

# Project Business Case

**Project Name:** Computer Aided Dispatch (CAD)

**Project Short Name:** CAD

**Agency:** ND Department of Emergency Services (NDDDES)

**Business Unit/Program Area:** Division of State Radio

**Type of Project:** New Initiative

**Date:** 20 February 2008

**Version:** 1.0

## **Project Description:**

North Dakota's Department of Emergency Services (NDDDES), Division of State Radio ("State Radio"), seeks to acquire and implement Computer Aided Dispatch (CAD).

CAD is a method of dispatching emergency services assisted by computer. Using CAD, persons in a dispatch center are able to easily view and understand the status of all units being dispatched. CAD provides displays and tools so that the dispatcher has an opportunity to handle calls-for-service as efficiently as possible.

## **Business Need/Problem:**

State Radio currently handles incoming 911 calls for the State of North Dakota's emergency response units. The existing dispatch process is cumbersome and inefficient in the following ways:

- Currently, incoming 911 calls require two to three personnel working together to calm the caller, get all necessary information to respond to the incident, pinpoint the location of the incident, identify the closest response unit available, and provide that unit with the location and directions to the incident.
- The dispatch process requires a lot of paper-and-pencil note-taking and searching by multiple dispatchers.
- The current dispatch process makes it difficult for personnel to see who has been dispatched around the state, and who is available for immediate response to emergency incidents.
- Dispatchers do not know if other dispatchers in other jurisdictions are also searching for the same incident location and their nearest available response units.
- Travel time to rural areas takes longer than travel time to urban areas, so dispatch response time is the only way to change the amount of time it takes to reach the many rural areas in the state.
- Emergency dispatch can be cumbersome during wildfires or other natural disasters when few dispatchers are available, but multiple incidents (increased workload) need to be handled simultaneously.
- The NDDDES is not able to manage resources efficiently because of the disparate location of data necessary for analysis and statistical capability related to performance measures.
- Officers currently have no remote access or data sharing with other agencies, including the Federal level, in case of natural or large-scale disasters.
- Officers currently have to radio for assistance if they are in need of help, which takes more time than pressing an emergency key to deploy a distress signal to dispatch.

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- Officers currently have access to information related to the vehicle's license plate, which does not inform them of any warrants that may be out for the driver associated with the vehicle.

## **Solution:**

State Radio proposes the procurement of an off-the-shelf CAD system through a vendor who can customize the selected CAD to meet North Dakota's needs. The selected CAD's features would be dependent upon available funding. CAD, which typically consists of software used to initiate public safety calls for service and dispatch while maintaining the status of responding resources in the field, will allow the State to dispatch emergency services (Fire Departments, Emergency Medical Services, and Law Enforcement) assisted by a computer-based process.

Critical features of a CAD solution could include:

- Allowing dispatchers to communicate with field units using a two-way radio system's selective calling features. CAD can send text messages with call-for-service details to alphanumeric pagers or wireless telephony text services like Short Message Service (SMS).
- Allowing dispatchers to send messages to response units through a Mobile Data Terminal (MDT) and will also be used to store and retrieve data such as radio logs, field unit status and tracking, and call resolution and disposition.
- Allowing State dispatchers to easily view and understand the status of all units being dispatched by providing displays and tools with the most current information available.
- Broadening situational awareness to the entire state by allowing the Division of State Radio and the Highway Patrol to coordinate with other emergency response units.
- Reducing response time to victims by allowing dispatchers to immediately identify response units who are available and are closest to an incident.
- Providing field units with remote access and data sharing through an MDT.
- Storing and retrieving data for immediate access to analysis and statistics related to performance measures.
- Providing remote access and data sharing among all of the different stakeholders, including the Federal level, through an MDT.
- Implementing an emergency key with CAD will send a distress signal to the dispatch center, which then sends assistance to the officer in need of help.
- Providing immediate access to information before the officer makes first contact by providing displays and tools with the most current information available.

## **Consistency/Fit with Organization's Mission:**

The mission statement of the North Dakota Department of Emergency Services is:

"The N.D. Department of Emergency Services (NDDDES) has 54 legislatively authorized positions. It is comprised of the Divisions of Homeland Security and State Radio. The Department provides 24/7 emergency communications and resource coordination with more than 50 lead and support agencies, private enterprise and voluntary organizations to assist local jurisdictions in disaster and emergency response activities. It administers

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federal disaster recovery programs and the Homeland Security Grant Program. NDDES also manages the Emergency Management Assistance Compact (EMAC) that serves as a national clearinghouse through which member states may request and provide mutual aid assistance.

Each community maintains a direct responsibility for the safety of its citizens. Local and tribal governments provide initial response to incidents, emergencies, disasters or catastrophes. Local Emergency Managers serve a key role in coordinating response and recovery efforts and offer a better understanding of the situation and accompanying resource requirements. NDDES supports response and recovery coordination with Emergency Managers in each county and tribal nation within the state of North Dakota as well as the cities of Bismarck and Fargo.”

This project supports the NDDES’ mission by providing an efficient public safety communication system to Federal, State, and local agencies. CAD will enhance the NDDES’ ability to deliver information to the user more efficiently and aid in the safety of the officer.

## **Cost Benefit Analysis**

### **Anticipated Benefits:**

- Improved Incident Management
  - This project will enable the Department of Emergency Services to provide better incident management and data sharing.
  - The project will improve the Records Management System (RMS) for National Incident Management System (NIMS) reporting, and situational awareness for non-law enforcement.
  - State Radio and the Highway Patrol will be immediate customers of CAD, although the intent is to have other users work with it in the future. The first goal, however, is to be sure CAD works as expected and meets the needs of State Radio and the Highway Patrol.
  - CAD will allow immediate access to analysis and statistics related to performance measures.
  
- Improved Public Safety
  - Situational awareness will be broadened to the entire state through the coordination of State Radio, the Highway Patrol, and other emergency response units. This will:
    - Eliminate duplication of effort.
    - CAD will reduce response time to victims by allowing dispatchers to immediately identify response units who are available and are closest to an incident. This will be a key benefit for rural areas, because of the travel time involved. This is an important issue in ND because of the many rural areas in the state.
    - CAD will help coordinate response to rural areas by bridging the gap between dispatchers and available response units / ambulances.
    - Immediately prioritize incidents by allowing dispatchers to better

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- coordinate across jurisdictions through data integration.
- CAD information integrates into the Records Management System, providing the ability to pinpoint when a call came into the dispatch center, and when a response unit addressed the incident.
- CAD will allow the 911 dispatch center to handle more through put by increasing efficiency and eliminating duplication of work.
- Increased Officer Safety
  - Implementing the system will increase officer safety by providing remote access and data sharing among all of the different stakeholders, including the Federal level, in case of natural or large-scale disasters.
  - The implementation of an emergency key with CAD sends a distress signal to the dispatch center, which then sends assistance to the officer in need of help.
  - CAD will allow dispatch to process and provide more information to the officer prior to first contact.

## **Cost Estimate:**

Project costs are expected to be \$980,000.

## **Cost/Benefit Analysis:**

Specific project costs and benefits are being identified and quantified. Success factors for this project will be difficult to measure in terms of monetary value; they will be readily measured in terms of increased efficiency, officer safety, and public safety. However, once a CAD vendor is selected, costs and benefits of the CAD system will be analyzed and compared with NDDDES' current dispatch methods.

## **Project Risks:**

Risks associated with the project:

- Risk: Project may not be completed by the end of the Biennium, when the appropriated funds expire.
  - Response: The Project Manager will maximize float in project schedule to allow for slip and unanticipated challenges, and conduct weekly team meetings to ensure project has not stalled and to resolve new issues. The Executive Committee will identify and engage all stakeholders from the project start, and work with existing infrastructure personnel or contractors to identify as many challenges to implementation as possible.
- Risk: CAD may not interact with existing CADs.
  - Response: The Executive Committee will identify and engage stakeholders, including personnel from agencies in ND who have CADs, such as Bismarck, Minot, Grand Forks, and Fargo. The Committee will also challenge vendors during the RFI/RFP process for CAD interaction, and work with existing infrastructure personnel or contractors to identify as many challenges to CAD interaction as possible.

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- Risk: CAD may not interact with CADs that are implemented down the road by other agencies.
  - Response: The Executive Committee will identify and engage stakeholders from agencies in ND who do not have CADs but utilize emergency dispatch and may get CADs in the future, challenge vendors during the RFI/RFP process regarding future CAD technology, updates, and interaction, and work with existing infrastructure personnel or contractors to identify as many challenges to future CAD interaction as possible.
- Risk: Licensing issues for each user may occur.
  - Response: The Executive Committee will require the price to be low enough to allow agencies access to the CAD, research cost savings – bulk license agreements for the State, etc. – from different vendors. The hardware portion will be reviewed to see if it can be supported by something the State already has. In other words, if only the software portion is needed, or if the State can use an existing message switch in the existing hardware.
- Risk: Existing mapping software may not be compatible with CAD.
  - Response: One option to accommodate this risk is to leave the mapping portion off of CAD – or work with some type of conversion – until the State upgrades its mapping technology.
- Risk: The State may need to upgrade its RMS in the WNGS box on the current MDT system.
  - Response: The Executive Committee will need to find out if the current MDT system is what the State wants to work with, or if the MDT system would preferably be changed to accommodate CAD. Another option would be to upgrade the software and the MDT to work with the CAD and other agencies' systems.
- Risk: There may not be enough money to purchase CAD with the customizations needed by the State.
  - Response: The State may be able to find grants or free money from other sources, or find a financing agency to pay for the additional needs. Alternatively, the Executive Committee may decide to accept a system without all of the desired features for this implementation project, but then enhance the CAD functionality in future projects.

## Risks associated with not doing the project:

- Risk: Citizens' lives may be lost in emergency situations because of the combined response and travel time to rural areas.
- Risk: Officers' lives may be lost because information was not available before their first contact with the offender.
- Risk: Less work may be produced for the same or more amount of money than with a CAD system.