/distribution point to support all Districts
- Central coordination point for emergency response/closures
- Data collection/dissemination
 - RWIS, HCRS, travel information, etc.
- Monitoring systems from traffic management perspective
- Central communications point among multiple agencies
- 511 central point
- DMS control after-hours
- CCTV control after-hours
- Secondary control of ITS devices
- Clearinghouse for coordination of District 1 and District 2 activities
- Information sharing with districts, City of Lincoln, Omaha
- Access to “everyone’s” information
- Multiple communications capabilities
 - Satellite, radio, phone, Internet, etc.
- Logging/scheduling capability to provide feedback to what happened in off-hours
- Centralized database of call out lists for various events
- Standardization for designs/implementations
 - Point of contact
 - Information
- Incident command center/EOC “situation room”
- Central point for public information and education/outreach

DOC Requirements/Functions

- Primary control of ITS field devices – primarily related to construction/maintenance activities
- Coordination with adjoining districts on traffic management issues
- Center to Center communications, shared control with City of Lincoln
- Operation during “normal” business hours
- Redundant communication/system operations (back up to JOC)
- Virtual link with City of Lincoln-Traffic Signal System control, information, display of maps

Nebraska JOC
District 2
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Dynamic Message Signs – Permanent 9 currently being installed on overhead structures – they are Mark IV, Full matrix, walk-in cabinets	9 E 4 more funded 14 P	NDOR	
Dynamic Message Signs – Portable ADDCO American Signal Vermack – 3 dial-ups – newest ones	16 E	NDOR	3 dial up (Vermack) 13 manual
RWIS sites – NDOR shares sites with other agencies including -City of Omaha -Douglas County -Eppley Field -Sarpy County	Approx. 15 E	NDOR, City of Omaha, Douglas and Sarpy County	
RWIS sites – planned -14 th /Dodge	1 P	City of Omaha	
RWIS sites - testing Systems Innovation RWIS with video in Omaha area – exact location TBD	1 P	City of Omaha	
Speed trailers – 2 are trailer mounted, 1 on a striper, 1 on an arrowboard	4 E	NDOR	
Speed trailers	1 E 3 P	Omaha Police Dept.	
Speed trailers	1 E	Sarpy County Police	
Autoscope cameras at signalized intersections Iteris TrafCam for single lane detection	9 E 3-4 P per yr.	City of Omaha	
CCTV Cameras with PTZ -72 nd /Dodge PTZ -90 th /Dodge PTZ	E P	City of Omaha City of Omaha	Dial-up Phone lines
CCTV cameras with PTZ – installed on NDOR right of way by permit	4 E	Television Stations	Microwave
Portable DMS Addco – 4 E Vermack – 2 P	4 E 2 P	City of Omaha	
Lane Use Signs and Signals at intersection – use National Fiber Optic Signs	Numerous Existing Signs	City of Omaha	Local signal controller
Lane Use Signs for Reversible Lanes - Dodge Street from 72 nd St. to Turner - Farnam from Saddle Creek to Happy Hollow	Numerous Existing Signs	City of Omaha	
Emissions/Air Quality Testing and Reporting Stations – 74 th /Dodge & 11 th /Locust	2 E	Metropolitan Area Planning Agency (MAPA)	
Traffic Signal Systems – City of Omaha and Douglas County 170 Controllers, Wapiti software, Masters control local signals, 60 dial ups to master controllers, reach 375 to 400 intersections (about 80% of signals), 18 timing plans are available, typically run 3, time of day, day of week timing is typical, emergency	E	City of Omaha and Douglas County	Phone lines, copper interconnects, adding some fiber interconnects

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
vehicle preemption installed throughout			
Statewide weather conditions available on Internet	E	Various websites	Internet
511 Website – provides links to other city and media	E	NDOR	
City of Omaha website – contains all road closures, notify media of scheduled closures, phone number available that media can get updates	E	City of Omaha	
Bellevue Signal System <ul style="list-style-type: none"> No central control system Interconnects on major intersections Using 170's – City of Omaha specification Switching from NEMA to 170 controllers Starting to use Autoscope Pre-emption (strobe for fire vehicles) 	43 E (½ NEMA, ½ 170s) 2 P (fall)	City of Bellevue	
I-80 and Highway 31 – 3 signals at this intersection, it takes 8 officers to direct traffic if closure on I-80, signals should have manual override but don't, NSP requests manual override on any new signal going in on I-80			
Motorist Assistance 3 vans, 30 volunteers, operate am/pm rush hours, typically M-F 6:30-10:00, 2:30-6:30, special events <ul style="list-style-type: none"> Fuel, flat tires, cell phone, traffic control to NSP, tag vehicles for towing – 12 or 24 hours I-80 – Platte River to Missouri River US 75 South to Normandy Hills/Platteview Road I-80, I-480, I-680 within Metro area US 275 West N-31 North Dodge Street Corridor Average 400 contacts with motorists per month 	E	NDOR	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Automated Vehicle Location (AVL) – located on entire bus fleet (110 buses) of Omaha Transit Authority, DBA Metropolitan Transit Authority There is enough capacity in their Siemens AVL system to do NDOR, NSP, Star Tran (Lincoln) and all paratransit agencies in state	E	Metropolitan Transit Authority	
AVL for City of Omaha Police - planning to implement AVL	P	City of Omaha Police Department	
MTA has applied for federal funding for "Next Bus" technology to be deployed over next 3 years	P	Metropolitan Transit Authority	
Kiosks at transfer centers	P	Metropolitan Transit Authority	
Looking at hub/spoke system and route diversion	P	Metropolitan Transit Authority	
Informal park and ride system at malls, churches, etc.	E / P	Metropolitan Transit Authority	
Service Plan Money – for en-route transit information/posting schedules, etc. (only 20K) available now	E	Metropolitan Transit Authority	

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
DSRC for motorist operations	E	NSP Carrier Enforcement	
Eppeley Field Parking Revenue Control System	E	Eppeley Field	

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Permanent platform scale location - Jct. 77/91 – Nickerson Scale	E	NSP Carrier Enforcement	
Werner Trucking has extensive fleet management system – interested in data feeds from NDOR	E	Werner Trucking	
HAZMAT team based in Lincoln	E	NEMA?	
Omaha FD – HAZMAT Team	E	City of Omaha Fire Department	
Offett AFB – 400 military police	E	United States Air Force	
Bellevue FD – HAZMAT Team	E	City of Bellevue Fire Department	

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Opticom – emergency vehicle pre-emption	E	Various	
All dispatch centers are e911	E	Various	
Omaha/Douglas County bonded for 800 MHz dispatch	P	Douglas County	
Center to Center county interconnect – Douglas County to Sarpy County for CAD information	E	Douglas County and Sarpy County	
Sarpy County can broadcast over NSP radios NSP monitors Sarpy County dispatch Needs traffic information/alternate routes, etc.	E	Sarpy County / NSP	
City of Papillion Fire Dept. has preemption along Hwy 85, 84 th Street, 31 & 64, in front of fire station	E	City of Papillion	
City of Omaha Police Dept. – Planning for AVL system	P	City of Omaha PD	
Douglas County has agreement with Metro Networks to share some dispatch information	E	Douglas County / Metro Networks	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
MAPA produces a traffic flow map every two years – also available on the web	E	MAPA	
8-10 permanent sites – counts/classification 200-300 portable counting units	E	NDOR, City of Omaha, MAPA	
No data on incident durations			
Motorist assist program	E	NDOR	
Weather data – what is coming is really needed*	E	NWS, NDOR	
Traffic flow data, lane closures, etc. from District 1	E	NDOR	
CVO Information C-Vision – as close to level 1 compliance as you can get Pre-Pass – 12 week old data	E	NSP Carrier Enforcement	
State traffic flow report	E	NDOR Traffic Engineering	

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
City road closures <ul style="list-style-type: none"> ▪ Notify media by fax ▪ City web site 	E	City of Omaha	
CB Wizards – on striper, snow plow	1 E 1 P	NDOR	
Dummy “radar” signals for construction vehicles	E	NDOR	
AVL on snowplow with on-board diagnostics	1 E	NDOR using MTA’s AVL system	
Workzone Management and Safety – using a traffic monitoring and sign display on the 50/370/Interstate Project	E	NDOR	
-Progressive Speed Monitor System – Relay to Speed Displays	E	NDOR	
System Innovations – video detection, traffic counts, RWIS	P for testing	NDOR	

ADDITIONAL INVENTORY ITEMS:

I-80 Reconstruction/Widening Project(s) from Omaha to Lincoln

- On-call incident management meetings – need extreme coordination on incidents – I-80 between 370 and Platte River
- No shoulders – during construction – capacity reductions
- Year round construction project
- 2-way head to head traffic on interstate
- 2 lanes in each direction, no shoulders
- NSP trying to boost manpower/equipment to support construction
- Money in 2002 earmark for smart workzone
- This could be a candidate for an ITS Early Project**

Nebraska JOC

District 2

Summary of Needs and Issues

Institutional Issues/Needs

- Incident management – on-site communication with incident manager, etc. (current radio system prevents communication) (10)
- Trained manpower (additional positions) at DOC (3)
- Agencies working together/buy-in from adjoining agencies and participation of Railroads, County Sheriff's, county commissioners, etc. (11)
- NDOR policy for ramp closures (currently staff must be posted at every ramp) (2)
- Quick clearance policy for towing abandoned vehicles, etc.(6)
- "Smart" driver's license (currently can only contain information on face of license) (3)

Traffic Management

- Implementation of an FMS with full ITS deployment, including additional DMS, CCTV, RWIS sites, incident management and strategies, ramp meters, DOC staffed and trained to operate system (11)
- Manual/on-site control of intersection traffic signals for incidents/special events (5)
- Design of communication system for FMS and communication of information from FMS (11)
- Video CCTV arterial and freeway – secondary control local agency (10)
- Automated ramp closure system (1)
- Integrated traffic signal system – central system control – priority corridor development with an arterial system of trailblazers/DMS (13)
- Transmit video to DOC/JOC from helicopters/aircraft (0)
- AIS (0)
- Special event management capabilities (e.g., College World Series) – parking management system (9)
- Incident management committee for significant projects, develop incident strategies and plans (this could be an early ITS win project for I-80)*

Traveler Information Systems

- Advanced Traveler Information System (ATIS), with web based with traffic flow, construction/maintenance activities, incidents on both arterial and freeway (10)

Data Needs

- Weather information in addition to RWIS (integrated as much as possible) *
- Real time reporting of weather/roads conditions by field personnel (more real time updates) with an easy way of field personnel to report changing conditions (9)
- GPS based system for Accident Records/information entry (11)

Emergency Management

- Watershed information for HazMat spills along freeways, drainage flows (already in process through Larry Zink – Natural Resources Agency – GIS database) *
- Total station accident investigation by NSP in Omaha (already in process) (10)
- Lifelink technologies /communications with video capability (0)
- “Smart” driver’s license with medical detail, etc. (5)
- Interagency communication and data exchange, incident information exchange (12)
 - Integration of agency data collection and disbursement
 - Incident clearance and processing system – clear incident quicker (see institutional issues for quick clearance policy vote)
 - Weather local and statewide (especially District 1)
- Incident on-site communication between police, fire, medical, NDOR (not compatible systems at this time) (1)
- Alternate access points for response to freeway incidents (only to be used for emergencies and by emergency vehicles) (9)
- Information on hydrant access from freeway (8)

Maintenance and Construction Operations

- Real time roadway/weather status reports from maintenance crews (9)
- AVL on maintenance and construction vehicles (3)
- Standard design for fiber/power conduit, CCTV poles mounting (this could be an early ITS win project) (7)

Information Management

- Database, spatial relationship for various agencies to input and retrieve data (4)

Public Transportation

- Real time transit schedules and schedule status on web site (1)
- Paratransit route schedule system – mobile data system (1)
- Bus stop reader boards, bus real-time schedule status (1)
- Excess capacity of AVL system (existing) *

* - Items are informational or operational notes, and not an identified need or issue that was prioritized.

(12) – Number in parenthesis is the number of stakeholders attending workshop who voted for this issue as a high priority. There were 16 voting stakeholders.

JOC Requirements/Functions

- Provide off-hour support
- Data warehouse/sharing capability
- Backup to DOC's (staffed 24/7 with full functional capability)
- NSP – HQ Troop Area dispatch center
- 511 data coordination/entry

DOC Requirements/Functions

- Full monitoring/control capability of FMS/ITS elements
- Full center-to-center communications with local TOC's
- Full inventory of response and local staff/equipment resources
- Full monitoring/control of other state/arterial routes (district wide system and coverage)
- “ALERT” teams to mobilize when called out
- Include collocation with NSP (NSP dispatch – decision pending)
- Linkages to County EOC's (virutal – Sarpy Co., Douglas Co. are players)

Nebraska JOC
District 3
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Bridge De-icing System on US 75/77 bridge over Missouri River from Sioux City – automated De-icing system – Odin System Includes infrared camera on pavement	E	NDOR	
Portable DMS – 8 total in District Use in pairs on routes – will be adding more in the future – currently have: <ul style="list-style-type: none"> ▪ ADDCO ▪ Vermack ▪ American Signal Workstations in Maintenance Operations offices	E P	NDOR	Cell Phone
Radar Trailers – currently have 4	E	NDOR	
CB Wizards – 8 Used on maintenance vehicles, striping and snowplows	E	NDOR	
RWIS – 5	E	NDOR	
Signal Pre-empt Norfolk - Use Brown traffic equipment South Sioux City – using Opticom (installing soon)	E	NDOR/Cities	
GPS equipment on snow plows	P	NDOR	
Automatic Traffic Recorders – several in District	E	NDOR Traffic	
Signal interconnects – hardwired between 2-4 signals in some areas City of Columbus – GPS for time synchronization – use Caltrans 170 controllers	E	Various	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
None			

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Portable Scales - 35 mobile units statewide (suit case variety)	E	NSP Carrier Enforcement	
Weigh Station – permanent scale at Laurel on US 20	E	NSP Carrier Enforcement	

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Emergency Dispatch Norfolk Fire Dept uses 2-channel 800 MHz radio - Need trunked radio system Norfolk Police Dept uses RAYCOM trunked 800 MHz radio system like Lincoln's Norfolk dispatches for City and Stanton County, e911	E	Norfolk Fire, Police and Emergency Management	
NDOR uses channel 15 on the CB – monitored by local police, but not by state patrol	E	NDOR	
39.9 MHz designated as statewide emergency channel – communication link is NSP Trooper to NSP Dispatch to NDOR via land line	E	NSP	
Line of responsibility is an issue with vehicle to vehicle calls – going through dispatch centers can be beneficial for obtaining supervisor input			
Technician Level Hazmat Response team	P – 2003	City of Norfolk	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Automatic Traffic Counts	E	NDOR Traffic	
Highway Plans, Driveways permits, etc.	E	NDOR	
Photo-logging system within District	E	NDOR	
Accident data maintained by Traffic Engineer – Lincoln	E	NDOR Traffic Engineering – Lincoln	
Equipment logs of where equipment is located and its activity	E	NDOR	

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Communications within District Primarily 2-Way Radios between units Supervisors have cell phones	E	NDOR	
Construction Work Zones use: Portable dynamic message signs Speed trailers CB Wizards on stripers and snowplows	E	NDOR	
Manual system for work orders on maintenance	E	NDOR	

Nebraska JOC

District 3

Summary of Needs and Issues

Institutional Issues/Needs

- Coordination between NSP/NDOR on Incidents/Weather*
- Improve communications – integrated/centralized communication system (8)
 - NSP communication system is late 1950's era equipment*
 - No NDOR dispatcher after 4:00 PM weekdays or weekends*
 - Radio systems not compatible (NSP, NDOR)*
 - No definite person “on-call”*
- Automated paging to NDOR from County Sheriff's Office for single point of contact (6)
- Lack of communication between NDOR and Sheriff's offices (5)
 - Sheriff's offices don't seem to follow or know about NDOR operational procedures (due to high turnover in dispatch centers) *

Traffic Management

- Additional de-icing locations (3)
 - Viaducts in Norfolk and Columbus (both on US 81)

Traveler Information Systems

- Updated construction/maintenance activities – greater frequency of updates (2)
- 511 – more real time information/reliable (5)

Data Needs

- RWIS data District 4 and 8 (5)
- More input from snowplow/on-site operator on road and weather conditions (5)
- Summarize/consolidate RWIS data for real time analysis (5)

Emergency Management

- Monitor railroad tracks for gates that are down to provide to Emergency Medical Responders (EMR's) in Columbus and So. Sioux City (1)
- Communications with emergency responders, hospitals, sheriff's department (1)
- Cell phone capacity/coverage (2)

Maintenance and Construction Operations

- Coordination with police, fire, EMR's on access through work zones (0)
- Improved radio communications (6)
 - 90+ NDOR vehicles on two frequencies (47 MHz for both)
 - Only two frequencies per region
 - Norfolk bleeds over to Broken Bow
- Coordination/training of contractors for workzone management systems (3)

Other Needs/Issues or Data Identified

- Retain RWIS historical data (0)

JOC Requirements/Functions

District 3 concept of JOC's roles and responsibilities:

- Centralized point of contact for resources
- Information center for regional and statewide conditional assessment
- Standards establishment/policies and procedures
- Centralized point of contact after-hours/weekends
- Central control from JOC after-hours, back up to district for DMS, etc.

District Operations Center (DOC) Vision

- Interaction/coordination with emergency response agencies (medical/law enforcement)
- Control function more with the NSP
 - Staffing assistance provided to NSP
 - Located with NSP
- Control of DMS at maintenance shop level, control also at DOC
- Coordinate regional incident/disaster situations – EOC functions with NDOR, NSP, and Emergency Management response agencies
- Incident notification system

* - Items are informational or operational notes, and not an identified need or issue that was prioritized.

(8) – Number in parenthesis is the number of stakeholders attending workshop who voted for this issue as a high priority. There were 8 voting stakeholders.

Nebraska JOC
District 4
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
12 portable DMS will be cell phone ready	E	NDOR	
4 speed signs, pole mounted, permanent 4 portable display actual speeds	E	NDOR	
Automatic traffic recorders (some are phone)	E	NDOR	
RWIS	4 – E 4 – P	NDOR	
Highway Advisory Radio (HAR) 530 AM – City of Grand Island Emergency Management 1610 AM – Archway Monument	2 – E	City of Grand Island and Archway Monument, respectively	
511 – all road conditions statewide	E	NDOR	
Railroad pre-empt (2)	E	BNSF	
1 segment of signal I/C with field master	E	City of Grand Island	
CAD – 911	E (only in some locations)	Grand Island/Hall Co. 911 Emerg. Mgmt. Buffalo County Sheriff's Office	
BNSF has system that alerts 911 CAD when train approaches (Grand Island)	E	BNSF	
Statewide 39.9 Mhz radio, VHF low band – County Sheriff	E	Various	
Hastings has 3 railroad crossings – BNSF dispatch notifies 911 dispatch if crossing will be blocked more than 20 minutes	E	BNSF	
Railroad Crossing have directional horns in City of Kearney	E	UPRR	
*55 calls to NSP Lincoln Dispatch, transferred to field office	E	NSP	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Kearney has para-transit – GPS/AVL EZ Ride Scheduling, CAD based system	P	Mid Nebraska Community Action Transit Agency	
Grand Island – Sr. 2-way radio (only)	E	City of Grand Island	
Hastings – 2-way radio	E	City of Hastings	
AVL on school buses used for location and to know when door opens	E	School District(s)	

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
None			

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
WIM in North Platte, Lincoln (Districts 6 and 1)	E	NDOR NSP	
Pre-pass at North Platte (District 6) Pre-pass at Lincoln (District 1)	P E	NDOR Building, NSP, Help, Inc.	
Weigh Stations – No WIM have portable scales	E	NSP	
HAZMAT Notification and Response Coordination – email to NSP and NSP sent by teletype to others – (Major Tuma knows more details if needed)	E	NSP	

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Hope to get Mobile Device Terminals (MDT) and then later to go to Automated Vehicle Location (AVL) for law enforcement	P		
Knows where PSAPs are located			
Kearney has fire pre-empt at five intersections	E	City of Kearney	
Buffalo County and City of Kearney – Global Positioning System (GPS) on all emergency vehicles	E	Buffalo County City of Kearney	
SERT (State Emergency Response Team) – multi- agency sponsored	E	NEMA/NSP	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Kearney has some traffic recorders	E	City of Kearney	
Kearney has accident data – how many accidents at intersection	E	City of Kearney	

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
2-way radios and base radios – new trucks will have GPS	E	Local agency	
Portable DMS Icy Road signs – set at sign	E	NDOR	
Bridge at Kearney (I-80) de-icing manually turned on by cell phone. (District may want to switch to automatic activation when they get RWIS)	E	NDOR	

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
CB Wizard – used on snowplows, workzone vehicles, and striping equipment	E	NDOR	
Radar speed signs on trailers	E	NDOR	
AVL on snow plows know when blade goes down	E	Buffalo Co.	

Nebraska JOC

District 4

Summary of Needs and Issues

Institutional Issues/Needs

- State Patrol calls maintenance to put closures on 511 system*
- Need easier remote entry to HCRS system (8)

Traffic Management

- Dynamic message signs (8)
- CCTV at RWIS (for road conditions) (4)
- Enhanced data transmission networks (DTN's) located at rest areas (6)
- Workzone traffic management system (cameras, detectors, portable signs) (11)

Traveler Information Systems

- Construction, ice, and snow are major issues for operation of I-80*
- Need to communicate road conditions to motorists (11)
- Need to communicate road closures due to accidents (11)
- Need 511 system to input/assist to manage incidents (5)
- Need to communicate construction workzones/delays (11)
- Tourist information at rest areas (2)

Data Needs

- Accident data entry is one year behind – need quicker entries (2)
- Need database of resources used by agencies for emergency response (to apply for disaster reimbursement) (9)

CVO

- DMV takes care of IRP process*
- Need automated truck permitting process (9)
- Need manpower for enforcement (10)

Emergency Management

- Need statewide emergency channel (broken down by Districts or Troops to avoid bleed over) (4)
- Need notification from phone companies that 911 exchange goes down (9)
- Need caller ID for cell phone calls – location of callers (12)
- Need ability to track emergency management vehicles when on calls (GPS) (10)

Maintenance and Construction Operations

- Ramp gates (automatic) (9)
- Portable workzone management system (11)
- Protect slow moving snow plow from traffic from behind (12)
- Need for reliable base radio systems (7)

* - Items are informational or operational notes, and not an identified need or issue that was prioritized.

(8) – Number in parenthesis is the number of stakeholders attending workshop who voted for this issue as a high priority. There were 12 voting stakeholders.

JOC Requirements/Functions

- Be the state Emergency Operations Center/Nebraska State Patrol statewide center
- State warning point
- Nebraska State Patrol Headquarters – Lincoln
- Have space for staff
- Have space for outside personnel or representatives of agencies who would be called upon to support Emergency Management Agencies (Red Cross, Civil Air Patrol, etc).
- Operate Traffic Management Center (TMC) for after hours and weekend operations
- Be able to talk to Nebraska Department of Roads supervisors at night or during snowstorms and weather events
- Monitor road weather information systems (RWIS) in other districts and other states
- Coordinate resources for major incidents (medical, derailments, weather, etc) for NEMA
- Support 511 System
- Support information available on the Web page
- GIS based identification of hazmat sites that automatically calls a selected group of homes (future implementation)
- Operate 24 hours a day (24/7/365)
- Secure Operation
- Uninterruptible Power Supply (UPS) and backup generators
- Contains the state radio system, support statewide multi-agency communications
- Facilities for media
- Satellite communications as a redundant communications means
- Coordinate data exchange with other states

Nebraska JOC
District 5
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Portable DMS 8 – I-80 2 – Scottsbluff 1 – Rt. 71 <u>1 – various locations</u> 12 Total	Existing – American Signal & ADDCO	NDOR	Software on laptops at District 5
VMS Permanent – 8	Planned (3 in next fiscal year)	NDOR – District 5	
AVL – 12 total units in operation Sidney – 6 Kimball – 6 (units ping every five minutes via the radio system, however, if vehicle turns around or changes routes, the system is not sophisticated enough to follow where the vehicle went due to 5 minute polling.)	E	NDOR	
New radio communication back to the existing server	E	NDOR	
New GPS based system planned. Tracking will follow the roadway. (ultimately planned for 74 vehicles in District 5)	P	NDOR	Other agencies would like to use this technology
Bridge De-icing System – system deployed is an Odin System, located at North Platte River Bridge in Scottsbluff	E	NDOR	
Speed Monitoring Trailers – 8 for NDOR, 1 or 2 in Chadron	E	NDOR, Chadron	
CB Wizards – 11 total on stripers, snowplows, and construction areas, transmit on Channel 19, cost about \$4K each	E	NDOR	
RWIS Stations – 16 existing in total, 1 with CCTV, CCTV planned at other 15 locations	E P	NDOR	
511 System	E	NDOR	
Automatic Traffic Recorders (ATR's) 7 on state routes, 7 or so on City Routes	E	NDOR and Cities	
CCTV – on Scottsbluff County Communications Center, KSTF (Scottsbluff), Union Pacific RR	E	Various	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
RR – Union Pacific has AVL technology (details unknown)	E	UNION PACIFIC	
Kinder-Morgan (Gas Co.) (details unknown)	E	KINDER-MORGAN	
UPS (details unknown)	E	UNITED PARCEL SERVICE	
FedEx (details unknown)	E	FEDERAL EXPRESS	
Trucking Companies (details unknown)	E	VARIOUS	
ARNG - planned AVL and Contents Smart Card on cargo vehicles	P	ARNG	

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
None			

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
2 portable scales – motor carrier enforcement (1 used in Sydney and 1 in Scottsbluff)	E	NSP Motor Carrier Enforcement	
City of Scottsbluff has HAZMAT team with mobile command center including video recording in the vehicle	E	City of Scottsbluff	

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
SERT Teams – 30+ teams statewide, 6-7 teams in Troop E Area,	E	NEMA	
Low level HAZMAT with Clean Harbors in Kimball	E	Private company	
Missile Silos in this district			
ARNG – spill response capability per unit	E	Army National Guard	
Burlington Northern Santa Fe has HAZMAT team	E	BNSF	
NAWAS – National Advanced Warning and Alarm System	E	NEMA	
Weather Advanced Warning System (radio based); can be used for HAZMAT also; message will be tailored to the situation	E	National Weather Service (NWS)	

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Dispatch Centers +Chadron Police Department – Dispatches all of Dawes County and northern part of Sioux County Chadron Sheriff's Office – Sheridan County Alliance Sheriff's Office – Box Butte County Bridgeport Sheriff's Office – Morrill County +*Gering Sheriff's Office Communication Center – Scottsbluff County, southern part of Sioux County, and Banner County +*Kimball Sheriff's Office – Kimball County Cheyenne County Communications Center – Sheriff's Office, Police, and emergency services Garden County Sheriff's Office – Garden County only Emergency Service Deuel County Ogallala – Emergency Services for Deuel County Regional West Medical Center – Airlink (private air ambulance service) Army National Guard – Radio system to reach all armories in state. Can tune to any frequency + E911 * GIS E911 System	E	Various – see detailed description for each at left	
Region 21 Emergency Management mobile communication vehicle available upon request	E	NEMA	
Cable TV Interrupt – for broadcast of emergency situations	E	County Emergency Management	
Scottsbluff – Emergency Management radio transmitter link to radio station for broadcast of emergency messages	E	County Emergency Management	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
RWIS Site data is archived on SSI server	E	Data is owned by SSI. Software is also owned by SSI. Server is located at NDOR Headquarters	
AVL Replacement for District 5 vehicles (will have more functionality)	P	NDOR	
Accident Data at Chadron State, various colleges paper archives	E	Accident Data provided to colleges for learning purposes	Colleges have distance learning facilities

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
AVL on 6 units in Scottsbluff, and 6 units in Sydney	E	NDOR	
CB Wizards on 11 units including striper and snow plows, construction work zones	E	NDOR	

Nebraska JOC

District 5

Summary of Needs and Issues

Institutional Issues/Needs

- Direct communications link to NDOR by Region 21 and other Emergency Management Agencies. (Need to interface radio frequencies among agencies) (12)
- **Funding** for better communication system (centralized to provide for consistency among districts) (14)
- Cheyenne County Sheriff's Office generally does not patrol *routinely* on Interstate.*
- ARNG chain of command has to be followed to get National Guard assistance.*
- Wireless Communication to the Internet (need faster capability, can't get T1 speeds in some areas)*
- Video conferencing within NDOR*
- Satellite and other enhanced communications*

Traffic Management Needs

- District Operations Center jointly shared with NSP including: (12)
 - Wireless Communications
 - Telecommunications; video conferencing
 - Other items from list prepared by District 5
- Convert manual closure gates to automated gates at six existing locations on the Interstate *
- Highway anti-icing systems on steep grades, US 385 south of Chadron, US-20 west of Crawford, and Angora Hills (12)
- Bridge anti-icing systems with cameras for verification at specific sites, and liquid snow and anti-icing systems on vehicles (8)
- Automated closure gates with cameras for verification, I-80 mainline and ramps, N-71 expressway (Kimball – Scottsbluff) and US-20 west of Harrison (12)
- District Operations Center (DOC) (14)
- Cameras on all RWIS sites, (15 additional) (12)
-

Traveler Information

- More portable CMS (11)
- 511 – lots of dead spots in panhandle (15)
- More cell phone towers in Panhandle to fill in gaps (perhaps funded by the State) (15)
- Web site of Traveler Information Services (land based) (12)
- Accurate data on road conditions during adverse weather (12)
- Timely information to the public (13)
- Access to RWIS data by NSP, Emergency Management Agencies and Utility Companies (13)
 - also listed under data needs
- Web based road information system to the users, e.g. camera info, RWIS, closures, restrictions (13)
- Automatic rest area closure signs and gates (5)

- Dynamic Message Signs (DMS) with cameras for verification, I-80, N-71 expressway (Kimball – Scottsbluff), US-26 west of Scottsbluff, US-20 west of Harrison, US-385 north of Chadron (13)
- 511, web, Highway Advisory Radio *

Data Needs

- DMV – accident/crash archived data (6)
- DOR weather information (website or phone) (10)
- RWIS data from Wyoming*, Colorado, Kansas, South Dakota* (* currently have) (capability for early weather warnings) (13)
- Better data sharing with Union Pacific (UP) and Burlington Northern and Santa Fe (BNSF) (2)
- Better data sharing with FE-Warren AFB (7)
- High Speed Internet connection at all Dispatch centers to a reliable weather computer graphic (weathertap.com) (weatherbug.com) (9)
- Access to RWIS weather station data by NSP, EMA's, utility companies, etc. (currently not available through SSI) (13)
- Wireless computer communication between NDOR offices (11)
- Telecommunication – video conferencing intradepartmental at NDOR (10)
- Satellite communication links for teleconferencing for nationwide/international programs (13)
- Palm Pilot wireless internet connection devices including Construction Sitemanager (3)
- GIS mapping for asset management, pavement conditions, appurtenances (5)
- Delivery of RWIS information to public in a timely, understandable manner*

CVO

- Fixed location scale on I-80 (3)
- WIM – real time to establish trends to know if enforcement is needed (3)

Emergency Management

- Single frequency radio system for NDOR, NSP, NEMA, ARNG, emergency providers (15)
- Better communication system (15)
- Mobile Data Terminals (13)
- Storm chasers with RWIS type equipment mounted on vehicle (1)
- Better coordination between emergency management agencies for responses (14)
- NSP and Sheriffs would like AVL – maybe use NDOR AVL (13)
- Advance notification for road closures to Emergency Management Agencies for accommodation of public (13)
- XML Integration for all District 5 partners that want to participate. Those stating they want to participate include: (15)
 - Chadron/Dawes Co.
- Telemedicine (Lifelink) to improve on the golden hour for accident victims (0)

Maintenance/Construction Operations

- Highway Advisory Radio (HAR) for construction/maintenance projects, incidents, snow plowing (11)

- Smart work zones (6)
- Magnetic tape systems for pavement and snow plows (9)
- Rear looking radar on all snow plows (8)
- Highway closure and restriction system – voice recognition activation for maintenance vehicles and snowplows to report weather and accidents (12) (this system is activated in Utah)
- AVL's on all snow plows (9)
- Workzone entry warning devices (12)

Other

- LEOP's on line (15)

JOC Functions/Requirements

- Provide archived data
- Resource center to see overall statewide perspective for major emergencies
- Center for distribution of travel information center for collection of road condition, etc.
- Central point for Emergency Management Agencies to contact
- Central notification point for HAZMAT, etc.
- Determine trends and develop training to meet needs
- Center for coordinated response
- JOC to "see" and distribute information and support districts – **Do not control! No central dispatch.**
- Collect information from other states and distribute
- Streamline link to National Guard
- Monitor and have ability to place messages on CMS only with District approval
- Monitor and have the ability to control CCTV cameras
- Ability to communicate statewide with a Switch

* - Items are informational or operational notes, and not an identified need or issue that was prioritized.

(12) – Number in parenthesis is the number of stakeholders attending workshop who voted for this issue as a high priority. There were 15 voting stakeholders.

Nebraska JOC
District 6
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
DMS 16 portable with 2 more portables on order 4 pickup mounted 3 software packages: – American Signal – N. Platte, Lexington – Addco – originally an old DOS system –updated to Windows – Ogallala – Vermax – Broken Bow, Mullen Cellular dial up for 10 DMS portables – used Oct 15 through Apr 15 for winter operations – pad mounted	E	NDOR	Cellular Communication
RWIS Sites – 4	E	NDOR/SSI	Internet
De-icing system On I-80 RP 201 Bridge – Boschung system includes its own RWIS, will have a color camera, WB bridge completed in 2001, EB bridge under construction	E	NDOR	
Automated Traffic Recorders (ATR) – 3 in district	E	NDOR	
WIM/Pre-pass I-80 EB completed in 1999± Ports being reconstructed IRD WIM scales in mainline pavement Pre-pass – with associated cameras, etc.	E	NDOR	
CB Wizard 6 units 1 on striper 1 on construction (201 project) 4 truck mounted	E	NDOR	
Ramp Gates at every interchange – manually operated Mainline Gates manually operated at the following Lexington Ogallala North Platte – 2 sets I-76/I-80 Fixed-folded signs – should have beacons	E	NDOR	
5 portable radar trailers	E	NDOR	
Railroad closure gates – located on all state route crossings, county roads and private roads typically don't have gates An issue – during incident management on I-80, traffic is rerouted onto US 30, requiring a rail crossing. Currently there are 13 overpass structures with 3 more in design or under construction.	E	Union Pacific/NDOR	
Fixed Signs indicating local radio media – currently have a number of fixed signs indicating weather information available at 101.3 FM, 620 AM, etc. (as examples of stations) One issue – NDOR sends faxes to radio stations notifying them of closures. This is a slow process.	E	NDOR	

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Faxes to Truck Stops NDOR faxes closure alerts to truck stops. This is a slow tedious process. Need better “mass distribution process”.	E	NDOR	
Road Closure Information posted on Web Page This needs to be reactivated	E	NDOR	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Paratransit – Rec Center, North Platte	E		
Handy Bus – County	E		

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
None			

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Pre-pass Used for both EB and WB directions 16% trucks pre-cleared by Pre-pass Werner has approx. 6000 trucks with Pre-pass, Other companies have another 3,000-4,000 trucks Resistance among independent truckers to join	E	NDOR	
Dispatch centers from trucking companies call NDOR back to verify that road is closed	E	Various dispatch centers call NDOR	Telephone
Trucking Associations are sentinels looking for unusual activity on roadways – homeland security	E	Various trucking companies	
Is there a way to communicate to pre-pass that roads are closed? Or provide links to trucking companies dispatch centers, so that can put it on Mobile Data Terminals?			
Lodging Hotline – is operated in North Platte to assist motorists in finding rooms when I-80 is shut down	E	City of North Platte	Telephone
Strategic Routes – Highway 83 and Highway 2 are strategic routes. If I-80 closes, trucks tend to head north			

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Emergency Management Agencies access weather information from National Weather Service and from RWIS data on the Internet. After hours, they use 800 number to contact NEMA in Lincoln.	E	Various EMA	<i>EMA to NWS EMA to internet EMA to NEMA</i>
National Weather Service is user of RWIS system – needs access to greater number of RWIS stations	E	NDOR	<i>NWS to Internet</i>
NWS transmitting data dynamically on their web page <ul style="list-style-type: none"> – Storm monitoring section – Weather wire – goes to media outlets – NOAA weather radio – can code counties that you want alerts for with newer radio systems – Nebraska Warning System – red phones to emergency management agencies 	E	National Weather Service	<i>NWS to Internet</i>
Good relationship with local media for weather alerts. Media alerts on FM/AM or 511. One issue is that in the off-hours, the stations are not manned, can't put out new or revised alerts.	E	National Weather Service	<i>NWS to AM/FM stations, TV, 511, etc</i>
Union Pacific Railroad Environmental Specialist/HAZMAT – good working relationship with county emergency management – will assist with spills and cleanups	E	Union Pacific Railroad	
Military Transports – NSP and County Emergency Manager usually get notification	E	NSP, EMA	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Notification form – for NDOR from NSP dispatchers (Need to get copy of this from NSP)	E	NSP/NDOR	
Current issue - County Sheriff's Offices, State Fire Marshal and others will close roads and Districts aren't being notified			

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
5 portable speed zones Arrow boards May require contractor's to provide portable CMS for use in construction zones in future projects	E	NDOR	
Contracted maintenance for dead animal pick up, mowing, etc. (would want AVL on vehicles to monitor location, mowing operations, etc.)	F	NDOR	
Planning AVL on snowplows, stripers, mowing equipment and designated emergency response vehicles	F	NDOR	

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Vehicle breakdowns in construction zone is an issue <ul style="list-style-type: none"> – State legislation issue – need to allow prompt removal of vehicles – Availability of reputable towing service near workzones is another issue 			
Feb 6 Federal Register – Rulemaking in Process to require Construction Workzone Management Systems			
District 4 utilized a no towing until the snow storm is over policy this past winter			

Nebraska JOC

District 6

Summary of Needs and Issues

Institutional Issues

- Need common, reliable communication system for communicating among agencies (13)
- Ownership of RWIS data and CCTV video images (3)
- Training of operators (0)
- Training – need for more partnering (13)
- NSP does not have Computer Aided Dispatch (CAD) system (3)
- Need “hook and drag” policy to clear blockages in work zones (11)
- NSP needs to advise of closures (NDOR and others) (14)
- State Fire Marshal needs to advise of closures (14)
- Need immediate information of accidents, incidents, traffic control assistance (14)
- State patrol training on NDOR Operational procedures and working together*

Traffic Management

- Closure gates on State Routes (12)
- Need speed detection/warning (radar and sign) (5)
 - I-76/80 junction
 - I-80 eastbound
- Closure gates on secondary roads (State/US Routes)*
- Video for RWIS sites – currently only get surface temperature, air temperature, wind speed*
- First responder video in vehicles*

Traveler Information

- Truck parking availability at rest areas and along ramps (9)
 - (Truckers don’t want to pay a fee to park in a lot)
- DMS connected to railroad to display closure information (5)
- Interface DMS central system to access from all areas (9)
- Timely and accurate travel information (9)
- Pre-pass communicate road closures to truckers (0)
- Road information to trucking dispatch centers (7)
- Need DMS, etc. for state routes – 90 beyond Interstate (13)

Data Needs

- Ability to create custom reports, flexibility in data contained in reports (3)
- Video conferencing – being considered (5)
 - Ability to display video on web (exists)
- Video from first responders (3)
- Video of CMS message (4)
- Video surveillance (5)
 - PTZ
 - RWIS Sites
 - At Automatic Gate

- Need immediate reports of damage to NDOR facilities that need repair (13)
- NWS – greater access to RWIS data – with dynamic updates of temperature, precipitation, etc. to integrate with their forecast models (9)
- Real time traffic counts during emergencies (or CCTV) (7)
- Real time room availability, open lot available for parking (2)
- HAZMAT incidents – NDOR staff need to know type of hazardous materials*
- Scan Data (from SSI) – have to buy archived data*
- ID tags or other means of identifying staff – in process*

Public Transportation Management

- Traveler information to paratransit (0)
- Paratransit needs data on closures from NSP, NDOR*

Commercial Vehicle Operations

- Better communication with service stations, truck stops, dispatch centers, etc.*
- Quick clearance policy for clearing stalled/disabled vehicles*
 - Both trucks and passenger vehicles
- Truck Parking – in lots and on ramps*
 - Truckers don't want to pay a fee to park

Emergency Management

- Need to use National Guard at closure locations (11)
- Procedures for stopping trains for emergency management in critical situations (i.e. during an evacuation, etc.) to keep crossing clear (12)
- Have agencies together for table top exercises dealing with emergencies (16)
- Everyone needs to know who is in charge at incident scenes (10)
- Staff identification at scenes (in process) (7)
- Need to know HAZMAT materials (7)
- Common radio frequency for all responders (13)
 - Communication system for agencies to use
- Need immediate report of any condition on the roadway – accident, incident, etc. (emergency managers need this information too) (13)
- Useful to have LEOPs on web (5)
- Better radio communication (13)
- Better cell phone coverage (Mullen, Broken Bow, Brady) (14)
- Internet based alphanumeric pager (0)
- Need road closures information sent to County dispatch centers (7)
- Need to know of HAZMAT material movements (11)
- Also military equipment – roads and railroads (11)
- Need automated phone dialing system to notify of incidents, etc. e-mail is being used but reaches limited numbers (11)
 - Limited human resources to communication is lacking some times
- Get all emergency responders (including volunteers) together face to face to discuss operational procedures*
- District 6 conducting incident management workshop*

Information Management Needs (Archived Data)

- Need system to archive all road closures, etc. (i.e., how many times has it been closed in last three years) (5)
- Make data readily available to/from other agencies, (i.e. accident data, etc.)*
- Ability to customize reports, need ID clearances for access to data, training, procedures manuals, and format for data*
- Web cameras – you don't record CCTV images*

Maintenance and Construction Operations

- AVL on Snowplows (in order to let emergency vehicles know which roads have been “cleared”) striping vehicles, mowers, NDOR emergency vehicles, portable DMS (11)
- Include ITS in all construction planning (7)

Other Needs

- Redundant communication primary providers (cable cuts) (11)
- Railroad crossing information – activate DMS sign on Highway 30 when railroad gate signal goes down to provide advance warning to motorists
- Laptops for key personnel with 24/7 responsibility

JOC Requirements/Functions

- Support vs. Control (District's desire is for support, not control)
- Need operational procedures for when JOC provides control
- Relay request for National Guard assistance to Governor
- Facilitate ease of information dissemination
- Relay data to District Operations Centers (DOC) on home football game weekends
- Notify media of road closures
- Coordination with Emergency Alert System (EAS)
 - EAS mandate to all broadcasters to become EAS compliant – information can be coded to the County level
- Data archiving/retrieval
- NEMA support for County Emergency Management
- Locating/coordinating “out-of-district” support (snow plows, NG hay drops to ranches, etc.)
- Contacting motor carrier, motor carrier's insurance, and their contracted clean-up firm in event of truck accident and spill
- Coordinate with permits to determine if vehicle was permitted properly (particularly if involved in an accident)
- Assist District Operation Centers in their retrieval of accident investigative reports (would be benefit to traffic engineering)
- Advise District Operation Centers (DOC) of location of “sensitive carrier”
- Coordinate regular follow-up meetings to review procedures from an incident
- Adequate video conferencing capabilities
- Debriefing center/evaluation after emergency
- First responder video link
- Keep contact with adjacent states at DOC level, since this is where the working relationship has already been established

Nebraska JOC
District 7
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
3 RWIS (Haigler, Trenton, Arapahoe)	E	NDOR	
2 portable DMS	E	NDOR	
4 portable DMS	P	NDOR	
511 system	E	NDOR	
2 CB Wizards	E	NDOR	
2 CB Wizards	P	NDOR	
2 "Your Speed" trailers	E	NDOR	
2 "Your Speed" trailers	P	NDOR	
8 signals interconnected (E. 1 st , Norris, W. 1 st , W. 5 th , Federal, W. 10 th , US-83 W. Jct., and Wedgewood, all on US-6/34	E	City of McCook	
4 signals interconnected (Jct US-6.34 & US 183, US-183 & W. 8 th , US-183 & W. 11 th , US-183 & W. 14 th)	E	City of Holdrege	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
No technologies – they use cell phones			

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
N/A			

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Laptop access to MVD records	E	NSP – Motor Carrier Enforcement	
No WIM, No POE equipment			
Portable scales	E	NSP – Motor Carrier Enforcement	
Several scale sites (pull off areas) 83 S. of McCook 6 near Culbertson 83 N. of Wellfleet 183 S. of Alma 10 N. of Minden 283 N. of Kansas State Line	E	NSP – Motor Carrier Enforcement	

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Great enforcement, poor judicial backing 34,000 is Nebraska's weight limit, 80,000 total truck weight			

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Local Emergency Management override of existing programming on Charter Communications cable TV	E	City of McCook	
Local Emergency Management override of existing programming on KICX and KBRL radio	E	City of McCook	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Keep records of maintenance crews and their work	E	NDOR	
RWIS data resides with SSI	E	NDOR/SSI	
Crew card system – manpower effort expended is only data archiving they do.	E	NDOR	

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Only radio communication	E	NDOR	
Dedicated snow routes, trucks leave with full load, trucks don't come back to maintenance yard until done with their dedicated route	E	NDOR	
Radio communication to dispatch, call out for problem areas – spot dispatching (NDOR staff, sheriffs, or NSP call in problem areas)	E	NDOR	

Nebraska JOC

District 7

Summary of Needs and Issues

Institutional Issues/Needs

- Sheriff wants to stay independent*
- Procedures for command control exists*
- When funds are needed from another agency it is an issue*

Traveler Information Needs

- Notify travelers of special events and traffic rerouting (2)
- Notify travelers that Kansas roads are not plowed and are closed (3)
- Travel delay information – diversion routes from incident management (1)

Data Needs

- Weather information for Colorado and northwest Kansas (4)
- More timely accident data and notification, especially from County Sheriff accident investigations, as well as from NSP to NDOR – particularly for workzone accidents or accidents where NDOR facilities are damaged (3)
- Turkey, Deer identification/warning – non-defined paths (0)

Emergency Management Needs

- NSP/NDOR/ and other radios have weak or nonexistent signals in some areas (4)
- Statewide radio frequency to be used by “all” – NDOR, NSP, NEMA, County Emergency Management, Fire Departments (4)
- Need Life-Link between local hospitals and trauma centers (2)
- Need to communicate better between NSP and NDOR supervisors (currently scan each other’s radio frequencies, need more direct link like automated paging, etc.) (4)
- Need to communicate between maintenance superintendents in Colorado, Wyoming, Kansas, Nebraska, South Dakota regarding snow removal (4)
- Need more cell phone capacity (in emergency they get overloaded – private industry) (4)
- Integrate and centralized Local Emergency Operations Plan (LEOP) for access by all emergency management agencies (4)
- Pre-emption on emergency vehicles (1)
- Video cameras with links on NSP vehicles and other first responders (3)

Maintenance and Construction Operations Needs

- Highway Advisory Radios for workzones (2)

Other Needs/Issues or Data Identified, but not prioritized

- Cell phone coverage weak or nonexistent in several areas (private industry responsibility)
- Need redundancy in long distance carrier (they lost both cell phone and computer networks for 2 days due to a cable cut) Burlington Northern & Santa Fe (BNSF) and Union Pacific (UP) might be a solution with fiber runs within their right of way

JOC Requirement/Functions

- Knowledge of hierarchy of control/responsibility (integrated LEOP's)
- NEMA be more aggressive in helping communities with emergency planning
- Would be NEMA's statewide emergency operations center
- District Operations Support
 - Manages equipment
 - Mobilize equipment from within District
 - Borrow equipment from other districts or adjoining states
- Automated widespread paging and real time field updates needed, because everyone is at incident (fire chief, etc.)
- EOC for various events including:
 - Ice storms
 - Snow storms
 - Tornados
 - Winter road closures on I-80 (open National Guard armories)
 - Wildfires/prairie fires
- Road Closure Notifications (central point of contact)
 - NSP notified
 - Counties notified
 - Adjacent areas
 - Surrounding states
- Central Communications Point
- Confidentiality is important
- Public Information Officer needed for data and information control
- Database Management for every county (editable at local level)
- Database accessible to adjacent counties
- Centralized Graphical User Interface (GUI) to access all emergency contacts

* - Items are informational or operational notes, and not an identified need or issue that was prioritized.

(2) – Number in parenthesis is the number of stakeholders attending workshop who voted for this issue as a high priority. There were 4 voting stakeholders.

Nebraska JOC
District 8
Summary of Inventory

TRAVEL AND TRAFFIC MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
RWIS <ul style="list-style-type: none"> Newport Highway 20 – East of Gordon 	2 – E 2 – P 2003 <u>5 – P</u> 9 Total	NDOR District 8	
RWIS Web Page – air temperature, wind speed and direction, pavement surface temperature, humidity, dew point, precipitation (at selected locations)	E	NDOR	
CCTV at RWIS	P	NDOR	
Faxed road condition reports	E	NDOR	
Weather stations	E	USGS Park Service	
22 CB wizards 3 recorded message – DMS trailers, maint. Vehicles, and construction equipment	E	NDOR	
Automatic Traffic Recorders (ATR's)	2 – E	NDOR	
Kiosks	2 – E	Nebraska Fish and Wildlife	

PUBLIC TRANSPORTATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces

ELECTRONIC PAYMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces

COMMERCIAL VEHICLE OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
1 weigh station (13 miles east of O'Neill)	E	NSP	
Portable scales	E	NSP	
Fuel permit locations (International Fuel Tax Agreement [IFTA])	E	NSP/DMV	

EMERGENCY MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Road reports to radio stations and Sheriff's Department (O'Neill)	E	NDOR	

INFORMATION MANAGEMENT

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Construction and detour map on web	E	NDOR	

MAINTENANCE AND CONSTRUCTION OPERATIONS

System, Technology or Capability (include location)	Existing or Planned	Primary Operating Agency/Entity	Links or Interfaces
Notify radio stations of workzones	E	NDOR	
Radio Dispatch – 39.9 – Sheriff, NSP, NDOR	E	NDOR/NSP/Sheriff	

Nebraska JOC

District 8

Summary of Needs and Issues

Institutional Issues/Needs

- Need a way to respond to accidents quicker – NDOR might have an EMT, but Fire Departments get the call and want first response (H)

Traffic Management

- Quicker detection and response to accidents (H)

Traveler Information Systems

- Road data to media weather channel/public television (H)
- Points of interest/tourism (M)
- Location of hospitals (H)
- Road conditions for emergency responders (H)
- Provide data at park service visitor centers (L)

Data Needs

- Better cell phone coverage (H)

Emergency Management

- Coordination of HAZMAT response (L)
- Training for emergency responders (M)
- Resources for volunteer EMT, Fire Department (L)
- Better radio communication in outlying areas for emergency responders (H)

Maintenance and Construction Operations

- Identify where work zones exist (H)
- Real time means to obtain maintenance and construction conditions (H)
- Real time information on where roads have been plowed (L)

Other Needs/Issues or Data Identified, but not prioritized

- Weather collection stations on Niobrara River – Park Service taking the lead
- United States Geological Survey (USGS) Gaging Stations
- NRC weather and water systems
- NDOR DUIT teams

JOC Requirements/Functions

- Consolidate weather information
- Feed information (weather, construction and detours) to radio and television media
- Disseminate information
- Permitting oversize vehicles
- Teleconferencing for NDOR

These issues and needs were identified in the user services workshop in random order as follows. These items were categorized into the categories shown on the previous page.

- Road data to media weather channel/public television (H)
- Points of interest/tourism (M)
- Location of hospitals (H)
- Park service – provide data at visitors center (L – 3)
- Identify where work zones exist (H)
- Need way to respond to accidents quicker – NDOR might have EMT – this is institutional issue, fire department wants this (H – 6)
- Need way for emergency responders to know road conditions (H)
- Need real time means to obtain maintenance and construction conditions (H)
- Need coordination of HAZMAT response (L – 1)
- Need radio communication in outlying areas for emergency responders (H)
- Need better cell phone coverage (H)
- Need quicker detection and response to accidents (H – 6)
- Public does not know when roads are plowed – need real time information (L – 0)
- Need resources for volunteer EMT, Fire Department (L – 2)
- Need training for emergency responders (M – 5)