

CARS – Condition Acquisition and Reporting System

CARS is a non-proprietary, standards based condition reporting system that allows authorized users to enter, view and disseminate critical road, travel, weather and traffic information. CARS users access the system from any location using a standard web browser (ie. no local software is required). This allows users to enter any condition reports or view reports entered by any other users around the state.

Currently, ten states have deployed the CARS system (Minnesota, Iowa, Missouri, Alaska, Washington State, New Mexico, Kentucky, Maine, Vermont, and New Hampshire). For example, in Minnesota, there are roughly 350 authorized users, comprising of Mn/DOT employees and Minnesota State Patrol Dispatchers.

CARS Data Entry

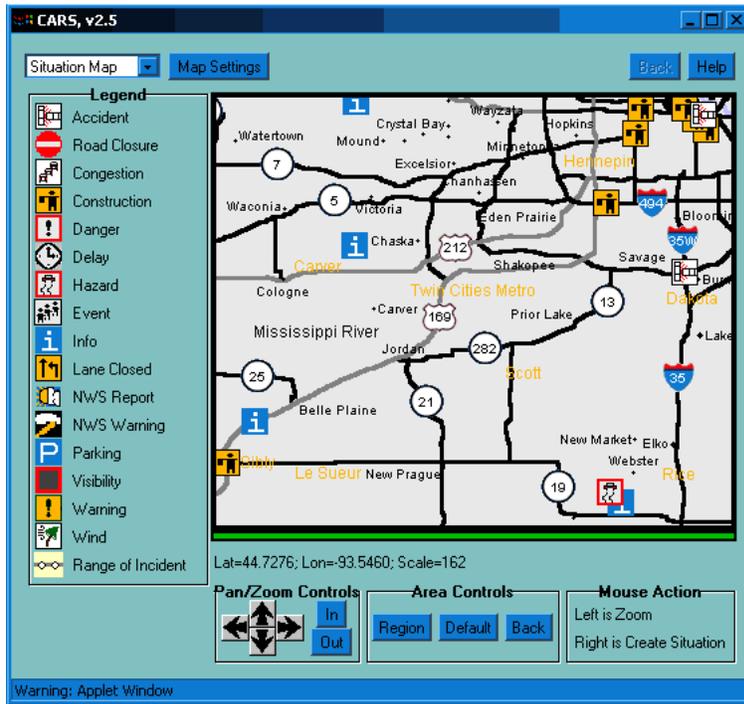
CARS data entry is based upon the premise that someone, somewhere within the state has or will soon have knowledge of all major events. The idea of CARS is to make data entry easy simple and quick in order to allow for input from as many authorized individuals as possible. The CARS system has been carefully designed to easily leverage the information gathering power of statewide DOT personnel. Using standard Internet connections, CARS allows entry from any Internet ready computer. Users either click on the display map or select route intersections to identify locations. Situations are described by selecting phrases from the National Traffic Management Data Dictionary (TMDD) to avoid manual typing and the chance for typos. All information entered is brought together in a robust database solution that can quickly disseminate information to the traveling public or others within the State agency.

CARS is a client-server application based on Java technology. The web-based interface supports entry of construction, accidents, traffic, events, road weather conditions and much more. The interface itself is flexible and can be tailored to specific purposes to better suit the needs of the various users. CARS can even take advantage of existing ITS monitoring systems to automate the data entry process.

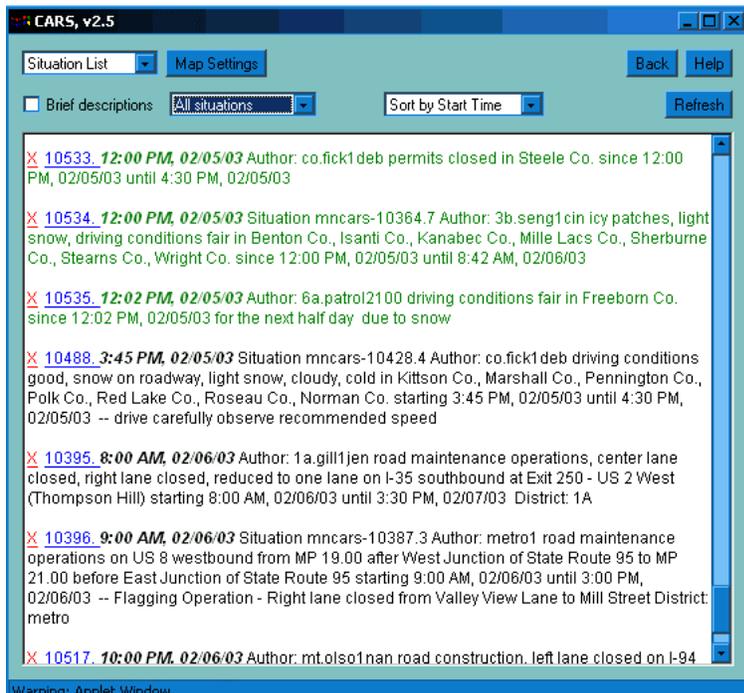
Warning: Applet Window

CARS Information Display

Considerable effort went into the information display capabilities of the CARS application. Situations can be viewed using a zoomable map, or a text-based situation list. Both can be filtered to look at incidents in the past, present and future as well as by group. The situation list is color-coded for clarity and can be sorted using a wide range of criteria.



The CARS map display shown here allows users to quickly identify incidents locally or state wide. The “Map Settings” button can be used to filter the incidents that appear on the map. Clicking on an incident icon pops up a description of the incident and allows for editing or deletion.



The CARS situation list shown here offers many of the same features as the map display, but allows additional sorting capabilities. Entries are also color-coded for easier reading. The “brief descriptions” option allows users to limit incidents to a very succinct report for a quick overview.

CARS Use of National ITS Standards

In order to keep CARS an open system that can interoperate with other ITS applications, it is important that all data exchanges are based on national ITS standards. To this end, CARS uses the Event Report Message (ERM) set of the External Traffic Management Center to Center standards to send or receive incident data. The ERM messages support detailed, real time event summaries or overviews for exchange between TMCs, and from TMCs to ISPs. In addition, the standard format allows subsystems to easily pass on information to the public.

CARS uses the national ERM model to transmit and receive data via XML. That means CARS can be seamlessly integrated with other ITS applications and systems. It also allows CARS to be powerfully extended with CARS-511 travel information system, commercial vehicle operations, public information web sites, Dynamic Message Signs (DMS), Highway Advisory Radio (HAR) and Low Power FM Radio (LPFM), among other components.

CARS Reliability and Archiving

CARS now supports the archiving of incidents as well as historical “restore” functionality. All incidents entered in CARS can be archived for a potentially indefinite period of time. This information is often useful for record keeping and incident analysis. The archive can also be used to restore deleted incidents.

For those states that opt for a Hosted CARS environment, live data is replicated to a standby database in case of a failure. This ensures that data is not lost and helps support high availability.

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CARS Ownership and Opportunities for Involvement

Developed as part of a Federal Highway Pooled Fund, CARS is owned by a Consortium of States. This means no propriety technology and open ownership for participating member states. Member-states drive the ongoing improvement and extension of the CARS system based on their needs and budgets.

In short, CARS is a powerful “hub” of information that can dynamically drive your state’s ITS infrastructure. CARS integrates a wide range of information and functionality to provide a comprehensive information solution.

For More Information, contact:

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