

**PROJECT REPORT**

**Alaska - Metro/Rural Deployment Project  
CARS/511 – Anchorage Integration  
FEDERAL #ITS-9902(5)**



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**Project Location:** Alaska

**FY01 ITS Earmark Total:** \$198,146 (50/30/20)

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## OVERVIEW

The Alaska Department of Transportation & Public Facilities (ADOT&PF) initiated the Alaska Travel Information System by joining the Condition Acquisition & Reporting System/511 (CARS/511) Pooled Fund in October 2002. CARS was jointly developed by the member states of the REPORT Transportation Pooled Fund Program #SPR-3(079). CARS is a multi-state database of road and traffic situations (events) supported by multiple, widely distributed web browser data input terminals. These multi-state travel information databases drive automated 511 messages without further manual intervention.

The general goal of this earmark integrated the Anchorage area roads into the statewide CARS/511 travel information system. Objectives obtained include:

- Established a partnership between Municipality of Anchorage and ADOT&PF.
- Integrated most major and minor Anchorage arterials and road features into CARS.
- Pre-recorded Anchorage roads and features for the 511 travel information number.
- Expanded 511.Alaska.gov to include Anchorage road condition information.
- Educated and trained Municipality of Anchorage personnel on CARS/511.
- Developed CARS protocols for entering road condition events.
- Coordinated with various agencies within the Municipality of Anchorage to add events to CARS.

Note: The Alaska Travel Information System Project Report (Federal #0106-003) addresses the overall CARS/511 pooled fund and lessons learned.

The benefits of integrating Anchorage area roads:

- Stronger partnership between ADOT&PF & the Municipality of Anchorage.
- Example for other Alaska communities/cities to join CARS/511 effort.
- Improved 511 travel information services for Anchorage area travelers.

## **PARTNERS**

The ADOT&PF relies on partners to deploy travel information through CARS/511. The ADOT&PF cannot provide enough travel information alone and relies on other transportation related agencies to help support the system.

In regards to this earmark, the ADOT&PF signed a Memorandum of Understanding (MOU) with the Municipality of Anchorage (MOA) to help generate travel advisories for the Anchorage area. The MOA departments that help provide Anchorage area wide events are: the Anchorage Police Department (APD), Street maintenance, and Water & Waste Water Utility. The APD generates 511 travel advisories for major accidents that affect travel or other urgent reports, such as hazardous road conditions due to weather. The Street Maintenance section ensures that construction and maintenance activities are entered into CARS. The Water & Waste Water Utility ensures that utility type activities are entered into CARS.

For a list of other partners, please see the Alaska Travel Information System Project Report

## **PROJECT TIMELINE**

|  |               |
|--|---------------|
| ITS Earmark Secured                            | July 2003     |
| Add Anchorage Roads to CARS/511                | August 2003   |
| Voice recordings of Anchorage Roads & Features | October 2003  |
| CARS/511 Training for Municipality personnel   | November 2003 |

## **LESSONS LEARNED**

### **Technical**

The main issue with integrating Anchorage area roads in CARS is that neither the State of Alaska nor the Municipality of Anchorage had reliable road data in 2003. The contractor, Castle Rock Consultants (CRC), ended up delineating the Anchorage area roads from another source and then entering them into CARS. The end result was not optimal for CARS users. The following is a list of the major technical issues:

- Slower CARS system- CARS is built on Java and builds the maps each time it is loaded. Having to load more roads slowed down the CARS system, but not considerably
- Not all roads added- Some major and minor arterials were not added to CARS because it would slow the system down too much and bog down the CARS server. If additional roads were necessary, then ADOT&PF had to request them. This process was not always the most efficient because CRC maintains multiple states' CARS systems. Consequently, turn-around time is not always adequate to meet immediate needs.
- Missing or incorrect road features- Alaska road data were unavailable at the time and CRC had to enter using an outside source. This unavailability caused many small

errors in the road feature lists, such as missing or incorrect intersections, incorrect road names, etc. Many of these errors were corrected but some were not found until a user was trying to enter an event. In these cases, users unable to enter events until CRC could fix the errors.

- Increased 511 telephone problems- With the large increase in roads and road feature names, there was an increase in 511 telephone issues when callers use the voice recognition feature. For example, the voice recognition fails more often because of the longer list of roads to choose from. The system does not always recognize what the caller is requesting and will offer another option that can make for a frustrating call.

#### Lessons Learned - Technical

1. ADOT&PF needs a travel information system that can efficiently integrate new roads and road features. The CARS map-based Java system is outdated. A system that can directly integrate ADOT&PF's geographical information systems (GIS) maps and maps from other agencies, such as the Municipality of Anchorage, would be ideal. The CARS/511 pooled fund is moving in the direction of Google Maps that integrate with the States road feature database, but even that is not very efficient when States have to first convert their data to custom relational database tables.
2. ADOT&PF needs a travel information phone line with an operational voice recognition system. More reliance is needed on keypad entry as a backup when the voice recognition system fails. Alternatively, ADOT&PF needs more reliable voice recognition software.
3. ADOT&PF needs a contractor who is available to meet the demands and needs of Alaska. CRC does not seem sufficiently staffed to respond to the needs in a timely manner and make updates and additions when needed. CRC's technical support, however, is more than adequate to meet the State's needs.

#### Institutional

- Adding Anchorage area roads into CARS is not sufficient for the ADOT&PF construction personnel in that area. Construction personnel could only add events for the Anchorage roads that were in CARS, i.e., those events occurring on major or minor arterials. In addition, they were unable to enter events if the road features were not correct. This caused some construction personnel to not support the CARS system and led them to work with another contractor in developing a system for only posting construction events.
- The Municipality of Anchorage was appreciative that ADOT&PF integrated Anchorage area roads, however, they were not added at an optimal level to enter all events. Again, most major and minor arterials were added, but not all due to slower CARS performance as more roads are added. Also, the MOA maintains residential roads and CARS could not support that level of detail.

### Lessons Learned – Institutional

1. Getting the users perspective (Municipality of Anchorage, ADOT&PF Construction personnel) and early involvement is key in making sure the end product is sufficient.
2. ADOT&PF needs a travel information system that can efficiently integrate new roads and road features.(See explanation above under Technical Lessons Learned)

## **PROCUREMENT**

The ADOT&PF is part of the REPORT pooled fund group. Funding is directly sent to the lead state, the Iowa Department of Transportation, to pay for contractor services. Since this is government-to-government exchange of funds, there are no strict procurement rules that the ADOT&PF has to follow.

## **ITS STANDARDS**

CARS is fully compatible with the National Transportation Communications for ITS Protocol/Environmental Sensing Station (NTCIP/ESS) standards as defined by the Association of American State Transportation and Highway Officials (AASHTO) at the time of project completion. Castle Rock Consultants wrote an ITS Standards Plan for the pooled fund group. See the Alaska Travel Information System Project Report for the CARS/511 Standards Plan.