Alberta's Traveller Information System – The Calgary Experience

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Abstract

In 2004 the City of Calgary entered into a partnership with the Province of Alberta, the City of Edmonton, the Alberta Motor Association, and Transport Canada to evaluate the Condition Acquisition Reporting System (CARS), a web-based traveller information tool. It is the first time CARS has been tested in Canada. The 8-month long pilot project will run from January to September 2005 and achieves both the objective of testing Web-based Advanced Traveller Information System (ATIS) tool for the City of Calgary and the larger goal of testing a system that may be used province wide.

The opportunity coincided well with the City's recently approved Intelligent Transportation Systems (ITS) Strategic Plan where the development of an ATIS was identified as one of the top six initiatives. The function of the ATIS is to collect, assemble, verify and deliver reliable real time multi-modal information to the users of the transportation system so travellers can make better decisions on when to travel, the mode to choose and the route to take. The ITS Strategic Plan spans a period of 10 years from 2003 to 2013, providing direction for the staged development of the system with early emphasis on the testing of various options for information dissemination.

In order for the project to be successful many rules and parameters on information delivery had to be formed. Elements including what to report, which departments to involve, the extent of the details provided, the wording of the information and which roadways would be reported on required agreement for consistency and managing user expectations. As is the case in many provinces, the local municipalities use management and operational structures to address transportation needs that vary from the provincial authority and/or other cities. This posed some challenges but did not affect the desire for the groups to work together.

Due to time and budget constraints only staff from selected groups are delivering data into C.A.R.S. In the initial stage, the City of Calgary groups involved in data entry included the Detours division and the Special Events division. The groups will provide feedback on functionality, interface, user friendliness and benefits of using a system like C.A.R.S. to deliver information publicly or within the City. The website also provides weather forecasts from Environment Canada updated every 24 hours. Calgary has since decided to also deliver incident information using a data entry clerk to input updates from the Calgary Police Service during the AM and PM peak hours, effective mid-May.

Over the course of the pilot project two reports, a midterm report in April and a final report in September will summarise the findings. Calgary intends to use the results to help prioritize the needs for the ATIS and determine next steps. Feedback from the general public will be obtained via an online survey on the traveller information website. Other measures of effectiveness include analyzing visits to the website and reports from calls into the Corporate Contact Centre, the City of Calgary's information line.

After three months of operation, the Web-based ATIS has already been recognized as a valuable tool for information dissemination to a broad audience in a simple, accessible and easy to understand format. Although a significant improvement in roadway coverage and real-time information delivery is required for the ATIS to be truly effective, the City of Calgary has already moved toward acquiring a permanent system by means of a Request for Information (RFI). The upcoming 2005 construction projects on several key corridors of the City (Glenmore Trail, 16th Avenue, Mcknight Boulevard, Stoney Trail, etc.) will truly be an opportunity for the ATIS to play an important role in providing up to date information for both regional and local travellers.

1.0 Introduction

Calgary is located 128 km east of the Rocky Mountains and covers 721 square kilometres in area, with a population approaching 1 million.

Between 2002 and 2007 Calgary's population is estimated to increase by 84,000 people, an average of approximately 16,800 citizens per year. Although many benefits come from being one of Canada's leading metropolitan areas in population growth, over time it has also become evident that the transportation system is straining to keep up with the demands of its users, particularly during the peak hours. The results of a 2004 public opinion survey conducted for the City's transportation plan update confirmed that the most significant transportation issue to address is traffic congestion and traffic flow on the road network. In recent years the City has undertaken several road improvement projects in an effort to increase capacity at critical points in the road network. Along with the physical upgrades, there has also been a recognized opportunity for the use of technology as interim or final solutions to transportation concerns throughout the City. Calgary is poised to take the next step in joining the many cities in North America and World-wide that have deployed advanced technologies to manage and control the transportation system.

2.0 Background

In 2004 the City of Calgary entered into a partnership with the Province of Alberta, the City of Edmonton, the Alberta Motor Association, and Transport Canada to evaluate the Condition Acquisition Reporting System (CARS), a web-based traveller information tool. The pilot project was approved under Transport Canada's Strategic Highway Infrastructure Program for research and development. Transport Canada's contribution was 50% of the pilot project while the remainder was distributed between Alberta Infrastructure & Transportation 30%, City of Edmonton 10% and City of Calgary 10%. It is the first time CARS has been tested in Canada.

CARS is a standards based condition reporting system developed by Castle Rock Consultants for a Consortium of States as a part of the Federal Highway Pooled Fund. The non proprietary technology allows for an open ownership concept where participants can benefit from improvements or extensions developed by each other. The internet based tool does not require the installation of special hardware or software and allows agencies to graphically create, view, edit, and monitor travel condition information. Each participating state can customize the extent of the coverage area, information delivery and display.

The pilot project will run for a period of 8 months from January to September 2005 and achieves both the objective of testing a Web-based Advanced Traveller Information System (ATIS) tool for the City of Calgary and the larger goal of testing a system that may be used province wide. The partnership will allow information to be shared between the jurisdictions as well as deliver it to a single source for public use.

The opportunity coincided well with the City's recently approved Intelligent Transportation Systems (ITS) Strategic Plan where the development of an ATIS was identified as one of the top six initiatives. The other initiatives being Incident Management, Traffic control and Management, Parking control and Management, Transit Services and Fleet Management. The function of the ATIS is to collect, assemble, verify and deliver reliable real time multi-modal information to the users of the transportation system so travellers can make better decisions on when to travel, the mode to choose and the route to take. The system should also facilitate the "seamless" sharing of information within the organization as well as with other jurisdictions. The ITS Strategic Plan spans a period of 10 years from 2003 to 2013, providing direction for the staged development of the ATIS with early emphasis on the testing of various options

for information dissemination. The initial stage involves conducting a data inventory to identify gaps and determine infrastructure needs to assemble missing or new data. As the information moves into real time delivery travellers will be able to use the ATIS for both pre-trip and enroute planning. The future ATIS web-site will contain information on traffic congestion, roadway collision reports/updates, road conditions, transit (location, delays, schedules, etc.), weather conditions, parking availability (eg. Downtown, park'n ride, university, etc.), and also provide a multi-modal route planner. To build such a robust database will involve many internal City departments as well as outside organizations, institutions and businesses. Figure 1 illustrates the components of the ATIS database.

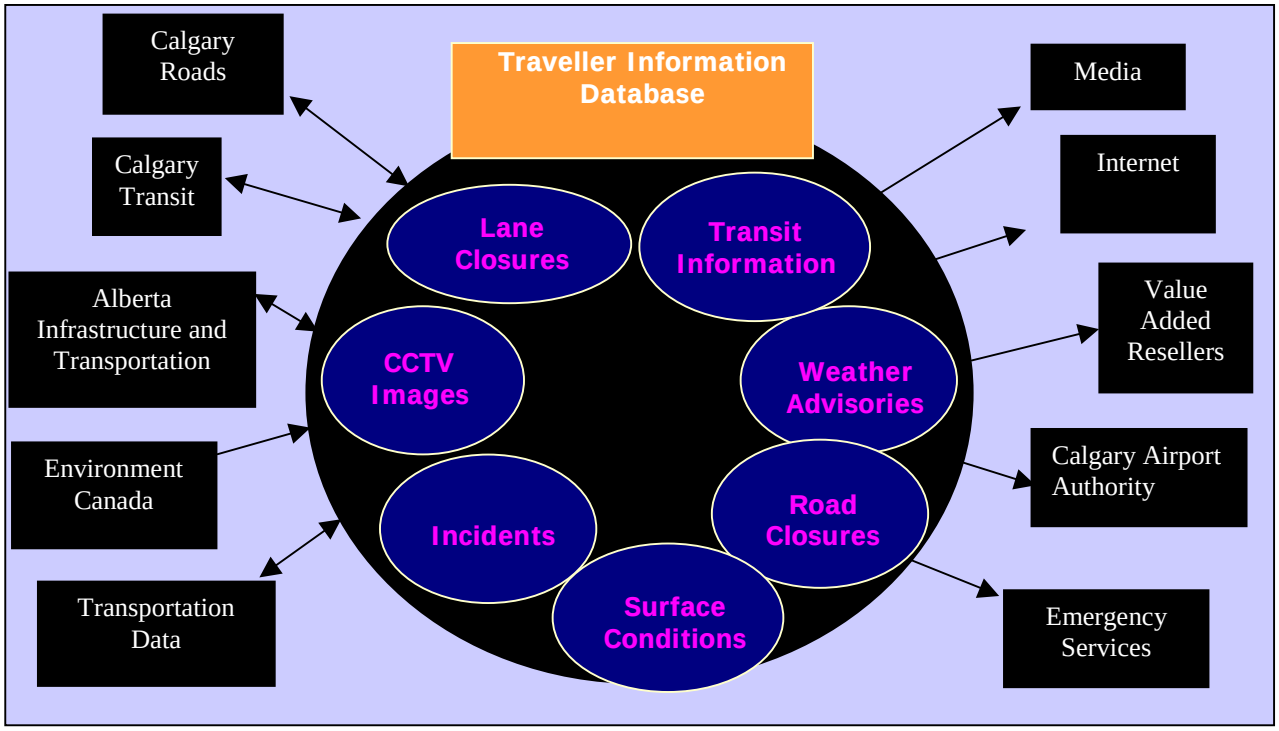

Figure 1: ATIS Database Concept

Other components of ATIS such as integration with in-car navigation systems are also identified in the plan and will be tested and/or deployed over the 10 year period on an opportunity basis. Figure 2 shows the projected timeline for the deployment of Calgary's Web-based ATIS.

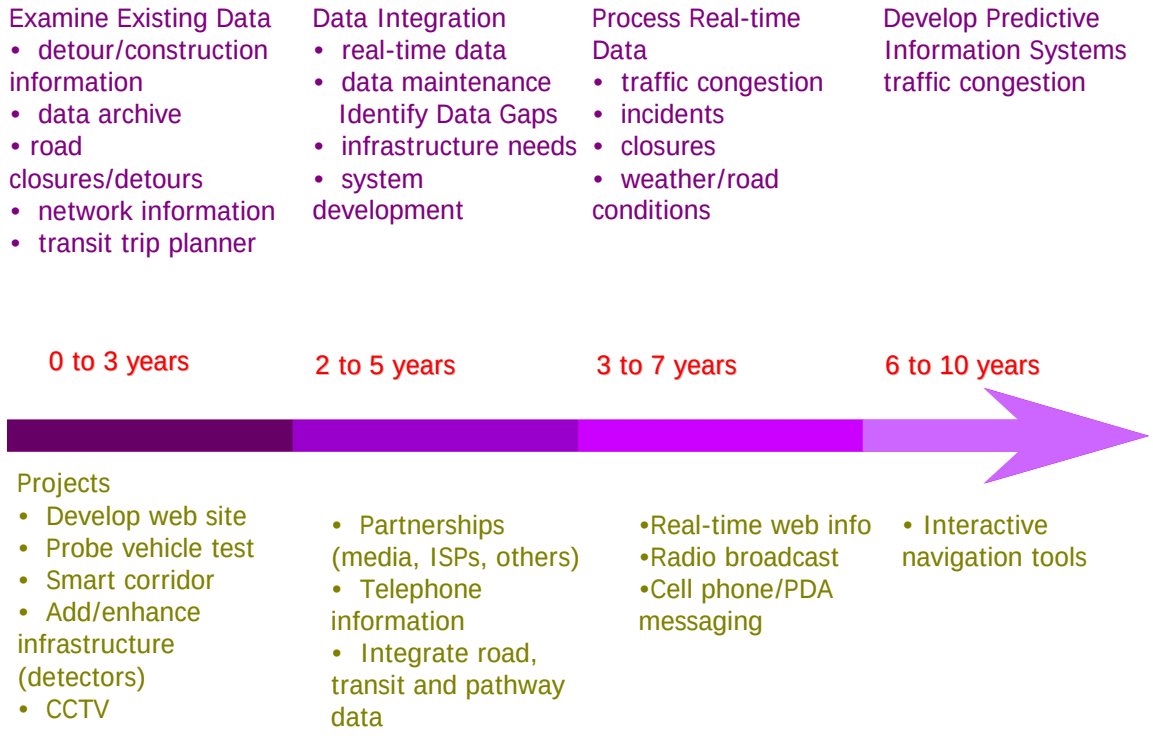

Figure 2: Calgary's Web-based ATIS Timeline

3.0 Project Stakeholders

Shortly after the partnership was formed the City of Calgary conducted stakeholder meetings involving internal staff as well as other public service providers and local academics. These early meetings were used to promote ATIS in general as well as the CARS pilot project, help to identify possible project participants from the City and introduce the CARS to a wide spectrum of end users. One of the objectives of the pilot project is to use information that is already being archived, tracked or stored by the various City databases and deliver the information on an interactive map-based interface via the internet. Subsequently, it was identified that two divisions within Calgary Roads, Detours and Special Events, had the kind of information travellers were looking for but was not being delivered in a desirable format for the public.

The Detours division provides design, set up/ knock down services and permits for work resulting in any detouring of traffic, lane or road closures for short or extended periods of time. This includes all road or utility maintenance, upgrades and capital works projects. The work involves both scheduled projects and those caused by unexpected events (water main breaks, roadway collisions, etc.). The Special Events division of Calgary Roads is responsible for ensuring parking management and permitting for large urban events such as the Calgary Stampede and Spruce Meadows equestrian events or local marathons and festivals that require detours, lane or road closures. These events can also have short (e.g. hours, 1-2 days) or longer (e.g. weeks, months) term impacts on the roadways.

The information from the Detours division is currently imbedded in the calgary.ca web-site and provides only text links to detours/ road closures categorized by City quadrants (NE, NW, SE, SW). The format requires the viewer to scroll through and read all the events occurring within the quadrant and visualize

for themselves if and where the event occurs along their journey. The information is also, at times, outdated since events that expire require manual deletion from the list. The Specials Events division recently developed a database, however no information is currently being delivered to the external City website. Some of the communication issues are due to shortcomings in technology being used and served as the perfect opportunity to test the CARS for data collection, storage, and dissemination. Coincidentally the two divisions involved were also considering the development of a mapping tool for their own events. The arrival of the pilot project allowed the evaluation of an "off-the-shelf" product that could potentially save thousands of dollars in software development for the City and allowed information inputs from several different sources to the mapping tool for a more comprehensive picture. The ability to view all City related projects in one location was seen as a great asset for information sharing between internal staff.

4.0 Project Development

In order for the project to be successful many rules and parameters on information delivery had to be formed. An Operations Plan was developed by each of the partners identifying the individuals involved in reporting events, what elements to report, the extent of the details provided and the wording of the information. The agreement was necessary to ensure consistency between the partners and to manage user expectations. The partners decided that only scheduled road work would be reported since tracking emergency events would be much more labour and/or technology intensive to acquire the necessary up-to-date information. Only events lasting longer than 1 hour would be reported on CARS since the information on the web-site would likely be used for pre-trip planning purposes and road construction/ maintenance requiring less than 1 hour would be relatively minor and likely cleared away before any significant impact would be felt by motorists. In a real-time scenario (ie. all the necessary technology in place), all events would be reported and the motorist would decide for themselves whether the event impacts their journey significantly. A master phrase list provided by CARS based on the National Traffic Management Data Dictionary (TMDD) contained several versions of wording for any given event. This list was adjusted to remove those that were not suitable for the pilot project to avoid any accidental use of inappropriate phrases. The partners also agreed on a "top five" list of phrases that would appear first in each of the relevant phrase categories. This would ensure that common events (e.g. road construction) being reported by any of the partners would be described in the same manner. There was some discussion about providing static emaps like the Dangerous Goods and Truck Routes map on the web-site but in the interest of focusing on the data entry and testing the CARS interface, static information was not considered value added. Third party information from Environment Canada for weather conditions did contribute to the information

Development of the Alberta Traveller Information web-site began in October 2004. Early on it was decided that the web-site would be hosted by Castle Rock Consultants rather than by one of the partners. Links would be provided from all of the partners' web-sites. This allowed more flexibility in the appearance and layout of the web-site by eliminating the various internal City or Provincial IT department requirements; allowing more neutral appearance to the web-site. In the future, this issue will require consideration as a web-site hosted outside the City of Calgary servers would need to access databases behind the many firewalls used to protect the data. The partners worked together to develop an appropriate name (www.travelinfotest.ab.ca) and logo for the project and worked with the project consultants for the web-site layout. Figure 3 shows the "Splash Page" for the Alberta Traveller Information web-site.

Figure 3: Alberta Traveller Information Web-site "Splash Page"

Research was conducted to ensure the necessary disclaimers were included. Information regarding the pilot project was provided in the FAQ's page and wording was added to encourage visitors to comment on the web-site by completing the online survey. Having been developed in the US, the CARS application also had to be modified for metric units of measure for the Canadian context.

Training for CARS was conducted by Castle Rock Consultants in early December over a two day period, one day in each of the Cities. The following weeks till January allowed staff to continue testing on the training server and provide feedback on modifications required for data entry or to the web-site. During a two week period in January, the staff entered events into the production server so they could be viewed on the public web-site but only for training purposes. The web-site address was not released to the public. Below is a summary of the pilot project time line overall but does not include the individual work that was done by the partners from within their organizations.

- September - October
  - Meeting with pilot project partners and consultants to determine time lines
  - Operational protocol established
- October - November
  - Master pick list of phrases determined
  - Web-site content/ layout (Disclaimers, Measures of Effectiveness, hosting)
  - pilot server started
- November - December
  - Web-site construction, editing, testing, IT approvals, etc.
  - Follow-up meeting with partners (progress report)
- December - January
  - CARS training for staff (learning/ testing the application till January)
  - Revisions to production server and web-site testing
  - Development of Public Relations strategy (news release, radio, television)

Each of the partners also appointed a system administrator (usually the project Engineer) to manage user accounts, ensure quality and consistency of the comments in event information and to troubleshoot minor issues.

5.0 Calgary's Role in the C.A.R.S. Pilot Project

The scope of the pilot project proposed by Transport Canada involved testing CARS on Highway 2 between Calgary and Edmonton along with 1 arterial in each city. However, it was agreed upon by the partners that in order to maximize on the testing opportunity for the urban context, more city roadways would have to be included. Using city resources, both the City of Calgary and the City of Edmonton decided to incorporate the skeletal road network into the CARS project. Calgary's skeletal road network (Figure 4) is the "backbone" of the transportation network of the City, carrying 5,641,000 in average daily weekday traffic volumes. The network is composed of both Freeway/ Expressway and Major standard road classes. Some are contained within the City limits while others are a continuation of a Provincial highway moving through the City serving both City and regional travellers. The network used for CARS is highlighted in orange below.

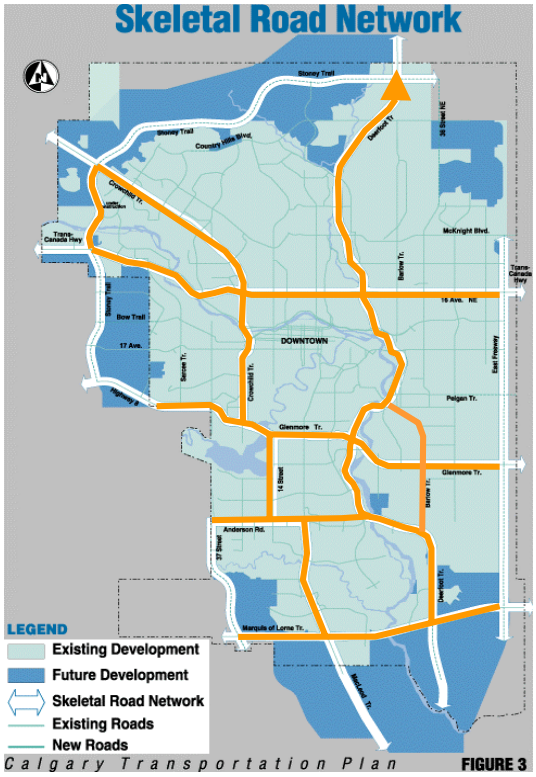

Figure 4: Calgary's Skeletal Road Network

In the initial stage of the pilot project (January to May), the City of Calgary groups involved in data entry included only the Detours division and the Special Events division. The technicians responsible for the design of detours and issuing permits would also be manually updating the events in CARS. Although ideally, the updates would be done automatically directly from the database to CARS, the time frames, budget and firewall issues did not allow the development of this capability for the pilot project. The technicians will provide feedback on functionality, interface, user friendliness and benefits of using a system like CARS to deliver information publicly or within the City. The manual entry component encountered some resistance from staff due to heavy workloads and a busy upcoming construction season.

The City of Calgary's role in the project is to deliver information on major scheduled road or bridge maintenance projects and special events resulting in road closures, lane closures or detours lasting more

than 1 hour. Although not considered “real-time” information, the events are updated on a daily basis. Projects scheduled far in advance are also posted when available and can be queried by month on the web-site for advanced travel planning. Real-time camera images will be brought online as they become available, possibly up to 5 images by the end of the pilot project.

As of April 25, 2005 there is 1 camera image available on the web-site, looking westbound at the corner of Cranston Boulevard and Marquis of Lorne. Images are updated every 5 minutes and will come from a variety of sources. Some are images extracted from a video stream while others are just still frames from a camera in the field. The frequency of updates and image display still requires some investigation. Once more images are added to the web-site, this component of traveller information will be reviewed in greater detail.

As the pilot project progressed it became obvious that there are opportunities to test even more functionalities. Calgary has since decided to also deliver incident information using a data entry clerk to input incident updates from the Calgary Police Service on weekdays during the AM (06:00-09:00) and PM (15:00-18:00) peak hours, effective mid-May until the end of the pilot project. The addition of the clerk will ensure that detour and special events information is always being provided and updated. This helps to alleviate some of the summer workload concerns expressed by the technicians. The Clerk will also ensure that information on the web-site is consistent with all press releases, data base entries and Calgary.ca information. The intent of reporting incidents on the web-site is to bring renewed interest from the public and allows for additional testing and feedback on this feature. A system of how to report the incidents will be established with the Calgary Police Service and records of daily reported incidents on local radio stations will be kept for comparison. Efforts are also being made toward reporting delays in transit services, specially the C-train. Some expansion of the existing CARS road network is expected.

6.0 Measures of Effectiveness

Over the course of the pilot project two reports, a midterm report in May and a final report in September, will summarise the findings.

A literature review conducted by the project consultants, Morrison Hershfield, revealed there is relatively little information available regarding the quantifiable benefits of ATIS deployments. ATIS has the potential to improve travel flow, reduce vehicle delay and vehicle kilometers travelled, but this is difficult to measure due to the numerous assumptions on user behaviour required and competing sources of information available. Many jurisdictions in the United States and Canada use web-site statistics and user surveys to measure and evaluate the success of their Web-based ATIS. The surveying methods vary from in-person interviews to telephone surveys, mail-back surveys and online (or web) surveys. Depending on the scope of the survey, some were able to determine the effect of the ATIS on traveller behaviour, what type of information provided on the ATIS website was most valued by public and gauge the success of ATIS deployments. According to evaluations conducted by the Metropolitan Model Deployment Institute (MMDI), customer priorities for ATIS services in descending order from most desired to least desired are:

- Freeway and arterial coverage
- Direct traffic speeds (or reliable self-selected point-to-point travel times)
- Camera images
- Incident Information
- En route guidance based on personalised criteria
- Design features according to media and location of use

The survey-based evaluations also revealed that quality, relevance, availability, convenience and speed of the information is critical to retaining customers.

The system of evaluation for the CARS pilot project will include two methods, the first being performance benchmarking by tracking web-site usage and data entry performance with normalized data from other agencies based on 100,000 population. The agencies used for benchmarking also use CARS and will include Alaska, Iowa, Main, New Hampshire, Des Moines, Minnesota and Vermont. Effort is made to include some urban agencies. Information such as the number of unique visitors, data requested, frequency of visits and types of data sought will be compared. Each comparison will account for length of operation, the type of data provided, the frequency of data updates and the staff resources used for monitoring and maintaining the system up to date.

Normalization based on other data such as vehicle miles travelled per 100,000 resident or average daily traffic volumes for roadway sections is difficult to use as numerous factors are involved in determining how an ATIS system gains acceptance. Factors such as type, quantity and quality of information or lack there of plays a large role in attracting and retaining users. Even the way and the extent to which the ATIS is promoted will impact the success of the system.

Visits to the website were tracked hourly, daily, weekly and monthly. The report identifies successful requests for pages overall and on average, distinct files requested and the number of distinct hosts served (the number of servers/ points through which the website was accessed). It does not identify the number of users that may be accessing simultaneously through a proxy server. Therefore the number of visits reported will likely be lower then the actual amount.

The second method of system evaluation will be user surveys developed for the public users, including first time and repeat users, as well as agency users. For the public, the online survey option was chosen based on cost, accessability, ease of data collection and storage abilities.

The online survey allows the public to rate the web-site, identify traveller information needs and provide general comments. The survey results are available for further analysis such as determining when the surveys were filled out. The survey also allows users to leave an email address for future surveys relating to ATIS. The survey questions were kept to a maximum of 10 questions and created to be inclusive of both rural and urban users. A sample of the on-line survey questions are provided in Appendix A. The survey will be altered following the midterm report to get added feedback from repeat users.

The on-line survey results lead to some early changes to the web-site. Based on user comments, several small but valuable adjustments were made to how the information was displayed. A “what’s new” feature was added to the splash page to inform the public of revisions to the site and thank users for their feedback. This feature will continue to be used when new services or information is being tested.

Agency users will be surveyed separately for the final report component. Technicians and Managers of the Detours and Special Events division will be surveyed to determine if an “off-the-shelf” system like CARS can meet their individual and corporate needs. The input from internal “front-line” staff is critical for establishing the system as a part or the full solution. The addition of input from the data clerk in the second half of the project will add significantly more insight into the detailed functionality of CARS in terms of data entry and display.

The overall results of the user surveys will help form a direction for future technology deployment strategies or partnerships for ATIS.

In the past other jurisdictions have chosen to model different scenarios of traveller behaviour changes caused by the ATIS however, Calgary chose not to pursue this alternative due to timing, cost and the large number of assumptions associated with the modelling exercise.

7.0 Midterm Results

The midterm results cover the period between January 28 to April 20, 2005.

The first week of website operation yielded some strong interest from the public. From January 31 to February 1 there were approximately 470 page views per day. February 2 experienced 5000 page views and a spike between 11:30 – 12:00 immediately after the press release made by Alberta Infrastructure and Transportation. Table 1 summarizes the findings of the web-site visits thus far.

Table 1: Web-site Activity Summary January 28 to April 20

Busiest Month	February (38,746 requests for pages)
Busiest week	Beginning January 30 (11990 requests for pages coinciding with the press release)
Busiest day	February 10 (5072 requests for pages coinciding with a winter storm)
Busiest Hour	11:00 AM -12:00 PM

Overall activity on the web-site begins to increase noticeably at 08:00, peaking at 11:00 -12:00 and declining slightly until 15:00, after which activity on the web-site drops significantly. The statistics show that the web-site receives visits all hours of the day. Even at 04:00 the web-site has been visited 687 times during the last 3 months. These visits are likely occurring from foreign countries or different time zones. Notably there have been visits from over 13 countries including Italy and the Netherlands. The number of visits ranging from 30 to 239 visits each.

To date, a total of 231 on-line surveys have been completed. Table 2 illustrates the results. Answers are ranked from the highest to the least number of responses.

Table 2 Survey Results January 28 to April 20, 2005

Question 1 Which roads are you interested in obtaining travel information for?	Hwy 2 – EDM-CGY	Edmonton	All Hwys	Calgary	Hwy 2 - EDM-RDR	Hwy 2 - RDR-CGY	Other cities	Outside Alberta
Question 2 When travelling in Alberta, what do you normally use to determine travel conditions?	Radio	Existing Websites	TV	Observations	Word of Mouth	Phone Hotline	None	
Question 3 Which of the following types of information are most important to you as a traveller?	Winter conditions on Hwy	Construction on Hwy	Collision/ Delays on Hwys	Collision/ Delays-City	Construction-City	Winter Road - City	Traffic cameras	Transit

Question 4 When you see poor travel conditions on this website, are you more likely to...	Change times	Alternate Route	Cancel Trip	Continue trip	Seek alternate mode			
Question 5 How often do you plan to visit this website?	Once per week	2-5 times per week	One per month or less	6-10 times per week	More than 10			
Question 6 When would you expect to access the website to get travel information?	Randomly	AM and PM rush	Evening rush	Overnight	Morning rush	Lunch		
Question 7 What is the purpose of your trip today?	General Interest	LD personal travel	Regular commute	LD trucking	Local trucking	LD business		
Question 8 Please indicate where you live or originated this trip?	Edmonton	Elsewhere in Alberta	Calgary	Red Deer	Out of Province			

Usefulness of the information rating	2.45 out of 5
Accuracy of the information	2.48 out of 5
Ease of use of the website rating	2.07 out of 5
Timeliness of the information rating	2.38 out of 5

Following the first month of operations, a review of the comments submitted online, revealed some simple changes that would improve the website display and usefulness. This lead to changes such as the colour of Highway 2, adding icons to the legend that were missed intially and providing a date stamp on the site for the last update.

Overall public feedback regarding the web-site and its contents was positive. The free-text comments received showed there is recognition that the project is only in its testing stages. Many users encouraged expanding the scope of the information, the roadways and bringing more real-time information to the web-site. Users appreciated the comprehensive map of the cities and highway. The ability to view both highway information and city roadway information together in one place appealed to both recreational and business travellers as well as the commercial trucking industry. Some users found it difficult to comment on the usefulness of the information due to the limited coverage of roadways and the lack of construction activity during the winter months. This is expected to change as the summer construction season approaches.

8.0 Next Steps

After three months of operation, the Web-based ATIS has already been recognized as a valuable tool for information dissemination to a broad audience in a simple, accessible and easy to understand format. The approximately 85,000 visits to the web-site thus far shows a strong need for ATIS exists both provincially and locally. Although a significant improvement in roadway coverage and real-time information delivery is required for the ATIS to be truly effective, the City of Calgary has already moved toward acquiring a permanent system by means of a Request for Information (RFI) to industry. The contract will be awarded in the summer of 2005 followed by the construction of the permanent ATIS web-site that will take over once the pilot project is finished. The lessons learned from the CARS pilot project has helped to better identify the City's needs in both short and long term for the Web-based ATIS. Calgary will continue to use the pilot project to maximize the understanding of technology and resource requirements. The on-line user surveys deliver a clear message for improvements in the usefulness, accuracy, ease of use and timeliness of the information provided. These issues will be fully addressed prior to launch of the permanent Web-based ATIS.

The upcoming 2005 construction projects on several key corridors of the City (Glenmore Trail, 16th Avenue, Mcknight Boulevard, Stoney Trail, etc.) will truly be an opportunity for the ATIS to play an important role in providing up to date information for both regional and local travellers. The new ATIS will be fully automated for data retrieval from the Detours and Special Events Data-bases as well as the Computer Aided Dispatch (CAD) of the Calgary Police Service. Camera images will continue to be added to the site, up to 10 images a year. Roadway condition reporting will be provided from 3 sites on the network (Stoney Trail/ Bow River Bridge, 16th Avenue/ Bowfort Road and Crowchild Trail/ Glenmore Trial) where Road Weather Information System (RWIS) sensors are currently installed. Calgary will also be implementing Highway Advisory Radio (HAR) during the Glenmore/Elbow/5th Street (GE5) project, bringing another ATIS component to Calgarians for the first time and creating more opportunities for overall ATIS integration.

9.0 Appendix A – General User Survey

1. Which roads are you interested in obtaining travel information for? (CHECK ALL THAT APPLY)
City of Calgary
City of Edmonton
Hwy 2 – Edmonton to Red Deer
Hwy 2 – Red Deer to Calgary
Hwy 2 between Edmonton and Calgary
All highways in the province
Other cities/towns
Outside Alberta

2. When travelling in Alberta, what do you normally use to determine travel conditions? (CHECK ALL THAT APPLY)
Television
Radio
Phone Hotline
Existing Websites
Observations of existing conditions
Word of mouth
Don't use any

3. Which of the following types of information are most important to you as a traveller? (CHECK ALL THAT APPLY)
Winter road conditions on highways
Construction information on highways
Collision information/traffic delays on highways
Public transit information
Collision/traffic delays on city streets
Construction information on city streets
Winter road condition on city streets
Web cam or traffic camera pictures of roadways if available

4. When you see poor travel conditions on this website, are you more likely to... (CHECK ONE OF)
Change travel times
Take an alternative route
Cancel the trip
Continue with the trip as planned
Seek an alternate mode of travel

5. How often do you plan to visit this website? (CHECK ONE OF)
Once per month or less
Once per week
2-5 times per week
6-10 times per week
More than 10 times per week

6. When would you expect to access the website to get travel information? (CHECK ONE OF)
Morning rush hour
Evening rush hour

Both morning and evening rush hour
Lunch hour
Overnight hours
Randomly during the day

7. What is the purpose of your trip today? (CHECK ONE OF)
Regular commute
Long distance personal travel
Long distance business travel
Long distance trucking
Local trucking use
General interest

8. Please indicate where you live or originated this trip? (CHECK ONE OF)
Calgary
Edmonton
Red Deer
Elsewhere in Alberta
Out of province

9. How satisfied are you with the following capabilities of this website?
(rating 1=very satisfied to 5=very dissatisfied)
Very Satisfied - - - Very Dissatisfied Not Sure
Usefulness of the information
Accuracy of the reported information
Ease of accessing the information
Timeliness of the information provided