

# Statewide ITS Earmark Evaluation

*Part B*

# final report

*prepared for*

**Wisconsin Department of Transportation**

*prepared by*

**Cambridge Systematics, Inc.**

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Cambridge Systematics, Inc.  
100 CambridgePark Drive, Suite 400  
Cambridge, Massachusetts 02140

*November 2003*

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# 1.0 Introduction

The Wisconsin Department of Transportation (WisDOT) requested consultant support in the development and implementation of evaluation plans for two projects funded under the Federal Highway Administration's (FHWA) Intelligent Transportation System (ITS) Integration Program. As the recipient of ITS Integration Program funds, WisDOT is required to perform a self-evaluation on each program supported by the funds. The evaluation should document the lessons learned in meeting project goals and objectives, and address key aspects of the project, and to the extent possible, assess impacts on the relevant outcome measures, including mobility, safety, efficiency, productivity, and energy and emissions.

Part A of the program is the I-90/I-94 Corridor Strategic Plan Project, while Part B is the Wisconsin Statewide Evaluation Project. The stated goals of the program are to improve transportation system efficiency, safety, traffic flow, and air quality, and to improve traveler information, particularly for economic development and tourism promotion.

The I-90/I-94 Strategic Plan has been in place since 1996, and addresses needs along a large portion of Wisconsin's Interstate system including the I-94 Milwaukee-Minneapolis corridor and the I-90 Beloit-LaCrosse corridor. Among the projects originally identified for deployment were the Dane County Incident Management Plan; Commercial Vehicle Operations Program; Emergency Management Services; and Regional Multimodal Traveler Information. This evaluation involves Project B which includes evaluation of the Statewide Traveler Information plans, and deployment plans in the Fox Cities and LaCrosse areas. Specific projects include:

1. Statewide Traveler Information and Architecture Plan;
2. The Fox Cities Plan;
3. LaCrosse District Interconnected Signal Plan;
4. Automated Oversize/Overweight Information Technology (IT) Design Project; and
5. Portable Changeable Message Sign (CMS) Project.

By mainstreaming ITS into planning, design and implementation process, WisDOT hopes to discover benefits of the ITS deployments to date, as well as assessing stakeholder and public needs to further improve the program. Specifically, the goals of the evaluation include assessments of:

- Improvement of surface transportation system **safety**;
- Optimization of system capacity and operational **efficiency**;
- Enhancement of personal **mobility**;



- Enhancement of present and future **productivity**;
- Reduction of **environmental and energy** impacts to the system; and
- An **institutional** environment conducive to statewide application of ITS.

## ■ 1.1 Evaluation Approach

According to FHWA guidelines, the following steps comprise of the self-evaluation process:

- Form the Evaluation Team;
- Develop the Evaluation Strategy;
- Develop the Self-Evaluation Plan;
- Collect and analyze data and information; and
- Document strategy, plans, results, conclusions, and recommendations in a Local Evaluation Report.

Since August 2002, WisDOT and the CS evaluation team have worked together in completing the steps recommended by FHWA. This document presents the Wisconsin Statewide Evaluation Results for Part B, developed by Cambridge Systematics (CS). The organization of this evaluation plan is as follows:

- Traveler Information Architecture and Plan (Section 2.0);
- Fox Cities Plan (Section 3.0);
- Oversize/Overweight Carrier Customer (Section 4.0);
- Portable Changeable Message Sign (Section 5.0); and
- Conclusions and Recommendations (Section 6.0).

The Lacrosse District Interconnected Signal Plan was completed near the end of this study. The study itself followed standard office traffic engineering methodologies to evaluate the performance of key intersections along the study corridor. Since the design and project development phases have not been initiated, the Committee agreed that there are ITS elements appropriate for evaluation at this time.

## 2.0 Traveler Information Plan and Architecture

The Wisconsin Statewide Traveler Information System Plan and Architecture provides the WisDOT with a comprehensive ITS planning and deployment tool, which may be applied to a statewide plane.

The Statewide ATIS Plan develops the statewide framework for how traveler information is to be shared between transportation districts and the methods for disseminating information to travelers in Wisconsin. The Statewide ITS Architecture defines the relationships and information sharing needs between ITS systems in the region. To insure proper oversight and guidance, from the departments perspective, an Advisory Group was formed and charged with the responsibility of leading the development of the Statewide Traveler Information Plan and Architecture.

The development of the plan and architecture was accomplished by following a process that assessed the status of existing systems in Wisconsin, solicited input from the stakeholders, and incorporated this stakeholder input into the development of the plan throughout the process.

The long-term vision of the plan and architecture is as follows:

“TRAVELERS AND TRANSPORTATION OPERATORS IN WISCONSIN WILL HAVE THE INFORMATION THEY NEED TO HAVE A SAFE, EFFICIENT AND SATISFYING TRIP.”

Wisconsin holds both long- and short-term milestones for the vision. In the short-term the goal is to provide timely core information to core users at selected geographic locations, and long-term the goal is have a mix of public- and private-sector entities delivering accurate, consistent and reliable information to make travel safer and more efficient, and to increase user satisfaction. Expected impacts from the deployment of traveler information include improvements in safety, efficiency, mobility, agency productivity, and better environment.

Because the product of this effort was a plan, the evaluation was focused on the organizational and institutional issues related to the development of the plan, through surveys directed towards the stakeholders. The following section details the results of the survey.

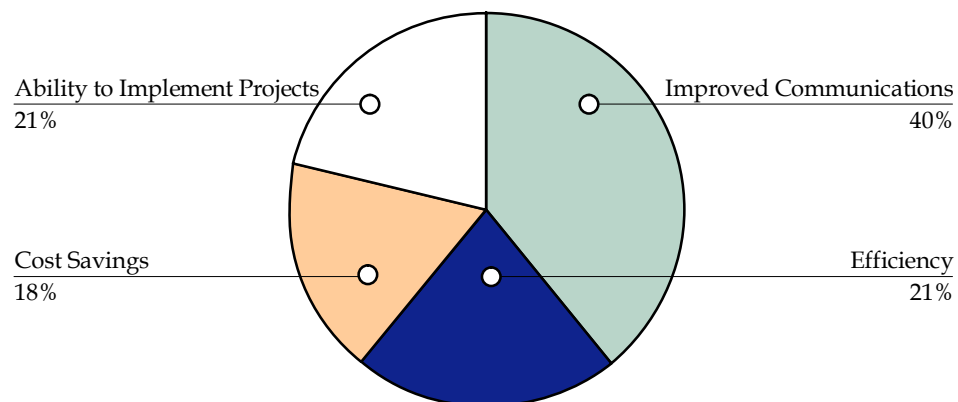
## ■ 2.1 Survey Results

This section summarizes the results of the Traveler Information Plan and Architecture survey carried out in April and May 2003.

Twelve of the 23 stakeholders selected for the evaluation agreed to be interviewed or returned the e-mailed questionnaires, or a response rate of 52 percent. Appendix B lists the survey targets selected for this evaluation. The survey respondents represented various divisions of WisDOT, including the districts, the Division of Transportation Infrastructure Development (DTID) and the Division of Transportation Investment Management (DTIM), Business Management, and State Patrol, as well as private consultants hired to help develop the plan and architecture. Several private consultants voiced reservations for participating in this evaluation, citing possible conflicts of interests, but few finally agreed to participate.

Most of the WisDOT staff interviewed indicated that their involvement in this project began with an invitation from the WisDOT Central Office Programming or Investment Management Division. Private consultants were hired by WisDOT to help develop the traveler information plan and architecture. As shown in Figure 2.1, the most often cited internal benefits of the plan and architecture were improved coordination and communications (40 percent), followed by both operational efficiency and ability to implement a range of projects (tied at 21 percent). Cost savings came next, which represented 18 percent of the responses. Other benefits mentioned by some of the respondents include improved customer satisfaction, a solid foundation for future deployments, and improved prestige due to better local/regional exposure.

**Figure 2.1** What Are the Potential Internal Benefits to Your Agency Associated with the Development of the Architecture and Plan?



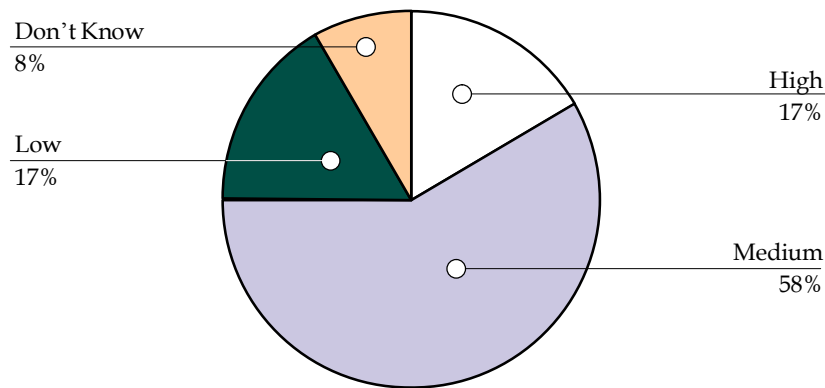
Virtually everyone agreed that all groups within WisDOT should be considered key stakeholders on this project, plus city/county officials, local law enforcement, construction firms, transit operators, truckers, and the traveling public. One respondent even

emphasized that involving WisDOT in its entirety was “one of the first of many steps necessary in moving forward.” Another respondent offered that the stakeholder group could be divided into two hierarchies: 1) upper management, and 2) technical staff. He suggested that upper management’s responsibility was to provide the overall direction and make sound decisions, while the technical staff was involved with the “logical and physical components” of the architecture. Yet another suggested an increased role for the districts and local governments, since they would ultimately be responsible for operating and maintaining the systems, and must manage the traffic problems on a daily basis.

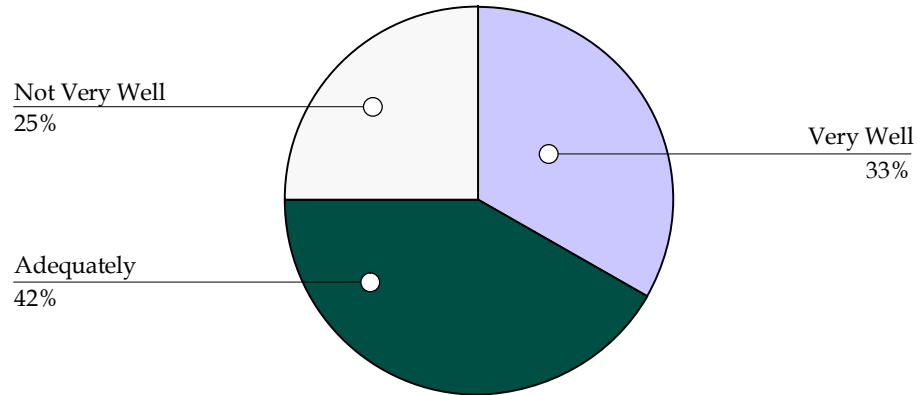
A majority of the respondents (58 percent) suggested that they had a ‘medium’ level of participation (Figure 2.2). Two of the 12 respondents (17 percent) who acknowledged ‘high’ participation levels were both private consultants. Conversely, the two respondents (17 percent) who admitted to ‘low’ participation levels were district representatives. One of these district representatives noted that they had limited staff time and resources to fully participate in this planning effort.

As presented in Figure 2.3, when asked whether they understood their respective roles in the development of the plan and architecture, the majority of the respondents indicated that they understood their roles ‘adequately’ (42 percent). Roughly 33 percent understood them ‘very well,’ while the remaining 25 percent (three respondents, two of which were district representatives) were not clear about their roles and responsibilities. A district representative claimed that the initial plans were already developed before he was involved, which led to a lesser understanding of his roles within the overall vision.

**Figure 2.2 How Would You Describe Your Agency’s Level of Participation in the Study**



**Figure 2.3** How Well Did You Understand Your Role in the Development of the Architecture and Plan?



As shown in Figure 2.4, an overwhelming majority (67 percent) believed that formal agreements were needed to minimize stakeholder conflicts during the planning process. However, a few were skeptical of such approach, because planning processes can be very unpredictable at times, and agreements made prior to knowing what issues will come up may risk becoming irrelevant. But their comments were outweighed by many others who strongly felt the need for formal agreements. These respondents indicated that the one issue that consistently comes up during planning processes is always about the allocation of available resources, both in terms of manpower and money. They argued that the formal agreements should be broad based, yet specific enough to cover the issues of time and money in great detail. One respondent also suggested that these agreements should look far into the future, specifying who would be responsible for the ongoing operations and maintenance (O&M) costs. Another implied that the agreements would be useless unless the upper managers maintain the same level of commitment throughout the project.

**Figure 2.4** Do You Believe There Is a Need for Any Formal Agreements with Other Stakeholders to Minimize Conflicts or Issues That May Arise?

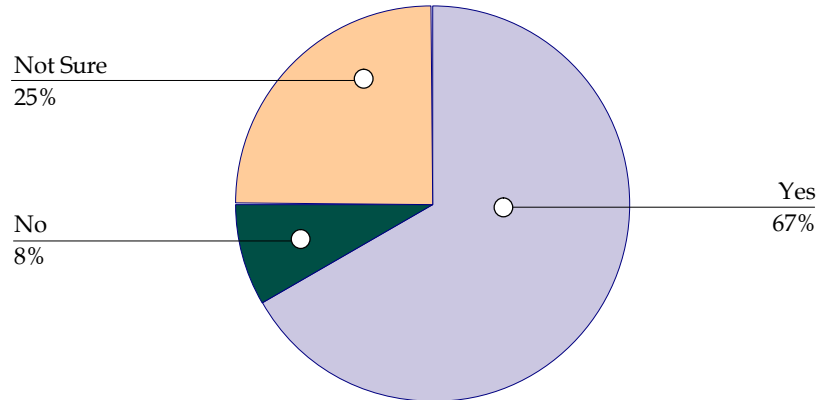
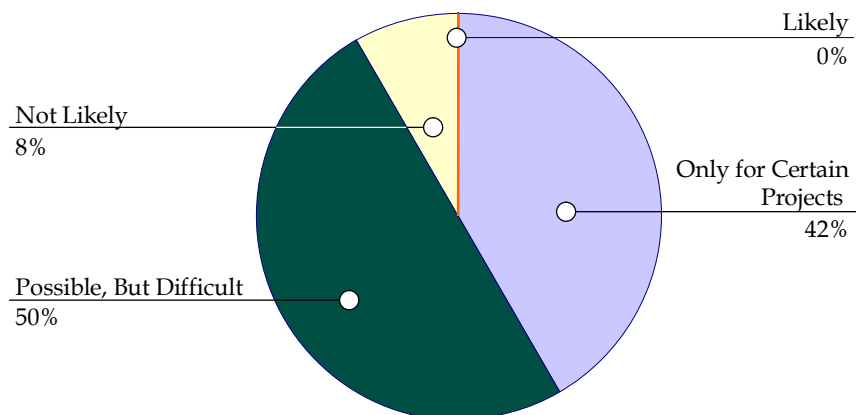


Figure 2.5 shows the respondents were split regarding the outlook of future funding for projects identified in the plan and architecture. Forty-two percent believed that funding would be likely only on certain projects, while 50 percent said that funding would be possible to obtain, but with more difficulty and hard work. None believed that funding would be readily available for all projects recommended by the architecture, and one skeptical respondent (eight percent) claimed that future funding would not be likely at all.

**Figure 2.5** Future for Projects Identified in the Plan  
*Over the Next Five to Ten Years*



The Evaluation Team asked the respondents to briefly describe the general approach to the development of the plan and architecture. One person described the process as “collegiate,” where consensus was built by all stakeholders. Generally, teams within each WisDOT group were appointed to prioritize projects, and then the district representatives

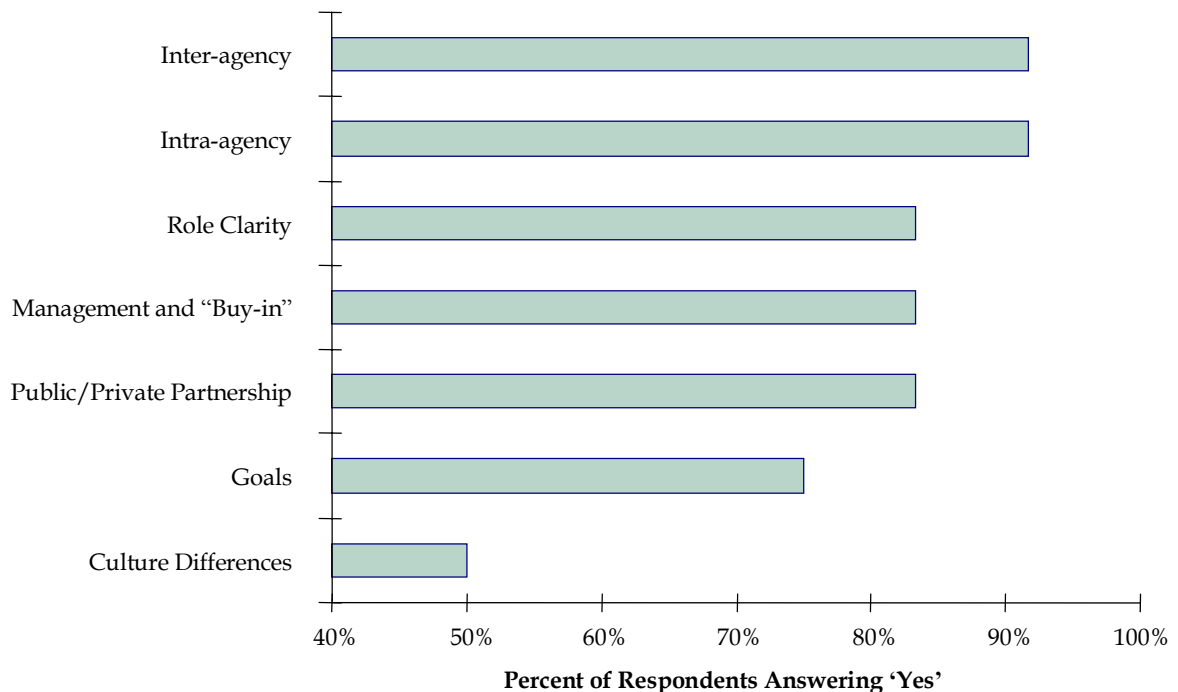
prioritized them further. At the final level, upper management weighed in and selected the projects that should be funded. The implementation of the approved projects depended upon the operational and technical requirements of the overall vision to make sure that all components were deployed in the right sequence. Some of the lessons learned during this process include the importance of upper management support, clear milestones and deliverables, and unity and persistence when facing project roadblocks. One respondent regretted that some problems encountered during the process were left unresolved fearing they might reappear again in the future.

The Evaluation Team found that many of the respondents were not familiar, or only partially involved in the development process. As mentioned earlier, one person claimed that he joined the discussions only after the architecture was almost fully developed, while another said that he only joined the discussions during the early phases of the project.

As presented in Figure 2.6, the Evaluation Team also presented several common issues that often come up during planning processes, such as inter-agency (between agencies) and intra-agency (within agency) relationships, role clarity, and public/private partnership. Each respondent was then asked to respond whether each issue was important to them, with a simple “Yes” or “No” answer. The following chart summarizes the issues that the respondents felt were important during the development of the plan and architecture. For example, over 90 percent of the respondents agreed that inter-agency relationship was an important issue for them. On the other hand, cultural differences were deemed to be a less important issue, perhaps since most of the stakeholders for this project were public agencies within the State system.

It was notable that inter-agency and intra-agency issues were ranked equally important. This highlights the significance of intra-agency issues and need to assign responsibility within WisDOT.

**Figure 2.6 Do You Consider the Following Issues Are Important during the Development of the Plan and Architecture**



At the end of each question, the respondents were free to add any comments on the issues that they felt were important. The following are their comments:

- **Commitment of resources** – Many respondents were very adamant that the availability and proper allocation of resources would either make or break the process. There must be a “commitment to share” the resources, opined one respondent. And as previously mentioned, the arrangement should not only cover the present, but also far into the future. Another said that the task at hand was ambitious but “impossible to accomplish,” because the necessary funding was not there. Some felt that there was “lack of commitment” from the upper management, because they did not realize that the staff did not have the necessary “capacity... to get everything done.” Another claimed that this was the most consistent theme and “biggest challenge” during the entire planning process.
- **Legislative challenges** – The political arena has shifted in Wisconsin recently, and this has caused some uncertainties on the implementation of the plan and architecture. A few respondents expressed optimism that the changes would help public/private partnerships to thrive.
- **Restrictive FHWA requirements** – One respondent felt that often times, the FHWA requirements for matching the State funds were too restrictive. For example, the FHWA’s definition of ‘urban ITS investments’ was especially disadvantageous for Wisconsin, a State with more rural areas and less population compared to other states.



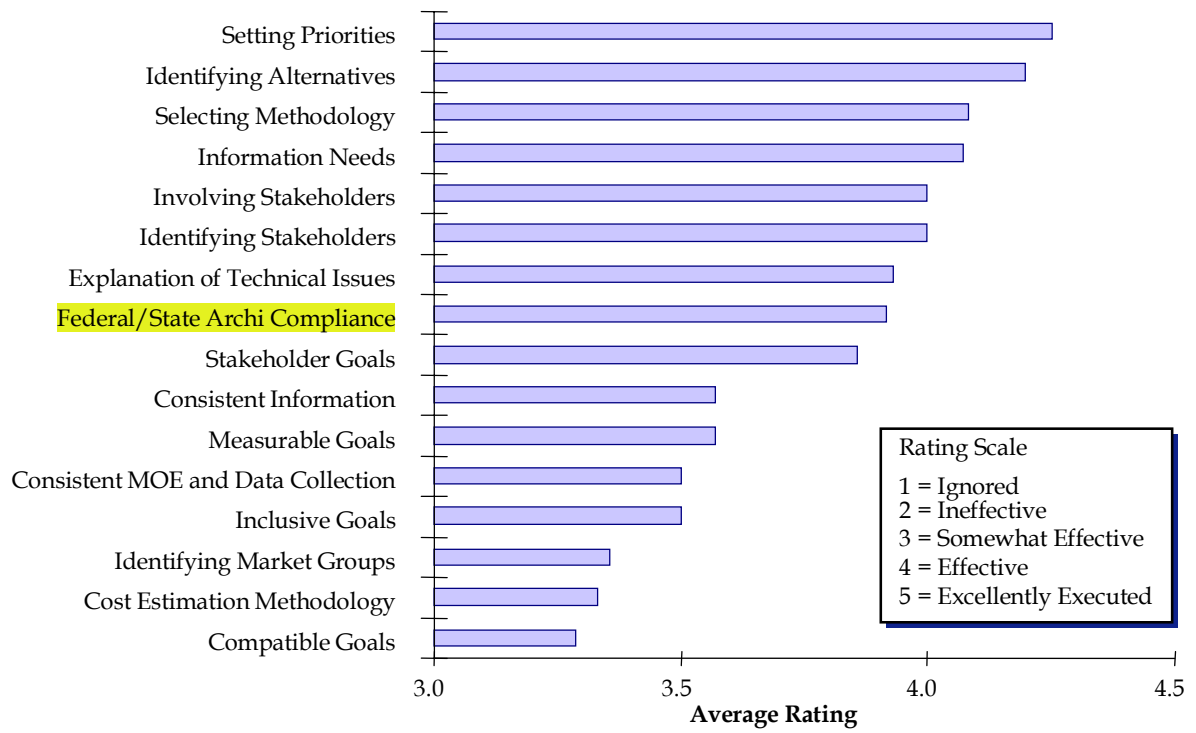
When this happened, WisDOT had to shoulder the financial burdens without the help of the FHWA grants.

- **Philosophical differences** - A major transportation investment decision that upper management must face is whether to build more roads or invest in ITS. ITS solutions were considered nascent, young, and unproven compared to road building that had been around longer, and received adequate political support from the construction firms. There needs to be a champion that could help stakeholders and upper management recognize the real benefits of ITS investments.

Lastly, the respondents were asked to rate the effectiveness of various components of the planning process, such as setting priorities, identifying alternatives, and selecting measurable and compatible goals. A rating scale of 1 to 5 was used, with 1 being ignored/very ineffective and 5 being excellently executed/very effective. The following chart summarizes the average rating for each planning component, sorted from the most effective to the least effective.

As shown in Figure 2.7, the respondents seemed to believe that, overall, the planning process had been effective (the average rate for all components combined is 3.8 out of 5.0). One respondent said that he had seen marked improvements in the process over time, especially after WisDOT sought the assistance of private consultants to help develop the architecture. The respondent was also optimistic that the process would only get better. Of all process components presented, the respondents identified that setting priorities and identifying alternatives had been the most efficient parts of the process (4.3 and 4.2, respectively), while agreeing upon the methodology to estimate project costs and establishing goals that are compatible between the stakeholders were the least effective components (3.3 out of 5.0 for both).

**Figure 2.7 Rating the Effectiveness of the Planning Process**



## 3.0 The Fox Cities Plan

The Fox Cities Plan is also referred by the stakeholders as the “U.S. Corridor 41 Plan” or the “Fox River Valley ITS Implementation Plan.” It is a 10-year deployment plan for ITS technologies. The development of the deployment plan was a one-year effort led by WisDOT District 3. The plan encompasses Oshkosh, Green Bay and intermediate urban areas along U.S. 41. The goals and objectives of the plan are to improve safety, to enhance productivity, to enhance mobility and accessibility, to increase efficiency, to reduce energy use and negative environmental impact and to enable the development of a coordinated, technically modern transportation system for the region.

Stakeholders of the deployment plan include WisDOT, FHWA, city, county and regional planning agencies, Fire and Sheriff’s Departments, and local transit agencies. Representatives of each interest were involved in the project Steering Committee, which was responsible for guiding the development of the plan and also served as part of the technical advisory team. An additional task force was created to oversee the incident management component of the plan. The task force was comprised of representatives from Wisconsin State Patrol, the County Sheriff’s department and local emergency service providers. Extensive input from other stakeholders such as travelers, maintenance crews and transportation officials were gathered by means of surveys and interviews.

The Steering Committee identified congestion, lack of traveler notification of major crashes, safety, lack of adequate alternative routes, lengthy transit travel times, construction delays, lack of weather/road condition information and lack of travel time information as being priority issues that ITS should aim to rectify. After the Steering Committee considered the area’s priority transportation concerns, available data and the likely timing of available funds, the committee prioritized projects and developed a schedule and budget for the deployment of ITS strategies over the next 10 years.

Institutional considerations made in the deployment plan include the need for coordinated deployment oversight, cooperative operation of the Integrated traffic Management System (ITMS), inter-agency agreements for the transit providers, sharing agreements for access control of the CCTV, shared use and control of portable dynamic message signs, coordinated signal timing plan, alternate route agreements and shared AVL/CAD for emergency response. The Steering Committee is the likely deployment oversight body. The proposed mechanisms to establish and detail institutional arrangements are memorandums of understanding (MOUs) between the State and other agencies.

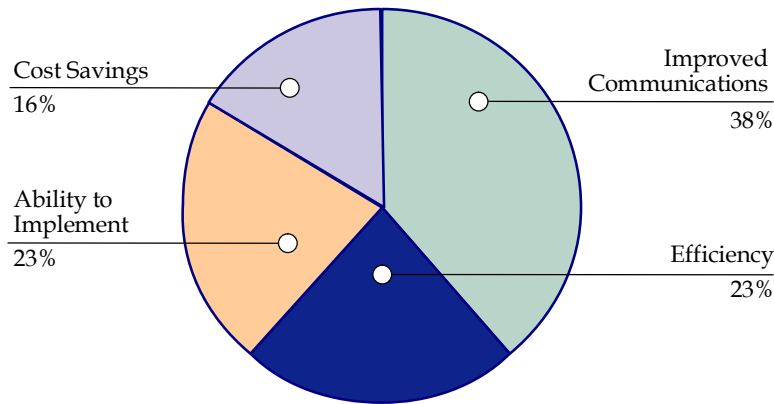
Because the product of this effort was a plan, the evaluation was focused on the organizational and institutional issues related to the development of the plan, through surveys directed towards the stakeholders. The following section details the results of the survey.

### ■ 3.1 Survey Results

This section summarizes the results of the Fox Cities Plan survey carried out in May and June 2003 for WisDOT. Twelve of the 22 stakeholders selected for the evaluation returned the e-mailed questionnaires, or a response rate of 55 percent. Appendix B lists the agency representatives selected for this survey. The survey respondents represented various divisions of WisDOT, including the districts, Transportation Planning, ITS, and State Patrol, as well as local agencies, such as Menasha Fire Department and Valley Transit. Metropolitan planning organizations such as the Bay-Lake Regional Planning Commission, Brown County Planning, and East Central WI Regional Planning, also participated.

Fox Cities Plan falls under the jurisdiction of WisDOT, District 3. Most of the respondents were either from WisDOT, District 3 or had received an invitation from District 3 to participate. As shown in Figure 3.1, the most often cited internal benefits of the Fox Cities plan were improved coordination and communications (38 percent), followed by both operational efficiency and ability to implement a range of projects (tied at 23 percent). Cost savings came next, which represented 16 percent of the responses.

**Figure 3.1** What Are the Potential Benefits to Your Agency Associated with the Development of the Architecture and Plan?



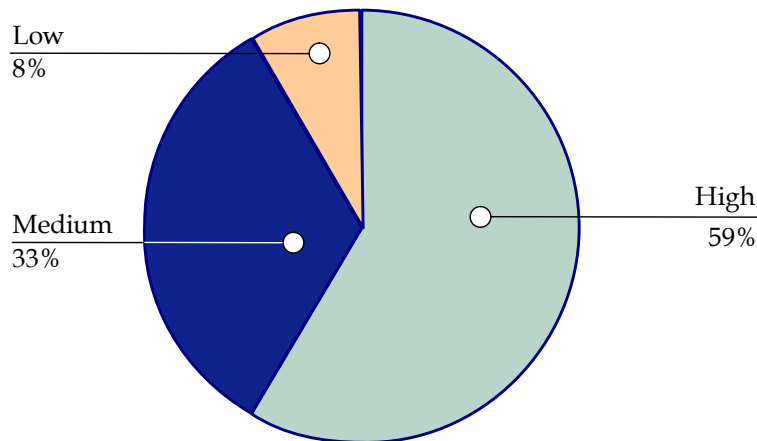
All groups within WisDOT considered themselves as key stakeholders on this project, with city/county officials, local law enforcement, motor carriers, and the traveling public as additional stakeholders. One respondent said that while WisDOT will internally benefit from this plan, “the citizens of the Fox Cities area and the Green Bay area will benefit more in the end.”

A majority of the respondents (59 percent) suggested that they participated ‘highly’ in the planning process (Figure 3.2). Most of these respondents were from WisDOT, and the respondents who acknowledged a ‘medium’ or ‘low’ levels of participation were from local agencies. But it was clear that most stakeholders understood their respective roles in

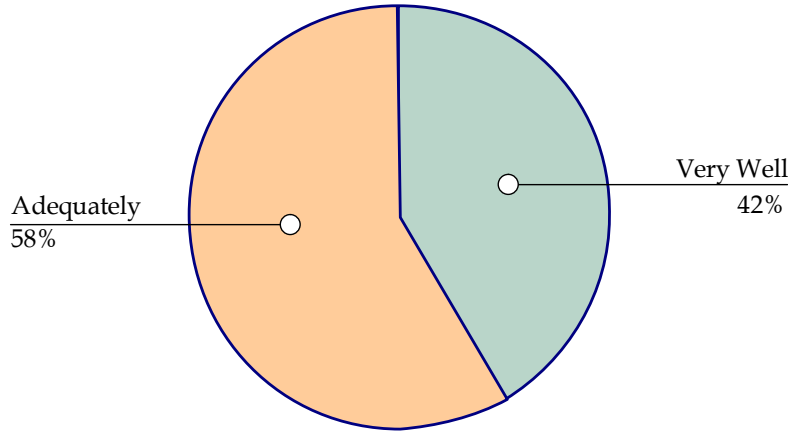
the development of the plan, since the majority of the respondents indicated that they understood their roles ‘adequately’ (58 percent) as shown in Figure 3.3. Roughly 42 percent understood them ‘very well.’

As shown in Figure 3.4, one-half of the respondents did not believe that formal agreements were needed to minimize stakeholder conflicts during the planning process, with four respondents (33 percent) indicating that they were not sure about the need for the agreements. Only two respondents (17 percent) indicated that there was a need for formal agreements. One respondent indicated that there was no “clear central group to take the lead in coordinating a regional procurement of the types of equipment recommended in the plan.”

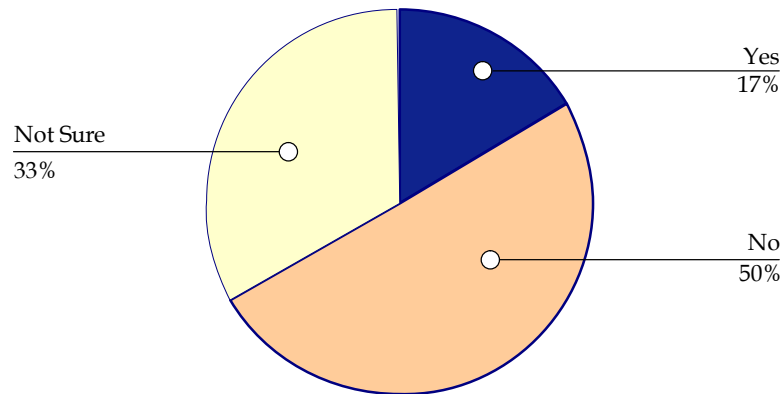
**Figure 3.2 How Would You Describe Your Agency’s Level of Participation in the Study?**



**Figure 3.3** How Well Did You Understand Your Role in the Development of the Architecture and Plan?

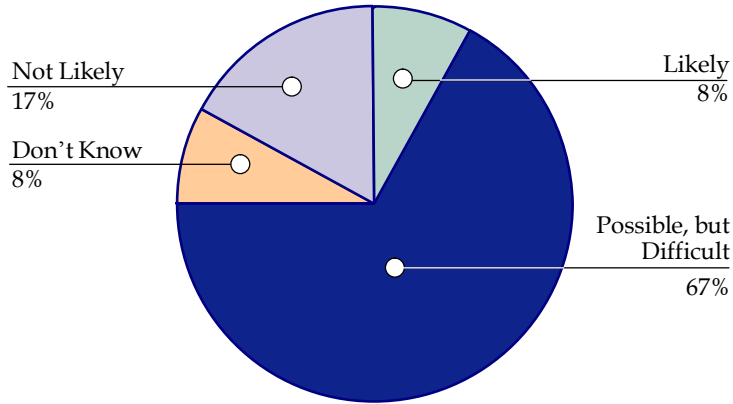


**Figure 3.4** Do You Believe There Is a Need for Any Formal Agreements with Other Stakeholders to Minimize Conflicts or Issues That May Arise?



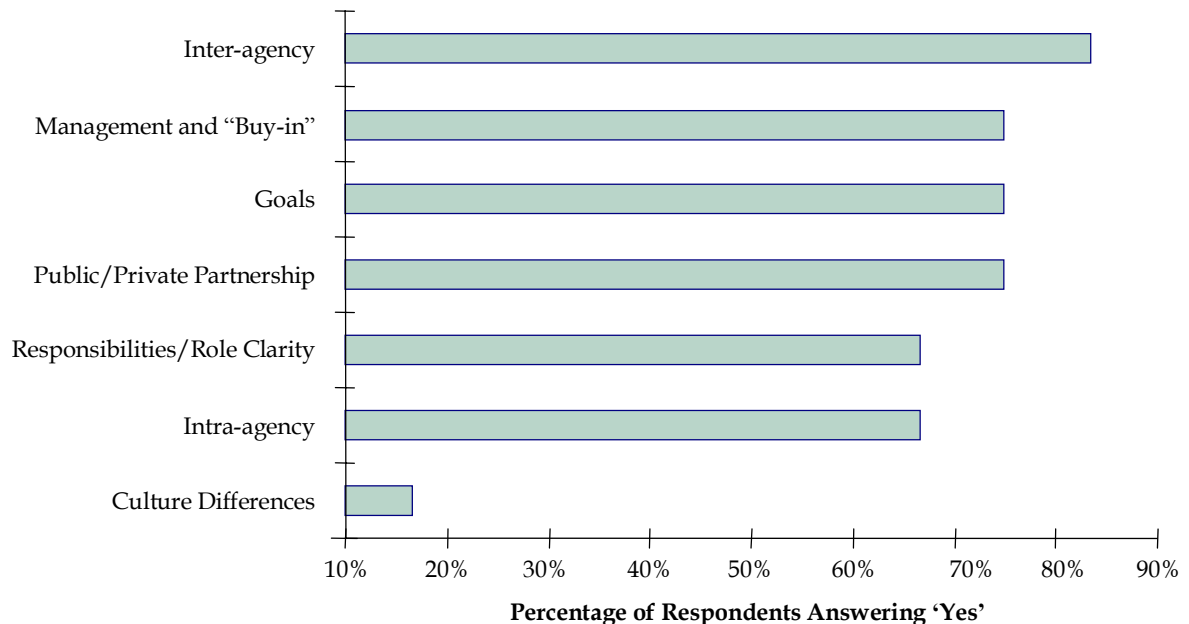
A majority (67 percent) believed that future funding for ITS projects is possible to obtain, but difficult, while 17 percent said that future funding would be unlikely (Figure 3.5). One of these respondents, representing a local agency, provided the following comments, “The process was directed toward WisDOT and we provided the local input to their process, [which was] a good thing. [However], the process was not directed to help further our local ITS efforts. It was very disheartening to expend the amount of energy and effort we did in the is planning effort and realize there is no funding available or in sight on any horizon.”

**Figure 3.5 Future Funding for Projects Identified in the Plan**  
*Over the Next Five to Ten Years*



The Evaluation Team also presented several common issues that often came up during planning processes, such as inter-agency (between agencies) and intra-agency (within agency) relationships, role clarity, and public/private partnership. Each respondent was then asked whether each issue was important to them, with a simple “Yes” or “No” answer. Figure 3.6 summarizes the issues that the respondents felt were important during the development of the plan.

**Figure 3.6 Do You Consider the Following Issues Are Important during the Development of the Plan and Architecture?**



For example, over 80 percent of the respondents agreed that inter-agency relationships were an important issue for them. Intra-agency relationships and directions from the upper management were perceived to be less important, but as one respondent said, “WisDOT, as an agency, needs an improved ITS direction from the central office and upper management on implementing an ITS program.” On the other hand, mending cultural differences were deemed to be the least important issue, with only 17 percent of the respondents acknowledging its importance.

At the end of each question, the respondents were free to add any comments on the issues that they felt were important. The following are some of the comments received from the interviewees:

- State budget crisis could delay the projects, and they might eventually “fall off the radar screen” entirely.
- The budget shortfalls would open up a pathway for public-private partnerships to thrive. However, this could lead to “investments made on benefit/cost to the private entity rather than overall public good.”
- Upper management needs to be convinced of the benefits of ITS investments. There needs to be a firm commitment and direction from the central office that ITS would be implemented in Wisconsin.

WisDOT respondents were asked to briefly discuss the project team’s general approach to the project. Out of the six WisDOT respondents, five provided answers to questions, such as, “How were stakeholders selected?” and “How were analyses methods selected and applied?” Mainly, decisions were made collaboratively as a team, through numerous brainstorming and prioritizing meetings. The consultants acted as facilitators and processed ideas cast during the meetings. Overall, most people felt that the consensus-building approach was excellent. One respondent commented, “I have never seen such great stakeholder participation and coordination. It was very impressive.”

Many of the respondents identified ongoing funding and the ability to maintain stakeholder interest as primary obstacles. Multi-agency coordination among stakeholders is cited across the board as the most positive aspect of this project.

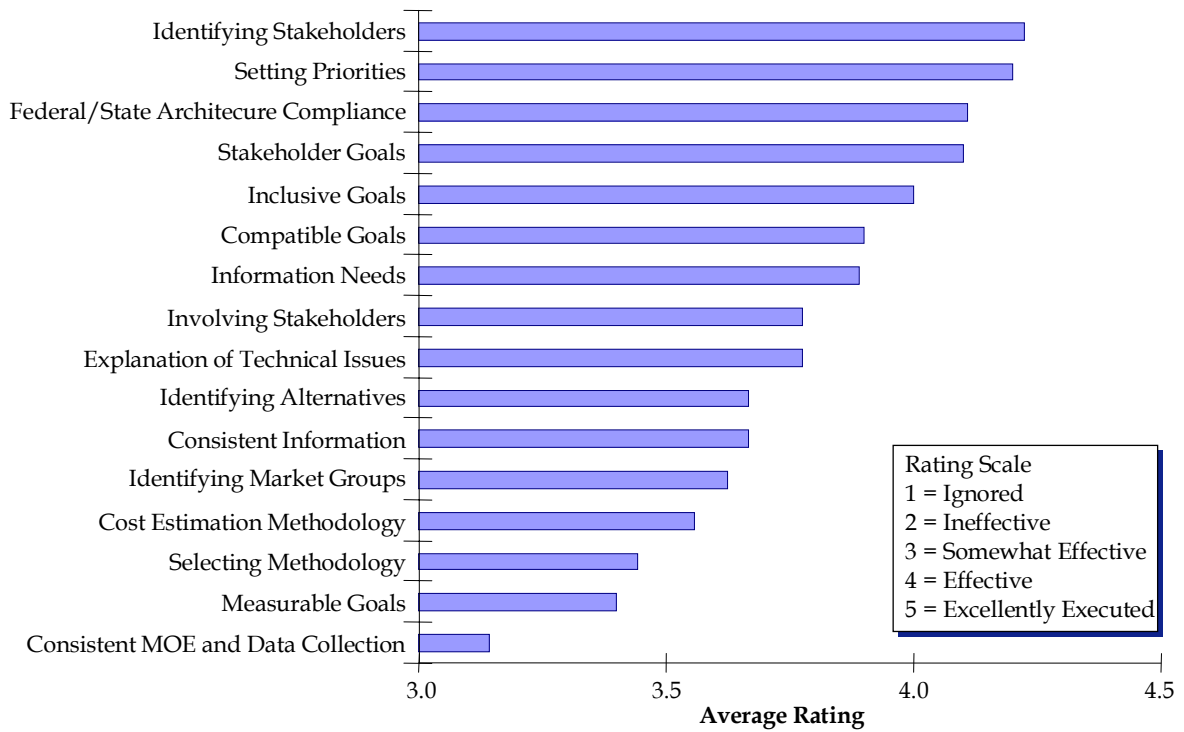
Lastly, the respondents were asked to rate the effectiveness of various components of the planning process, such as setting priorities, identifying alternatives, and selecting measurable and compatible goals, etc. A rating scale of 1 to 5 was used, with 1 being ignored/very ineffective, and 5 being excellently executed/very effective. Figure 3.7 summarizes the average rating for each planning component, sorted from the most effective to the least effective.

Based on the results, the respondents seemed to believe that overall, the planning process had been effective (the average rate for all components combined is 3.8 out of 5.0). Of all process components presented, the respondents identified that setting priorities and identifying stakeholders had been the most efficient parts of the process (4.2 for both), while



agreeing upon consistent MOE and data collection were the least effective components (3.1 out of 5 for both).

**Figure 3.7 Rating of Effectiveness of the Planning Process**



## 4.0 Oversize/Overweight Vehicle Permit Automation Project

### ■ 4.1 Project Overview

WisDOT's Oversize/Overweight (OS/OW) Permit Automation Project began in late 1997. At that time the OS/OW mainframe permit issuance system was not Y2K-compliant and Information Technology resources were not available to achieve timely compliance. The Division of Motor Vehicles (DMV) used that opportunity to start development of a rudimentary LAN-based permit administration system. Subsequently, in the 1999-2001 biennial budget the Legislature approved spending authority and mandated WisDOT to develop an automated routing and issuance system for OS/OW permits. The objective of the project is to use best available technology to reduce permit turnaround time and staffing needs required to safely route OS/OW vehicles. It is anticipated that when completed, the automated system will be able to issue approximately 50 percent of all permits automatically via the Internet without intervention by WisDOT staff. Completion of the project is currently scheduled for June 30, 2004.

The project is well underway. The permit administration system is substantially completed, with coding and database changes that have made possible significant improvement in the timeliness of permit issuance. In 2000, the Internet interface for on-line permit application was developed and deployed, making this project WisDOT's first extranet application. The intelligence in the on-line application assists the applicant in submitting more complete and accurate requests for permits and reduces keying by WisDOT permit processors. In 2001, a proof of concept, table-driven, on-line routing system was deployed. Additional functions added included automated issuance of non-routed multiple trip permits and credit card payments by permit customers.

Development of a routing system has been underway since 2002. A routing system is the engine required to create a GIS-based automated issuance system. The remaining activities of the project will include the installation, customization and testing of the routing system, connection to WisDOT databases for routing and inquiry purposes, and continued enhancements to the Internet application to expand the number and type of permits that customers may apply for and receive on-line.

## ■ 4.2 Funding History

The initial project cost estimate in the 1999-2001 biennial budget was \$1.1 million for a four-year project. State spending authority of \$1.1 million would be provided during the course of fiscal years 2000-2003. The motor carrier industry agreed to pay a temporary 10 percent surcharge on OS/OW permits to reimburse the transportation fund for the project expenditure. The 10 percent surcharge went into effect in January 2000, with a sunset date of June 30, 2003. Federal FY 1998 I-90/94 Corridor ITS funds were approved in early 1999 to support project scoping and implementation pending the approval of the original \$1.1 million in state funds in the 1999-2001 biennial budget.

As a project team was formed and began detailed scoping efforts, it was determined the total project costs would be significantly higher – an estimated \$5 million – and the project would take until 2004 to complete. A 2001-2003 biennial budget issue paper was developed to request additional funding. Federal FY 1999 Wisconsin Statewide ITS funds were approved to fill funding gaps until the passage of the biennial budget. The approved 2001-2003 biennial budget provided \$3.9 million in state funds for OS/OW automation over a three-year period. However, the issue of whether to extend or increase the 10 percent surcharge was not addressed in the final budget.

Anticipating the end of the surcharge on June 30, 2003, WisDOT worked with the motor carrier industry and other stakeholders to develop a plan for possible continuation of the surcharge to recoup some or all of the additional costs of the OS/OW project. A consensus proposal to extend the 10 percent surcharge to June 30, 2005 was included in the approved 2003-2005 biennial budget. As of the end of 2002, the surcharge has raised \$1.16 million in revenue to reimburse the transportation fund for OS/OW project expenditures.

## ■ 4.3 System Usage

Overall demand for OS/OW permits increased significantly prior to the implementation of the automated system. WisDOT data showed that demand for single trip permits increased from approximately 33,000 in 1991 to peak of over 49,000 in 2000, an increase of 48 percent. Issuance of single-trip permits has actually declined to 46,300 in 2001 and 41,000 in 2002, due to the slowing of the economy and expanded availability of multiple-trip permits for mobile home transport. Issuance of multiple trip permits increased by over 58 percent from 1991 to 2002, from 9,300 to 14,700.

A significant increase in usage of the web-based permit application system occurred during 2002, with web applications received increasing from approximately 1,800 in the first half of 2002 to over 4,000 in the second half of 2002. Automatically issued web permits also doubled from 173 in the first half to 322 in the second half. Permits received via

the Internet but issued by a WisDOT processor increased from just over 1,600 in the first half to over 3,700 in the second half.

WisDOT's goal for turnaround of single-trip permit applications has been four hours. In 1991, WisDOT met that goal on 94 percent of the workdays in that year. By 1997, due to increased workload and static or decreased staffing, the department met the four-hour turnaround goal on only 40 percent of the workdays that year. Significant turnaround time improvements have occurred since the system improvements began, with WisDOT achieving the four-hour goal on 96 percent of the workdays in 2002.

After discussions with WisDOT regarding evaluation methodology, it was agreed that a survey of automated permit system users would be the most effective method. Since a survey was taken in 1998, prior to implementation of the automated system, this provided an opportunity to compare the impact on the new system on customer perceptions. The results of the survey and findings are listed in subsequent sections.

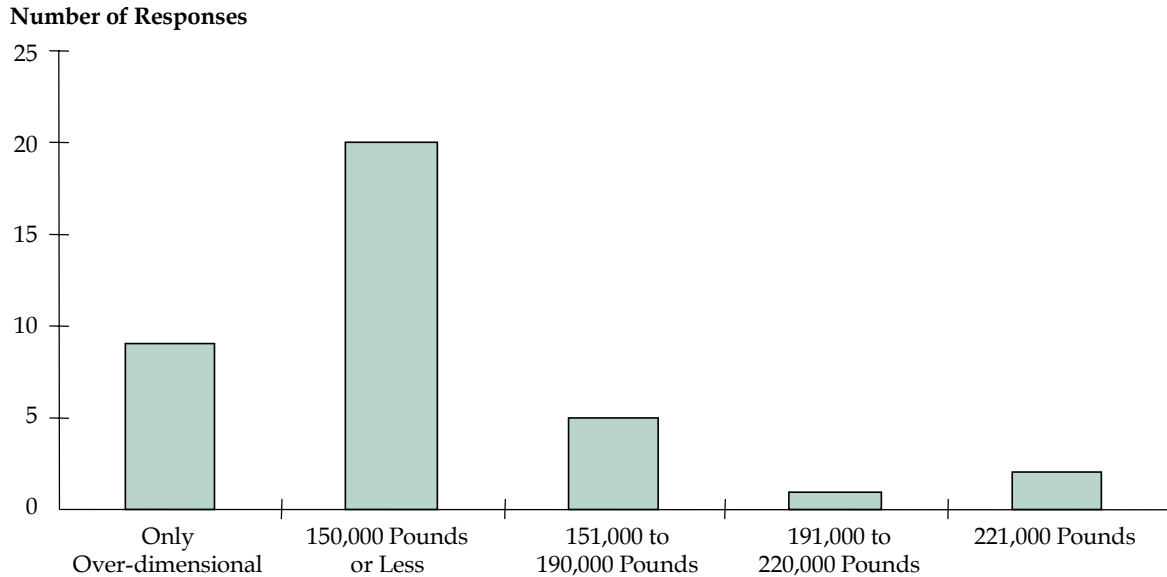
## ■ 4.4 Survey Summary and Findings

This memo summarizes the results of the OS/OW permit survey carried out in April 2003 for the Wisconsin Department of Transportation (WisDOT). Of the 63 questionnaires mailed to carriers 37 were returned to Cambridge Systematics, for a response rate of 59 percent. Of the 21 mailed to permit services, 14 were returned for a rate of 67 percent from permit services. One of the 37 carrier surveys was left blank, with an explanation that the carrier has moved no OS/OW loads this year.

### Carrier Survey

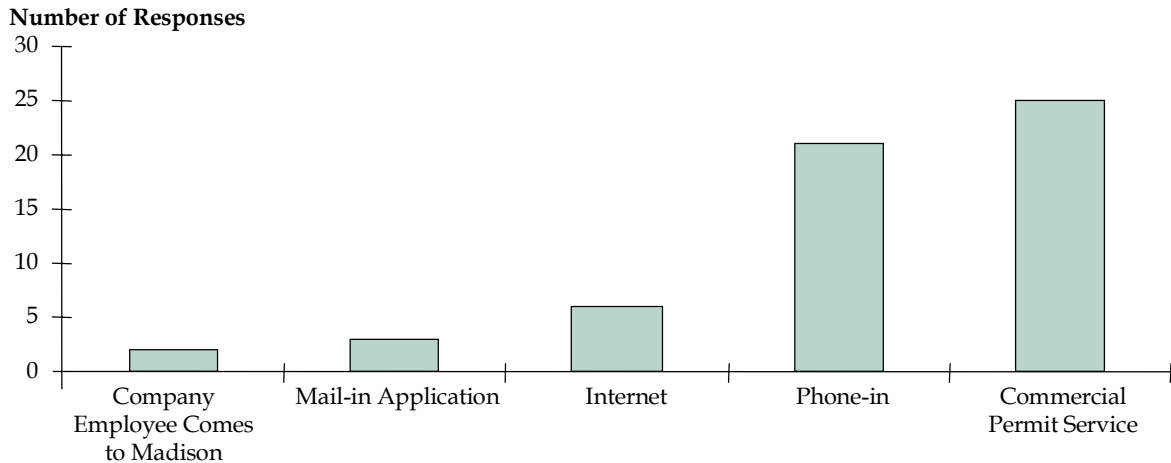
The return of 36 usable questionnaires met the goal established by WisDOT for the survey. More than one-half of the 36 respondents stated that the single gross vehicle weight category that best described their typical Wisconsin application was 150,000 pounds or less. Nine respondents stated their loads were only over-dimensional. The most common reason for a load being over-dimensional was width, followed closely by "all dimensions." Eighteen carriers indicated they obtained single trip permits in Wisconsin three or more times a month, while 13 indicated they obtained permits once a month or less. Only 11 respondents had ever obtained a multiple trip permit for Wisconsin, with annual permits being the most common type cited. The usual method for obtaining an OS/OW permit was by commercial permit service (25 responses), followed by phone-in (21 responses). Jet Permits and Comdata Transceiver were the most frequently cited permit services.

**Figure 4.1 What Single Gross Vehicle Weight Category Best Describes Your Typical Wisconsin Application?**



Three-quarters of respondents used the Internet to conduct their trucking business. Two-thirds were aware that WisDOT Motor Carrier Services has an informational web site. The information respondents most wanted to obtain on a state motor carrier web site included permitting, road restrictions (such as construction areas and postings in spring-time), access violations, weight and size limits, and trip and fuel information. Thirteen respondents were aware that they could apply for Wisconsin OS/OW permits on the Internet, with 11 authorized to do so. Of these, seven had applied for 10 or fewer Wisconsin permits on the Internet, while six had applied for 21 or more permits. A slight majority of on-line permit applicants stated the Internet permit application process had changed the way their company handled OS/OW permitting, chiefly by allowing them to order their own permits rather than use a permit service, and by allowing them to delay ordering until they were more certain about the weight or size of the vehicle or load. Eight of the 11 on-line permit applicants considered the Wisconsin Internet permit application a step forward.

**Figure 4.2 Which Methods of Application Have You Used to Obtain Wisconsin O/O Permits?**



Slightly more than one-half of all respondents usually received Wisconsin permits in under two hours, while 70 percent of all respondents received permits in under four hours. Seventy-five percent of respondents declared themselves “very satisfied” or “satisfied” with their turnaround time.

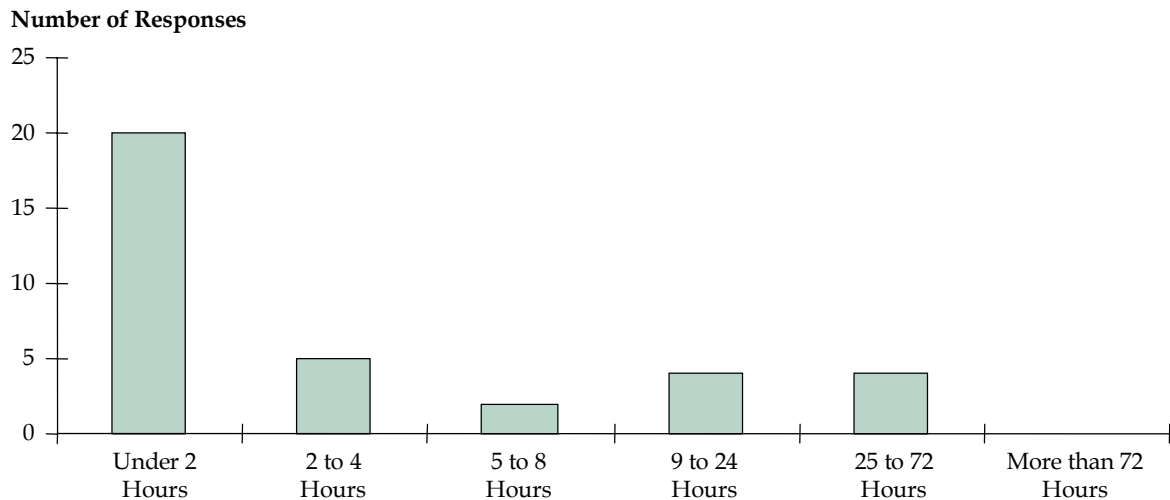
Sixty-four percent of respondents considered permit turnaround time the most important factor in their company’s decision to conduct oversize trucking business in any jurisdiction. Weight limits and special conditions of movement (e.g., limits on hours of operation), were also important to many respondents. Other factors, such as the permit fee, and escort requirements were all considered somewhat less important. A few respondents cited the importance of other issues or conditions, such as superload cutoffs and the ability to issue multistate permits.

Three-quarters of respondents had interacted with the Wisconsin OS/OW Office, but just 14 percent and 11 percent of respondents had interacted with the Bridge Office and District Office, respectively. Respondents affirmed that the OS/OW staff was nearly always pleasant and professional, able to provide technical information correctly and promptly, and able to resolve problems. “I’ve always found the staff to be willing to work through any issues we have encountered during the permit process,” one respondent wrote. “Wish all states could be this easy to obtain a permit,” declared another.

When asked to name other jurisdictions from which they obtained OS/OW permits that they believed had the best overall reputation, respondents mentioned Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Tennessee, Michigan, Minnesota, Missouri, North Dakota, Ohio, Oregon, South Dakota and Texas. Quick turnaround time was the reason most often cited for their choice. About one-half of the respondents ranked Wisconsin as about the same as, or slightly worse than, these jurisdictions. However, one respondent (who used a permit service and routinely waited 25 to 72 hours to receive permits in

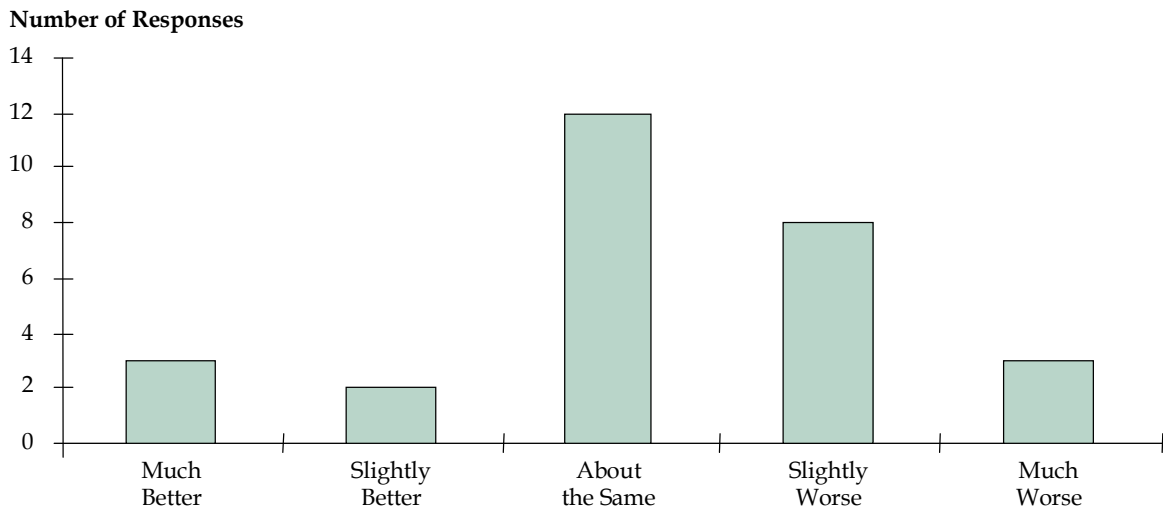
Wisconsin) rated Wisconsin “much worse” than other states, declaring: “[Iowa and South Dakota] route you and get the permit to you within minutes.”

**Figure 4.3 On Average, How Long Did it Take Your Company to Receive a Wisconsin Permit in 2002?**



When asked what they liked best about obtaining permits from Wisconsin, respondents cited high weight limits, fast turnaround times, and friendly, knowledgeable WisDOT employees. When asked what they liked least, respondents cited the three-hour closing of permit office phone lines in the middle of the day, the requirement that permits for loads longer than 100 feet go through a permit service, excessive information requirements regarding trucks and trailers on the application form, excessive wait times to obtain permits, glitches in the electronic application form that forced users to back up and start over, and the lack of a comment section on the application form.

**Figure 4.4 How does Wisconsin Compare to the States from which You Obtain OS/OW Permits that You Believe Have the Best Overall Operation?**



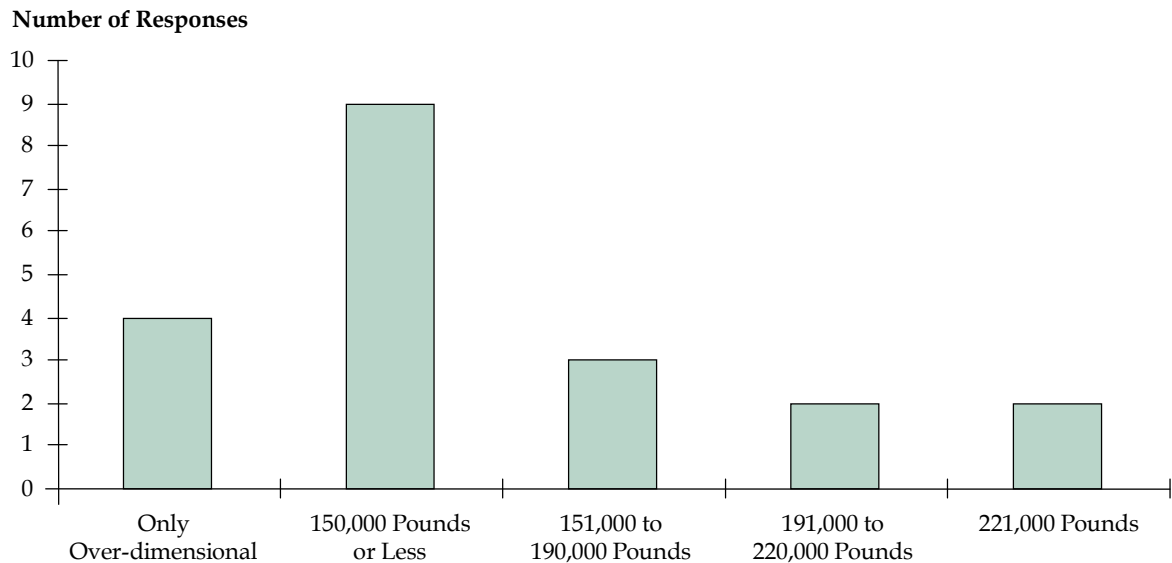
Respondents asked to see the following changes: allow carriers to obtain their own permits, regardless of size and weight; eliminate the need for trailer information on the application form; provide a downloadable form in Adobe Acrobat that could be used for telephone permits; provide a way to revise a permit on the Internet, especially so that the tractor and trailer can be changed but the dimensions, routes, dates, etc., remain the same; allow companies to order superload direct with the State; suggest alternate routes when rejecting an application on-line; automate the issuance of routine permits; and extend the OS/OW Office’s hours of operation.

### Permit Service Survey

Fourteen permit services returned questionnaires to Cambridge Systematics; a return rate just short of the goal of 15. Nine of the respondents indicated that the single gross vehicle weight category that best described their typical Wisconsin application was 150,000 pounds or less. All 14 indicated that their customers requested permit applications either on the day of the move or one to two days ahead. The number of applications the permit services submit each week varied from one to 150, with 44 being the average. Ten permit services indicated they obtained single trip permits in Wisconsin three or more times a month, while three indicated they obtained single trip permits once a month or less. One-half the respondents had obtained a multiple trip permit for Wisconsin, particularly for mobile homes. The most common method for obtaining an OS/OW permit was by Internet (10 responses), followed by a company employee coming to the Madison counter (two responses) and mail-in (one response).



**Figure 4.5 What Single Gross Vehicle Weight Category Best Describes Your Typical Wisconsin Application?**

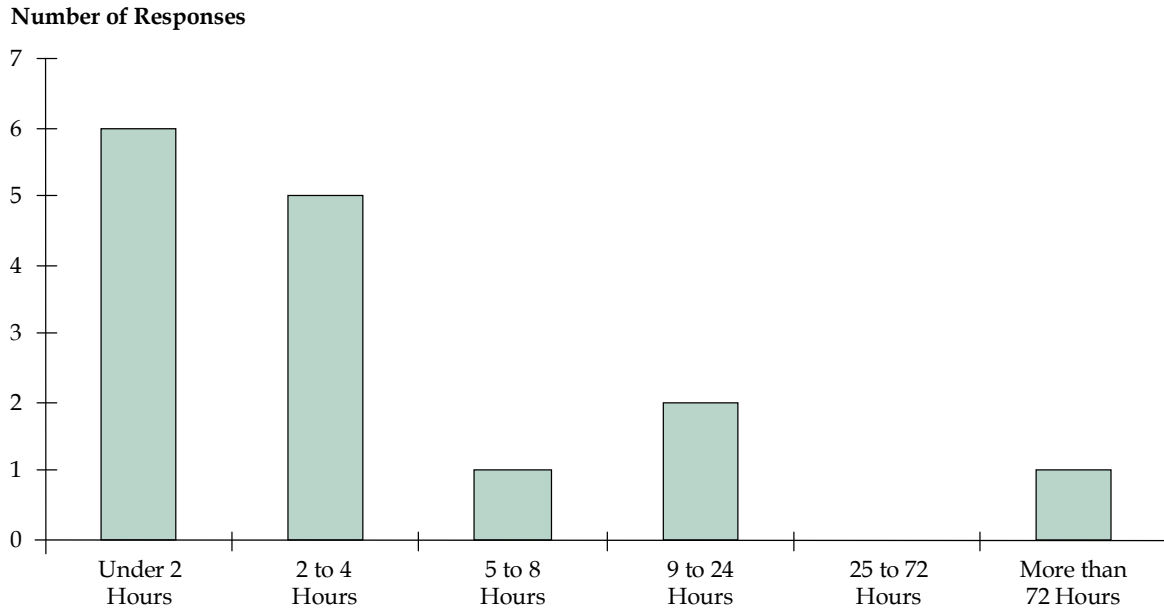


Twelve respondents declared that they used the Internet to conduct their business, one respondent indicated they did not, and one indicated “not yet.” Thirteen respondents were aware that WisDOT Motor Carrier Services has an informational web site. The information respondents most wanted to obtain on a state motor carrier web site included road construction, road restrictions, and OS/OW regulations. All but one of the respondents were aware that they could apply for Wisconsin OS/OW permits on the Internet, with 11 of the 14 authorized to do so. Of these 11, nine had applied for 21 or more permits on the Internet. Seven on-line permit applicants stated the Internet permit application process had changed the way their company handled OS/OW permitting, chiefly by allowing them to get their permits quicker, so that they could delay ordering until they were more certain about the weight or size of the vehicle or load. Nine of the 11 on-line permit applicants considered the Wisconsin Internet permit application a step forward.

Six of the 14 respondents indicated that they received Wisconsin permits in under two hours, on average, and five indicated they received permits in two to eight hours. All but one of the respondents declared themselves “very satisfied” or “satisfied” with their turn-around time.

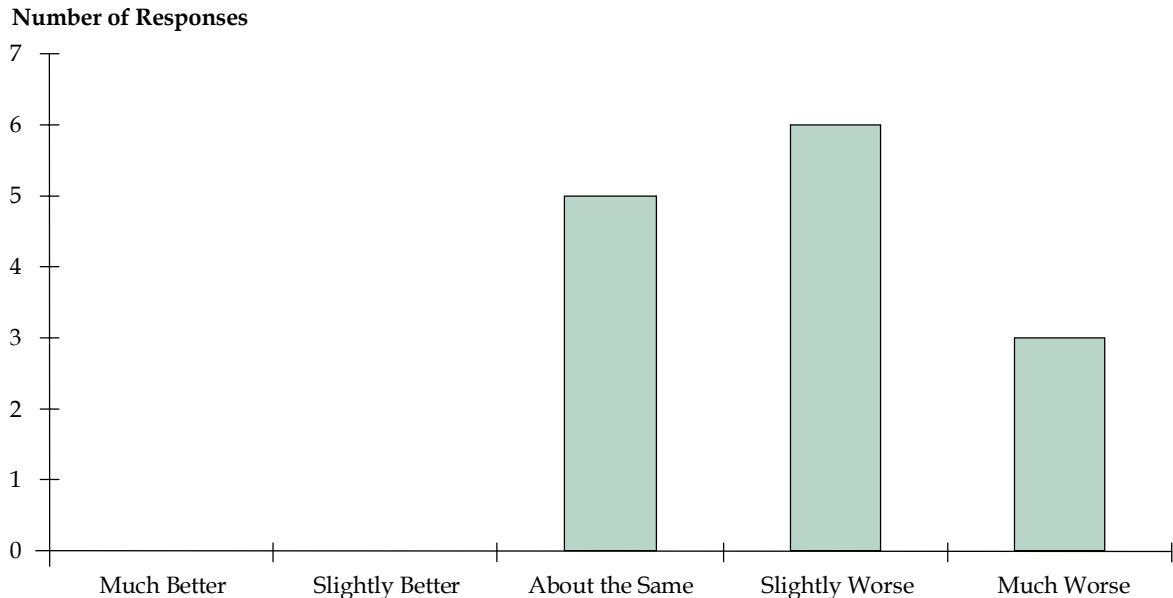
All of the respondents had interacted with the Wisconsin OS/OW Office. Five had interacted with the Bridge Office, and just three had interacted with the District Office. The respondents indicated the OS/OW staff was nearly always pleasant and professional, able to provide technical information correctly and promptly, and able to resolve the problem. “Everyone in this office is very professional and helpful. If they don’t have answers, they’re willing to find them. Everyone is extremely enjoyable to work with,” one respondent wrote. “I think they’re the most friendly state to deal with,” commented another.

**Figure 4.6 On Average, How Long Did it Take Your Company to Receive a Wisconsin Permit in 2002?**



When asked to name other jurisdictions from which they obtained OS/OW permits that they believed had the best overall reputation, respondents mentioned Illinois, Iowa, Kansas, Kentucky, Minnesota, North Carolina, Pennsylvania, and Virginia. Quick turn-around time was the reason most often cited for their choice. Seventy-nine percent of the respondents ranked Wisconsin about the same as, or slightly worse than the states with the best overall reputation. One exception was Minnesota which, because of its ability to help with routing around construction or low underpasses, was rated highly compared to Wisconsin.

**Figure 4.7 How Does Wisconsin Compare to the Jurisdictions from Which You Obtain OS/OW Permits that You Believe Have the Best Overall Operation?**



When asked what they liked best about obtaining permits from Wisconsin, respondents cited the fast turnaround time, the fact that tractor/trailer information is saved, and the friendly, helpful staff. When asked what they liked least, respondents cited the fact that Wisconsin does not route around construction or low bridges, the difficulties encountered when entering tractor/trailer information, and the restrictive length (100 feet). One permit service wrote in frustration: “They [the staff of the OS/OW Office] do not help us with our routes. We don’t live in Wisconsin. We should at least get some help from your employees. They just keep rejecting our applications and don’t tell us what we *can* do, only what we *can’t* do.”

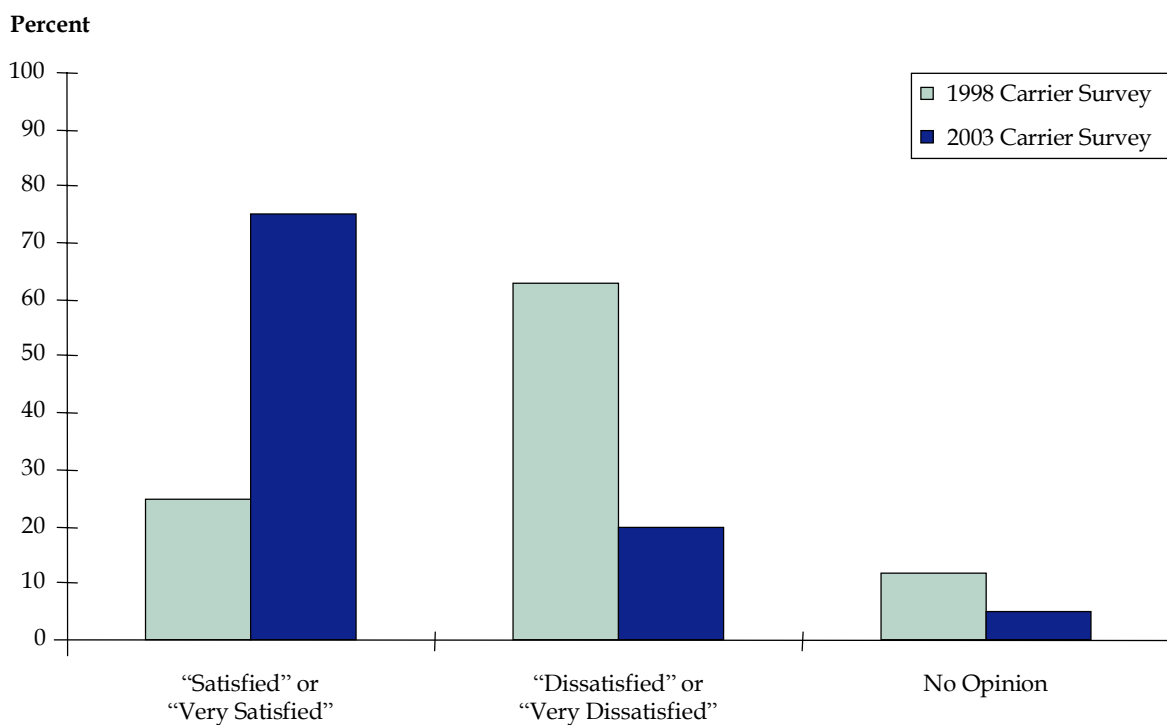
Respondents asked to see the following changes: allow for fewer page changes in Internet applications (it should not be necessary to go to another page for truck or trailer make); allow for cloning previously issued permits as a means of saving time; suggest alternate routes around construction or low bridges (as most states do); call instead of faxing when there is a problem with a permit (talking with someone resolves the problem much faster); send sheets twice a day showing what time is being worked on; add pull down menus for the make of vehicles to simplify entering tractor/trailer information; and allow ordering of permits via the Internet for carriers who require a PC number (new carriers).

Such planned enhancements to the OS/OW system as automated routing, expansion of “copy” functions and inclusion of pull-down menus for vehicle make will address several of the respondents’ suggestions.

## ■ 4.5 Comparison with the 1998 Survey

A comparison with the 1998 study reveals that the enhancements to the permit processing system have allowed the WisDOT OS/OW Office to make tremendous strides toward reducing permit processing times. In the 2003 survey, 76 percent of the carriers surveyed received their permits within eight hours, compared to just 13 percent in 1998. Similarly, in 2003, 85 percent of permit services received their permits within eight hours, while none did in 1998.

**Figure 4.8 How Satisfied Are You With Your Turnaround Time?**

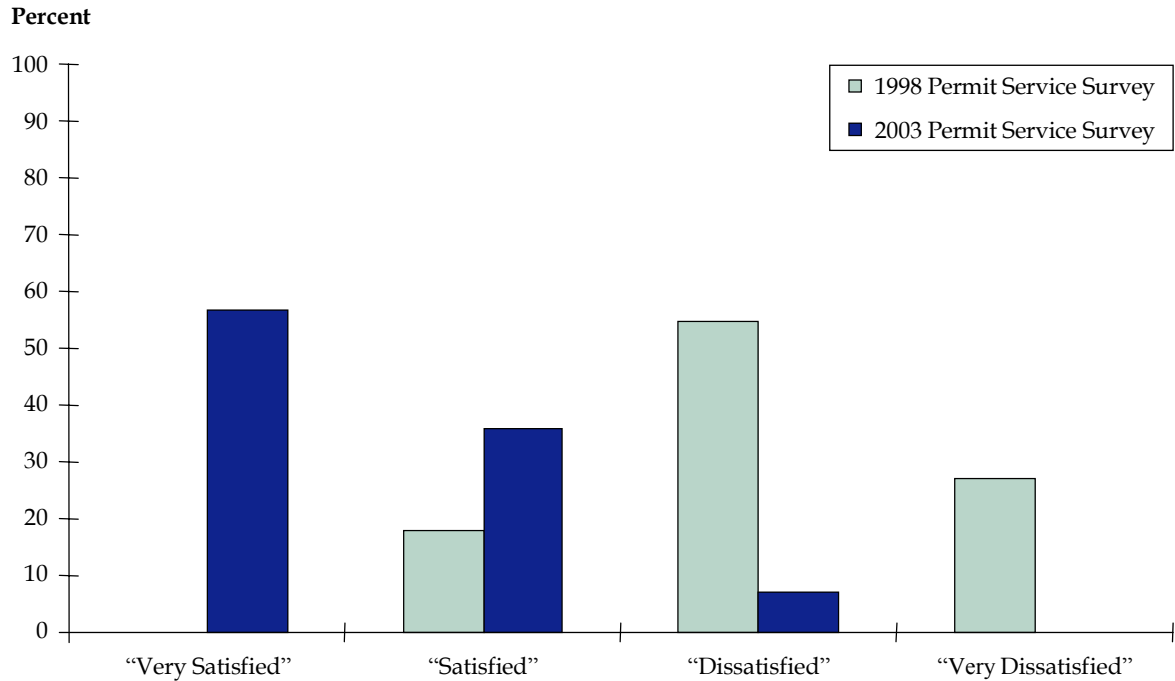


As a result of these improved turnaround times, customer satisfaction has increased dramatically. In 2003, 75 percent of carriers and 93 percent of permit services declared they were “satisfied” or “very satisfied” with the time required to obtain a permit. In 1998, these numbers stood at just 25 percent and 18 percent, respectively.

A comparison between the 2003 and 1998 surveys also reveals that the WisDOT OS/OW Office has improved its standing compared to other jurisdictions. In 2003, when asked to rate Wisconsin against other states that they believe have the best overall operation, both carriers and permit services were less critical of WisDOT than they had been in the past. Forty-seven percent of carriers and 36 percent of permit services rated WisDOT “about the same” as or “slightly better” than the other agencies. In 1998, just 25 percent of carriers and no permit services gave WisDOT these ratings, and fully 80 percent of permit services considered the Wisconsin OS/OW Office “much worse” than OS/OW offices in the other

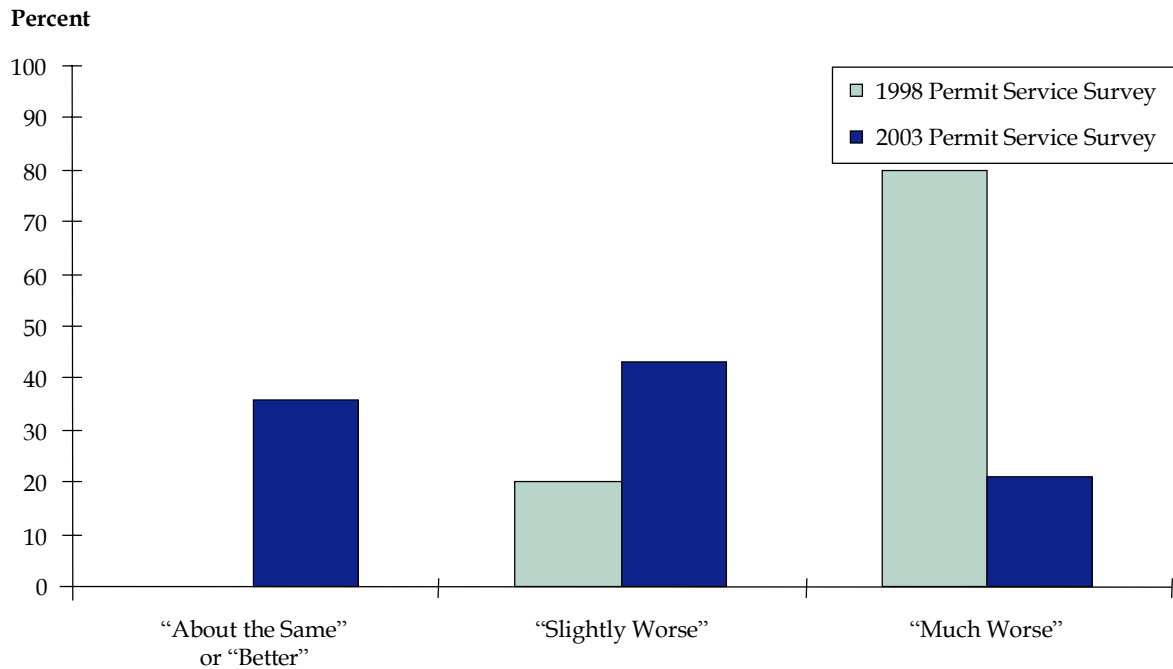
states. In 1998, both carriers and permit services identified slow turnaround as the worst aspect of doing business with Wisconsin, and that reducing this time was the most desirable change.

**Figure 4.9 How Satisfied Are You With Your Turnaround Time?**



In other areas, WisDOT has made less progress in addressing customer concerns. In 2003, many respondents voiced concerns over the restrictive phone-in hours and lack of routing assistance, just as they did in 1998. These comments point to the importance to customers of proceeding with the automated routing component of the OS/OW automation project.

**Figure 4.10 How Does Wisconsin Compare to the States from Which You Obtain OS/OW Permits that You Believe Have the Best Overall Operation?**



## ■ 4.6 User Comments

### Kudos from the Carrier Survey

"Wisconsin is by far the best service to get permits back! Very friendly and knowledgeable people to work with on either the web or by phone. They are second to no one! Hang on to the group!"

"The officers know their jobs. They are *always* pleasant and helpful."

"On phone-in applications you automatically have a permit instead of waiting for a permit service."

### Kudos from the Permit Service Survey

"WisDOT is very customer service-oriented, even though they are not required to be. (We don't have a choice!) 😊"

“Permits are issued faster with the new system.”

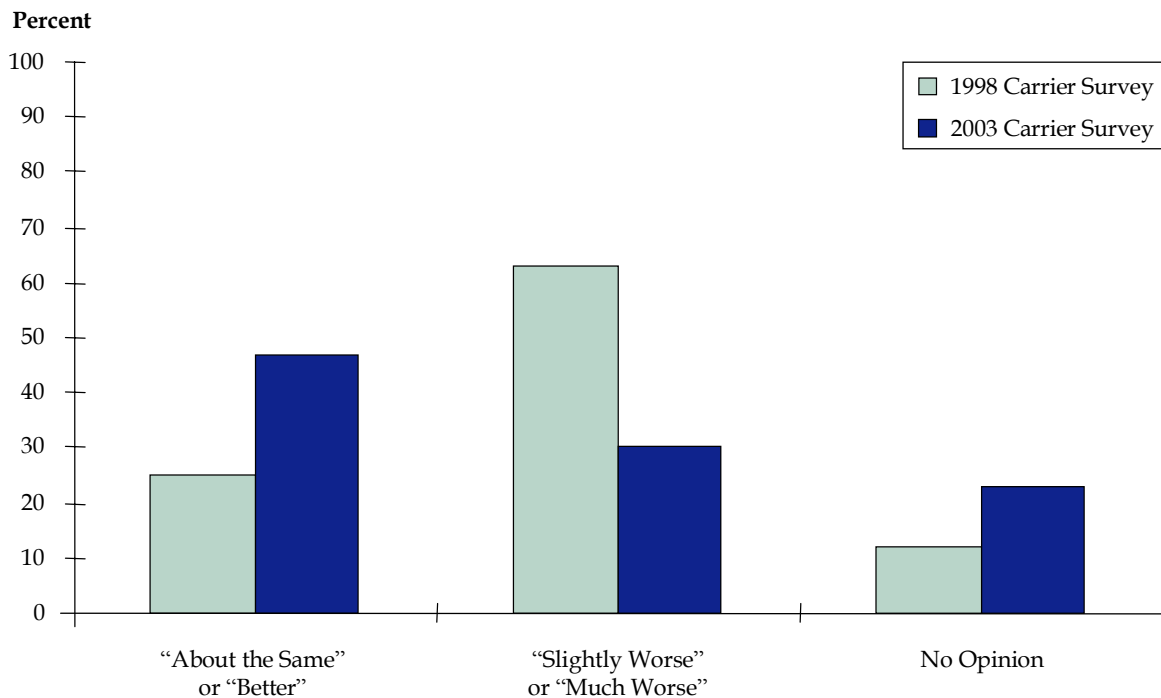
“Turnaround time is great, as long as the route is clear.”

“We like how the system stores truck and trailer info.”

“[We can] print your permits when approved, instead of waiting for a fax or e-mail.”

“[You get] phone access to real people [and spend] a short time on hold; returning calls is prompt.”

**Figure 4.11 How Does Wisconsin Compare to the States from Which You Obtain OS/OW Permits that You Believe Have the Best Overall Operation?**



## Advice from the Carrier Survey

“Let us get our own permits, no matter their size or weight.”

“Provide a form on the Internet in Adobe Acrobat that could be used for telephone permits.”

“Route loads or at least suggest routes when rejecting an application.”

“Superload-wise, we would rather be able to have direct contact with the people who are working on our applications, as oppose to going via a permit service. The type of loads we haul (excessive gross and widths and heights) would be better served with direct contact.”

“[Open the office] from 6:00 a.m. to 6:00 p.m.”

“[Provide] longer phone hours.”

“[Allow us to] clone permits.”

## Advice from the Permit Service Survey

“The state [should] suggest alternate routes around construction or low bridges. The only other state that does not help route is Michigan. All other states will reroute if problems [occur] or they will suggest an alternate route.”

“[The OS/OW Office] should call instead of faxing problems with a permit back and forth six or seven times. Talking to a person resolves problems *much* faster.”

“[The Office] should send sheets of what time they are currently working on two times a day. Right now they aren’t sending them at all.”

“[We have] to enter the tractor/trailer information if it’s not already in the system. Pull-down menus would work better for the make of the vehicles.”

“[We should be able] to clone previously issued permits.”

“[We need] automated routing, which would indicate restrictions, etc.”

“[It should be possible to] order permits via the Internet for [new] carriers who require a PC number.”

“The bridge log shows posted bridges rated for a certain tonnage but the bridge span determines whether or no you can cross it. We have no way of knowing what the actual maximum weight is.”

“E-mail [should be] an option for retrieving permits.”



“[We should be able to] key in an application and save it to submit at a later date, or keep it on hold for more information.”

“[We should] be able to amend permits on-line, rather than using the handwritten form.”

“[The Office should] help customers with their routes. That is what Wisconsin employees are there for.”

“[The Office] should improve teamwork, problem resolving, and communication within the department.”

“Construction updates should be clearer and [shown] on a map.”

“Surveys and input from the public should be requested at times more convenient for the trucking industry, i.e., January or February, ‘down months’ in Wisconsin.”

## 5.0 Portable Changeable Message Signs

The portable changeable message signs (CMS) were acquired mainly for incident management purposes. However, along with incident management, the signs have been used for traffic management at construction zones as backup to contractor CMS's, advance notice to motorists about future construction projects, and special events signing.

Currently, WisDOT District 3 owns and operates 14 portable CMS. Six have been deployed at 'semi-permanent' locations within the District since over a year ago. Figure 5.1 illustrates the locations of the semi-permanent signs in District 3. There are plans to eventually replace these signs with permanent overhead CMS. The remaining eight owned by District 3 are maintained and stored by Brown County. District 3 has placed a request for four more signs. Meanwhile, District 8 owns and operates two portable signs, with plans of acquiring seven more (one per county within the District).

Quantitative measurement of the impacts of the system was not possible, given the lack of detection coverage on state routes served by the signs, coupled with limited resources and tight schedule available for the evaluation. Since no field data were collected, the evaluation instead focused on the qualitative impacts of the system, as well as benefits as reported anecdotally by the stakeholders. The following section details the results of the survey conducted to evaluate this project.

### ■ 5.1 Survey Results

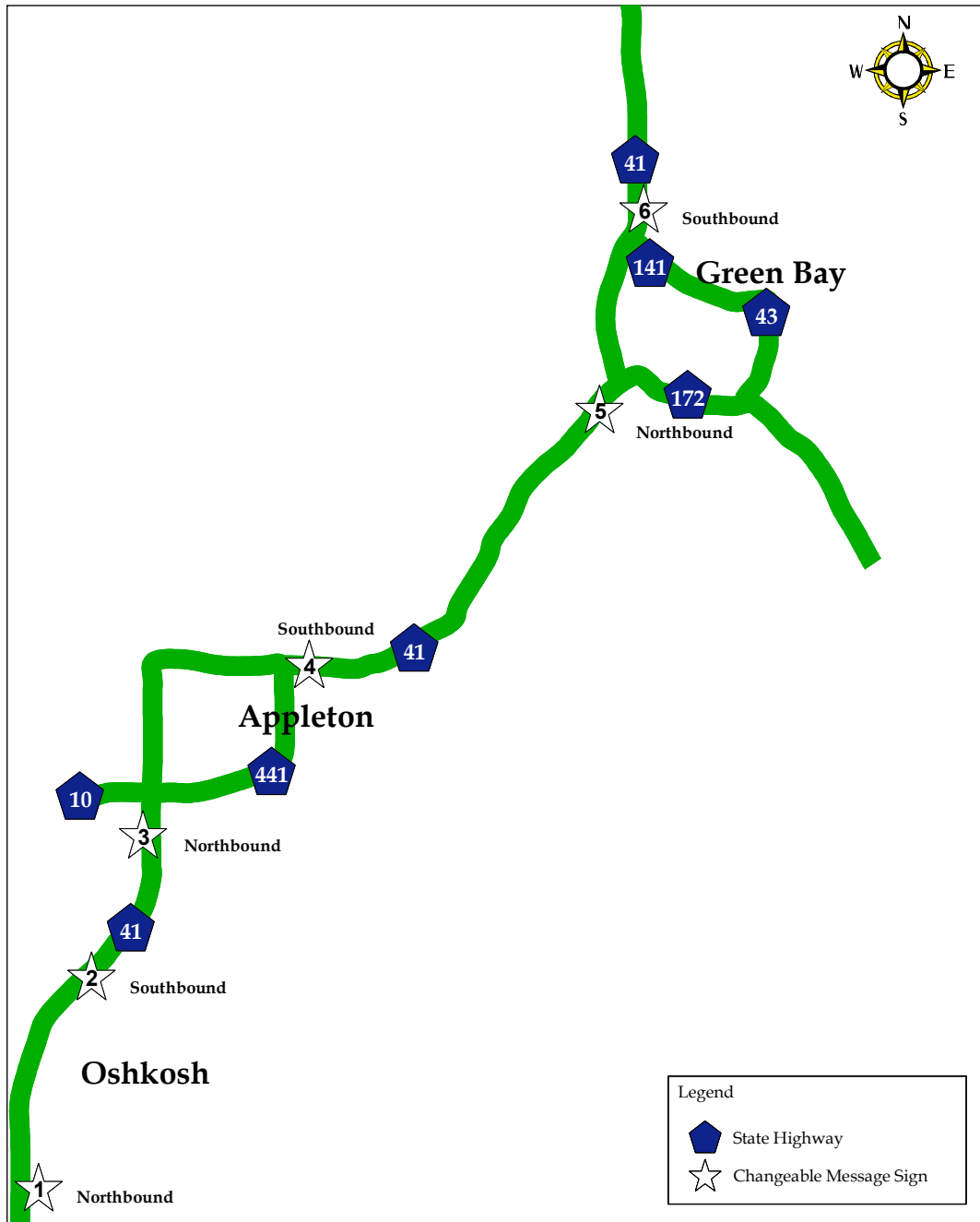
This section summarizes the results of the portable CMS survey carried out in March and April 2003. Of the 13 previously selected stakeholders, 11 returned the e-mailed surveys or agreed to an interview by CS, for a response rate of 85 percent. Appendix B lists the survey targets selected for this evaluation. The survey respondents represented various state and local agencies involved in the planning, management, and operations of the portable signs, including WisDOT Headquarters, Districts 3 and 8, the State Patrol, Brown County, Winnebago County, and Outagamie County.

As presented in Figure 5.2, the most common reason for acquiring the portable CMS was the need for improved incident management (IM) at 44 percent. In fact, several respondents indicated that the signs were intended to be used only for incident management purposes. However, congestion management, work zone management, and weather

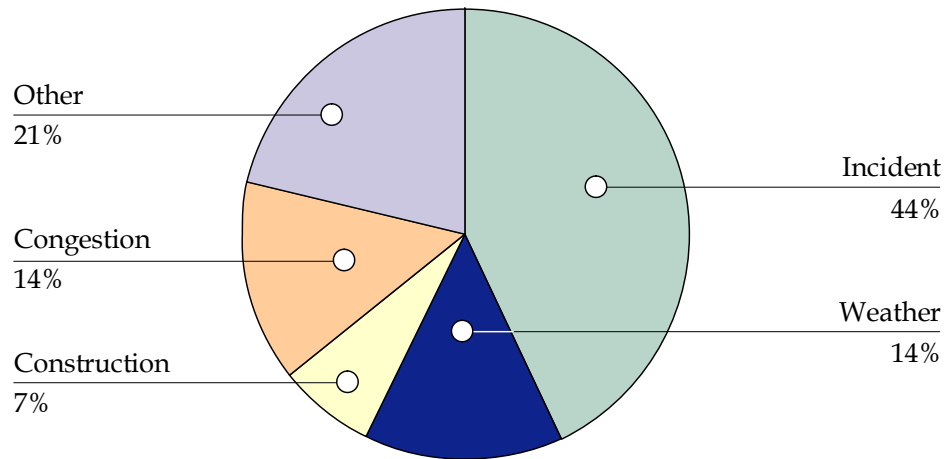
information were also mentioned as valid needs that can be addressed by the portable signs (35 percent combined).

To manage work zones, portable CMS was the only ITS component used, according to most respondents (46 percent) (Figure 5.3). One district respondent mentioned the possibility of acquiring portable traffic signals, although he was not sure of the status of this possible acquisition. Others mentioned the use of speed advisory system and closed-circuit television (CCTV) cameras.

**Figure 5.1 Semi-Permanent Changeable Message Sign Locations in District 3**



**Figure 5.2 How Was the Need for Portable CMS in Your Organization Identified?**



**Figure 5.3 Are There Other ITS Components That Your Agency Uses to Manage Construction Zone Traffic?**

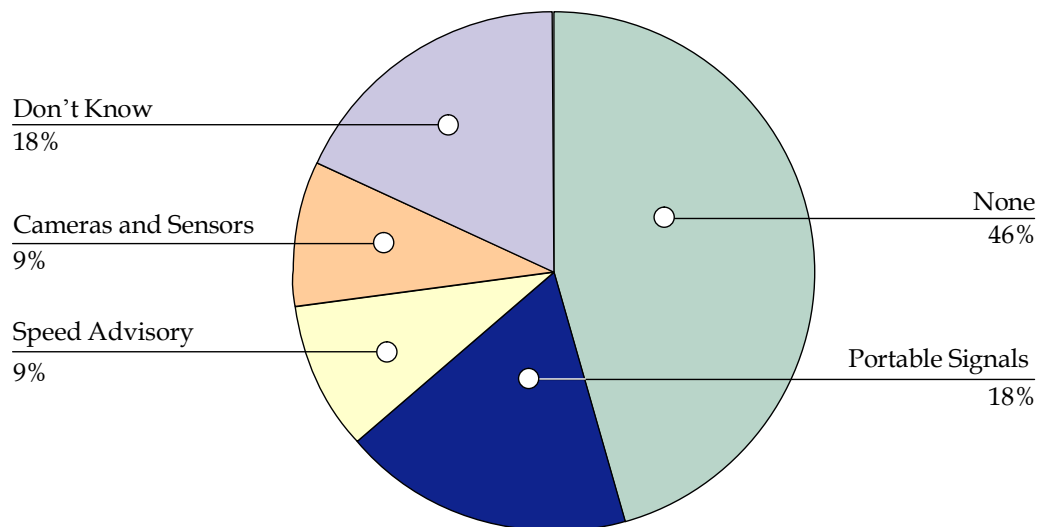
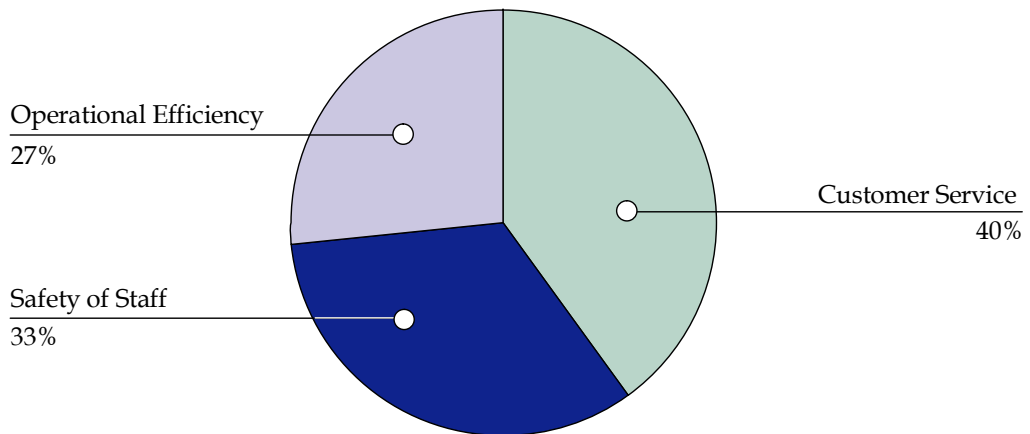


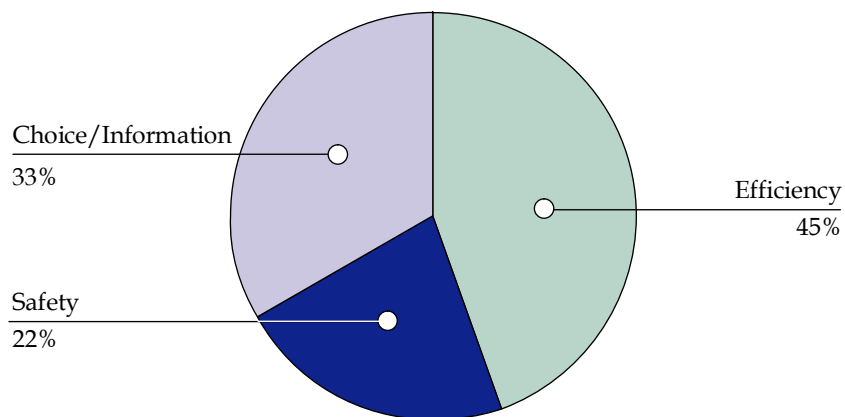
Figure 5.4 shows the internal benefits of the portable signs were divided almost evenly into three categories: 1) providing good customer service (40 percent), 2) safety of staff/workers (33 percent), and 3) operational efficiency (27 percent). For example, one State Patrol officer suggested that the portable signs freed up officers to tackle other assignments. Similarly, the respondents perceived that the benefits to the public by the signs

include trip efficiency (45 percent), availability of choice/information (33 percent), and safety (22 percent) as presented in Figure 5.5.

**Figure 5.4 What Are the Internal Benefits to Your Agency Associated with the Project?**

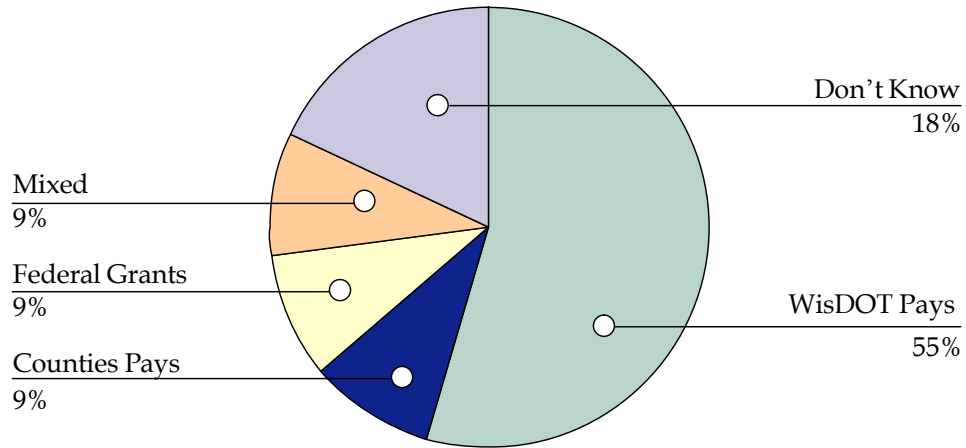


**Figure 5.5 What Are the Benefits to the Public Associated with the Project?**



As shown in Figure 5.6, more than one-half of the respondents (55 percent) stated that WisDOT is responsible for the ongoing operations and maintenance (O&M) funding, although the majority of the respondents (85 percent) were not aware of the details associated with the O&M costs of the signs. According to the district and county representatives, the signs required minimal maintenance – not only were they still under the manufacturer’s warranty, but being solar-powered eliminated most of the maintenance needs encountered with the old, diesel-powered signs (i.e., must change motor oil every 100 hours).

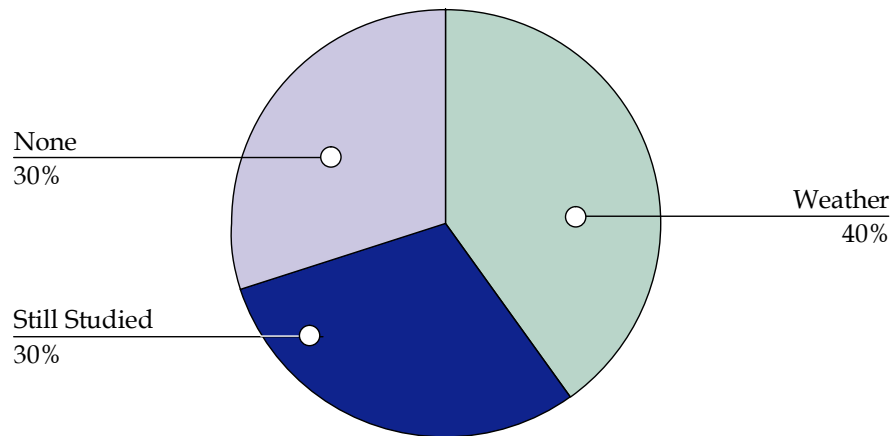
**Figure 5.6 How Are the Ongoing O&M of the Components Funded?**



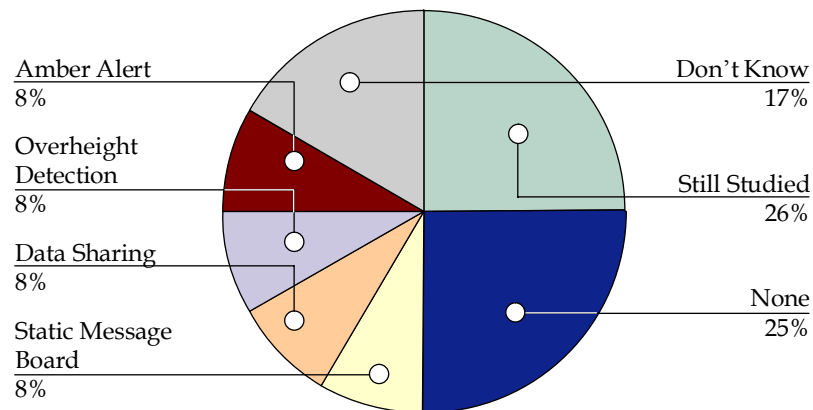
Regarding opportunities for future integration of the portable CMS with other systems, 40 percent indicated that the weather information system should be integrated with the signs as presented in Figure 5.7. Meanwhile, 30 percent stated that future opportunities must first be studied carefully. One county staff, for example, mentioned that, while integration with weather information systems may bring additional benefits, the state may be liable for weather-related incidents during times when the signs were present, but turned off (especially true for the semi-permanent signs).

As presented in Figure 5.8, while one-third of the respondents suggested various ITS that could complement the portable CMS, ranging from Amber Alert to overheight detection, one-quarter of the respondents urged patience, stating that a committee has been formed to investigate this issue. The remaining respondents indicated that they were not aware of any integration opportunities. Furthermore, they feared that overuse of the signs might lessen their impacts.

**Figure 5.7 Are There Opportunities to Better Integrate Other Systems Operated in the Region by WisDOT or Other Agencies in the Region with the Portable CMS?**



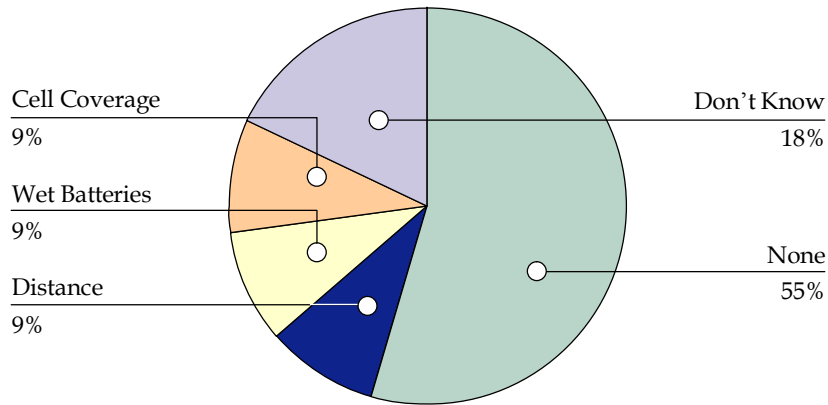
**Figure 5.8 Are There Any ITS System/Capabilities That Your Agency Hopes to Deploy and Operate to Complement the CMS Systems?**



Fifty-five percent of the respondents noted that, for the most part, transporting the portable CMS have been problem free (Figure 5.9). Lack of cellular coverage at certain locations sometimes hindered remote activation of the signs. But a county staff learned that moving the sign a few yards up or down the road could help solve this problem. Otherwise, a State Patrol officer must be dispatched to activate the sign manually using a laptop.

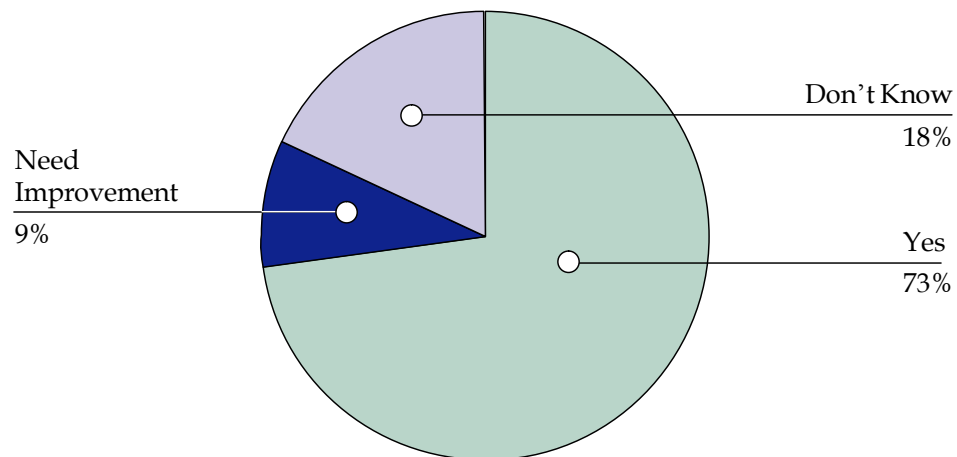


**Figure 5.9 Have Any Problems Been Encountered in Moving the Signs from One Location to Another?**



As shown in Figure 5.10, the overwhelming majority of the respondents (73 percent) stated that the responsibilities in operating and maintaining the signs have been clearly established. The state oversees and funds the project; the districts maintain the semi-permanent signs; the counties store, maintain, and transport the 'truly' portable signs; while the State Patrol operates the signs. As a general rule, signs should be placed prior to major state highway junctions, so the commuters can make alternate routing decisions based on the information given. It has been noted that the general rules of use should be consistent with the MUTCD and should be incorporated into the construction and operations manual. The semi-permanent signs were deployed at strategic locations (i.e., prior to bridges, major junctions, etc.) selected by the IM committee. Request for the signs is on a first-come-first-serve basis, although usage is restricted only to state highways within the district.

**Figure 5.10 Are Responsibilities Clear for Placement, Operation, and Maintenance?**



On average, the signs are activated/deployed about once or twice a week, and up to four times a week during spring and fall seasons. Using the portable signs for work zone management occurs approximately once a week. There is no indication on how many are needed on a given day, but both district and county staff members agreed that the more signs they have, the better the response time would be, and hence greater benefits. Currently, it takes from 30 minutes to up to two and one-half hours to transport and set up the signs before the message can be displayed, mostly depending on the distance between the site and the county warehouse.

The counties are the primary local partners involved in this project, although all public agencies within their respective districts may place a request, as long as usage is limited to state roadways. The portable signs are available on a first-come-first-serve basis, but special considerations are known to be done on a case-by-case basis. When granted, the requesting party may pick up the signs at the county warehouse, or request for a delivery to the deployment site. A few respondents stated that in some instances, private firms involved in maintenance or construction work were granted use of the signs, although deployment and operations were handled by the appropriate public agencies.

For incident management purposes, the signs may be activated shortly after the incident is confirmed (for semi-permanent signs), or as soon as the sign is deployed (for truly portable signs) until traffic is again at free-flow. All messages displayed by the signs must follow the Manual on Uniform Traffic Control Devices (MUTCD) regulations, and further refined in the Wisconsin Traffic Guidelines Manual (TGM). More than 200 messages are pre-programmed from the manufacturer, but only about 20 messages are approved for use. All message customizations are evaluated case by case, which are done by the State Patrol.

Quantitative evaluation of the portable CMS system is difficult, since there are no records of the deployment or activation of the signs, except for the eight maintained by Brown County, including when the signs were deployed, and where and what messages were displayed. Furthermore, district staff indicated that detection coverage along the state highways, including the corridors surrounding the six semi-permanent signs, are generally poor.

## 6.0 Conclusions

In summary, the evaluation team found that the earmark projects were helping to advance the implementation of ITS in the State of Wisconsin. The ITS Architecture project and U.S. 41/Fox Cities Plan have involved stakeholders throughout the State in developing an ITS program that is responsive to local needs. The Portable Message Sign program and the Oversize/overweight permitting system involved project implementation and actually demonstrated the effectiveness of using technology to improve efficiency. In the case of the Portable Message Sign project, both WisDOT and local officials realized benefits through purchase and deployment of field equipment. The findings indicate that the availability of the equipment encouraged interagency cooperation and that these agencies identified applications that were not originally envisioned. The oversize/overweight automated permitting project is an ambitious undertaking by WisDOT to streamline and automate this process. The results of the evaluation demonstrated clearly that this initiative has provided a higher level of customer service for permit applicants.

The evaluation team found that WisDOT conducted the planning and implementation process in a “collegial” manner, which involved most if not all divisions of WisDOT, as well as local governments, law enforcement, transit, emergency services, and private firms. Nearly all participants of the evaluation agreed that WisDOT gave all stakeholders a chance to ensure the compatibility of the projects’ goals and objectives with their own. There was also significant progress toward an important goal, which is to integrate the planning process for ITS projects with WisDOT’s short- and long-range plans.

Also, WisDOT continues to solicit advice and recommendations on how to improve the current system, as shown mostly in the portable CMS project. One common trait shared by the projects evaluated was the strength of the inter-agency and intra-agency relationships, which seemed to have been cultivated over the years within WisDOT.

One of the main goals of the self-evaluation process was to assess the impacts of the ITS investment on mobility, safety, and efficiency. However, due to lack of resources and data, very limited quantitative evaluation was performed. In addition, because the products of several of the projects were plans, the evaluation team focused on the organizational and institutional issues related to the development of the plan, through surveys directed towards the stakeholders.

The FHWA developed self-assessment guidelines for ITS evaluation that are documented in the ITS Evaluation Resource Guide. The original evaluation plan proposed use of some of the specific measures identified but since three of the projects were in the study phase and the Portable Message Sign project did not have “before” data available, most of the MOE’s could not be applied. Evaluation measures included:

- **Safety including reduction in overall crash rate, crash-related fatalities and crash-related injuries** – Only the Portable Message Sign project could have a direct impact on this measure. The signs are generally used for short periods of time to support construction activity and an analysis of safety impacts needs to be conducted over a much longer period. As this program is introduced into new districts and the sample of projects served expands, the ability to evaluate the impact of these signs on work zone safety will improve.
- **Mobility including reduction in travel time delay, reduction in travel time variability and increase in customer satisfaction** – The Portable Message Sign project is again the only project where these measures could be applied. The limited scope and duration of the program and unavailability of “before” data, however, made measurement of impacts difficult. Measurement of Portable Message Sign impacts may be more feasible in the urban areas of Milwaukee and Madison where ITS systems that are either in place or in the planning stages could be used to collect the needed data.
- **Customer satisfaction** – This was measured for the ITS Architecture project, the Fox Cities plan and the Portable Message Sign project in the sense that agency personnel and stakeholders are the initial “customers” for these efforts. The surveys and discussions conducted for the project indicated that in the study phase a strong stakeholder outreach program is essential to generate interest among both WisDOT district employees and local officials. The response to the Portable Message Sign program showed that actual deployment of practical technology, accompanied by sharing of resources, can generate significant support for ITS programs. In the case of the oversize/overweight permitting system, customers were surveyed directly. Since the effort funded by the ITS earmark is part of a larger project, the feedback is helpful to WisDOT in setting priorities and making adjustments to future activities.
- **Productivity and efficiency** – The Portable Message Sign project, by encouraging resource sharing between state and local agencies, clearly had benefits in terms of productivity and efficiency. For the oversize/overweight permit project, improved productivity for both WisDOT and their customers was apparent. Survey responses indicated that shortening the lead time necessary for permit application has helped carriers to use their resources more effectively.

**One major concern voiced by the stakeholders was the lack of resources, and the unpredictable nature of future funding.** Most stakeholders interviewed for the projects believed that they must continue to fight for more funding to get the projects implemented. The stakeholders also learned the importance of finding a “champion” who can take the burden of leadership to get the projects off the ground. Strong leadership can help bridge the gap between the upper management and technical ranks, and unite all stakeholders under common goals and objectives.

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# Appendix A

*Evaluation Questionnaires*

# Evaluation Questionnaires

## ■ Statewide Traveler Information and Architecture Plan Internal Questionnaire

We are Cambridge Systematics, a private consulting firm hired by the Wisconsin Department of Transportation (WisDOT) to conduct an evaluation of the Statewide Traveler Information Architecture and Plan. The goals of the project were to improve safety, efficiency, mobility, agency productivity, and the environment. Because the product of this effort was a plan, the evaluation is focusing on the organizational and institutional issues related to deployment of Intelligent Transportation Systems. If you have any questions or concerns, please contact Phil DeCabooter, WisDOT's Project Manager, who can be reached at phil.decabooter@dot.state.wi.us.

### *Background Information*

- 1) Agency: \_\_\_\_\_  
Division: \_\_\_\_\_  
Name: Mr. / Ms. \_\_\_\_\_  
Position: \_\_\_\_\_  
Date: \_\_\_\_\_
- 2) How did your agency/organization become involved in the Statewide Traveler Information Architecture and Plan?
- 3) Would you describe your agency's level of participation in the study as:  
 High  
 Medium  
 Low

***Perceived Benefits of the Architecture and Plan***

- 4) In your opinion, what are the potential internal benefits to your agency associated with the development of the architecture and plan? (check all that apply)

- Improved inter-agency coordination and communication  
 Improved agency operating efficiency  
 Cost savings  
 Ability to implement a wider range of projects  
 Other

***Institutional Issues***

- 5) Whom do you consider to be the key stakeholders involved in the development of the architecture and plan?

- 6) How well did you understand your role in the development of the architecture and plan?

- Very well  
 Adequately  
 Not very well

- 7) Do you believe there is a need for any formal agreements with other stakeholders to minimize conflicts or issues which may arise in the development of the architecture and plan?

- Yes  
 No (Skip to Question 9)  
 Not Sure (Skip to Question 9)

- 8) What agreements do you believe are needed? With what other agencies?

- 9) Do you believe that over the next five to 10 years, future funding for projects identified in the plan is:

- Likely  
 Likely only for certain projects. If so, which ones? \_\_\_\_\_  
 Possible to obtain, but with difficulty.  
 Not likely

- 10) The following table presents a listing of institutional issues that may impact the success of the projects developed in the plan. Please indicate the importance that you



would associate with each issue as it applies to the development of the Statewide Traveler Information Architecture and Plan by your agency.

	<b>IMPORTANT? (Yes/No)</b>	<b>COMMENTS</b>
<b>INSTITUTIONAL ISSUES</b>		
Intra-agency (within agency)		
Inter-agency (outside agency)		
Public/Private Partnership		
Culture Differences		
Management and “Buy-in”		
Responsibilities/Role Clarity		
Goals		
<b>OTHER ISSUES (please specify)</b>		

***Evaluation of the Development Process***

11) Briefly discuss the project team’s general approach to the project (use the points below as guide to focus discussion – for WisDOT staff only):

- How were stakeholders selected?
- How were alternatives developed?
- How were analyses methods selected and applied?
- How were market groups defined?
- How were information needs defined?
- How can the results of this study be incorporated into the WisDOT 2030 Long-Range Planning effort?
- What were the most positive aspects of the project?
- What obstacles were encountered and how were they overcome?

12) The following table presents the steps involved with the development of the Statewide Traveler Information Architecture and Plan. For each step, please indicate the effectiveness of the process (scale of 1 to 5) as it applies to the development of the Statewide Traveler Information Architecture and Plan by your agency.

	<b>EFFECTIVENESS</b> N/A = Not Applicable 1 = Ignored 2 = Ineffective 3 = Somewhat Effective 4 = Effective 5 = Excellently Executed	<b>COMMENTS</b>
<b>Development of Goals</b>		
Developing goals that are inclusive		
Determining goal compatibility with other plans		
Incorporating stakeholder goals		
Establishing measurable goals		
Setting priorities for project activities		
<b>Study Process</b>		
Identifying stakeholder groups		
Keeping stakeholders informed and involved		
Identifying project alternatives		
Analyzing and selecting process methodology		
Making sure process adheres to state/Federal architecture		
Project cost estimation methodology		
Explanation of technical issues		
<b>Identification of Project Elements</b>		
Identifying market groups		
Identifying information needs for ITS users		
Ensuring consistent information dissemination		
Establishing consistent MOE and data collection methodology		

## ■ The Fox Cities Plan Internal Questionnaire

We are Cambridge Systematics, a private consulting firm hired by the Wisconsin Department of Transportation (WisDOT) to conduct an evaluation of the Fox Cities Plan. The goals of the project were to improve safety, efficiency, mobility, agency productivity, and the environment. Because the product of this effort was a plan, the evaluation is focusing on the organizational and institutional issues related to deployment of Intelligent Transportation Systems. If you have any questions or concerns, please contact Phil DeCabooter, WisDOT's Project Manager, who can be reached at phil.decabooter@dot.state.wi.us.

### ***Background Information***

- 1) Agency: \_\_\_\_\_  
Division: \_\_\_\_\_  
Name: Mr. / Ms. \_\_\_\_\_  
Position: \_\_\_\_\_  
Date: \_\_\_\_\_
- 2) How did your agency/organization become involved in the Fox Cities Plan?
- 3) Would you describe your agency's level of participation in the study as:
- \_\_\_ High  
\_\_\_ Medium  
\_\_\_ Low

### ***Perceived Benefits of the Plan***

- 4) In your opinion, what are the potential internal benefits to your agency associated with the development of the Fox Cities plan? (check all that apply)
- \_\_\_ Improved inter-agency coordination and communication  
\_\_\_ Improved agency operating efficiency  
\_\_\_ Cost savings  
\_\_\_ Ability to implement a wider range of projects  
\_\_\_ Other

### ***Institutional Issues***

- 5) Whom do you consider to be the key stakeholders involved in the development of the plan?
- 6) How well did you understand your role in the development of the plan?
- \_\_\_ Very well  
\_\_\_ Adequately  
\_\_\_ Not very well

- 7) Do you believe there is a need for any formal agreements with other stakeholders to minimize conflicts or issues which may arise in the development of the plan?
- \_\_\_ Yes  
\_\_\_ No (Skip to Question 9)  
\_\_\_ Not Sure (Skip to Question 9)
- 8) What agreements do you believe are needed? With what other agencies?
- 9) Do you believe that over the next five to 10 years, future funding for projects identified in the plan is:
- \_\_\_ Likely  
\_\_\_ Likely only for certain projects. If so which ones? \_\_\_\_\_  
\_\_\_ Possible to obtain, but with difficulty.  
\_\_\_ Not likely
- 10) The following table presents a listing of institutional issues that may impact the success of the projects developed in the plan. Please indicate the importance that you would associate with each issue as it applies to the development of the Fox Cities Plan by your agency.

	IMPORTANT? (Yes/No)	COMMENTS
<b>INSTITUTIONAL ISSUES</b>		
Intra-agency (within agency)		
Inter-agency (outside agency)		
Public/Private Partnership		
Culture Differences		
Management and “Buy-in”		
Responsibilities/Role Clarity		
Goals		
<b>OTHER ISSUES (please specify)</b>		

**Evaluation of the Development Process**

13) Briefly discuss the project team’s general approach to the project (use the points below as guide to focus discussion – for WisDOT staff only):

- How were stakeholders selected?
- How were alternatives developed?
- How were analyses methods selected and applied?
- How were market groups defined?
- How were information needs defined?
- How can the results of this study be incorporated into the WisDOT 2030 Long-Range Planning effort?
- What were the most positive aspects of the project?
- What obstacles were encountered and how were they overcome?

14) The following table presents the steps involved with the development of the Fox Cities Plan. For each step, please indicate the effectiveness of the process (scale of 1 to 5) as it applies to the development of the plan by your agency.

	<b>EFFECTIVENESS</b> N/A = Not Applicable 1 = Ignored 2 = Ineffective 3 = Somewhat Effective 4 = Effective 5 = Excellently Executed	<b>COMMENTS</b>
<b>Development of Goals</b>		
Developing goals that are inclusive		
Determining goal compatibility with other plans		
Incorporating stakeholder goals		
Establishing measurable goals		
Setting priorities for project activities		
<b>Study Process</b>		
Identifying stakeholder groups		
Keeping stakeholders informed and involved		
Identifying project alternatives		
Analyzing and selecting process methodology		
Making sure process adheres to state/Federal architecture		
Project cost estimation methodology		
Explanation of technical issues		

	<b>EFFECTIVENESS</b> N/A = Not Applicable 1 = Ignored 2 = Ineffective 3 = Somewhat Effective 4 = Effective 5 = Excellently Executed	<b>COMMENTS</b>
<b>Identification of Project Elements</b>		
Identifying market groups		
Identifying information needs for ITS users		
Ensuring consistent information dissemination		
Establishing consistent MOE and data collection methodology		

## ■ Portable Dynamic Message Sign Project Internal Questionnaire

We are Cambridge Systematics, a private consulting firm hired by the Wisconsin Department of Transportation (WisDOT) to conduct an evaluation of the deployment of Portable Dynamic Message Signs in WisDOT districts. Under the project that we are evaluating, signs have been procured in Districts 3 and 8. The goals of the project were to improve safety, efficiency, mobility, and agency productivity. The evaluation is focusing on both deployment of the signs, and the organizational and institutional issues related to deployment of Intelligent Transportation Systems. If you have any questions or concerns, please contact Phil DeCabooter, WisDOT's Project Manager, who can be reached at <mailto:phil.decabooter@dot.state.wi.us>.

### *Background Information*

1) Agency: \_\_\_\_\_

Name: Mr. / Ms. \_\_\_\_\_

Position: \_\_\_\_\_

Date: \_\_\_\_\_

2) How was the need for Portable DMS in your organization identified?

### *Perceived Benefits of the Portable DMS*

3) In your opinion, what are the internal benefits to your agency (e.g., safety of workers) associated with the project?

- 4) In your opinion, what are the benefits to the public (accident reduction, savings in travel time) associated with the project?

### *Management and Planning Issues*

- 5) What are the operating and maintenance costs annually for the signs?
- 6) How are the ongoing operations and maintenance of the components funded?
- 7) What lessons have been learned in the deployment of these signs that might be useful in guiding future deployments at other sites?
- 8) Are there opportunities to better integrate other systems operated in the region (weather/traveler information, signal systems) by WisDOT or other agencies in the region, with the portable DMS?
- 9) Are there other ITS components that your agency uses to manage construction zone traffic? Are there any ITS systems/capabilities that your agency hopes to deploy and operate to complement the DMS systems?
- 10) What are the opportunities to expand the use of the systems in the region? Are there plans to add more portable DMS systems over the next five years? If so, how many?

### *Operational Issues*

- 11) How often are these signs used (everyday, at night, throughout construction period, only during incident conditions, etc.)?
- 12) How are the decisions made about where and for how long to place the signs?
- 13) Have any problems been encountered in moving the signs from one location to another? Are responsibilities clear for placement, operation and maintenance?
- 14) Have contractors or local agencies been involved in the deployment or operation of the signs?
- 15) Who stores the systems when they are not in use, and who manages the use of the systems (i.e., processing the requests, delivering the systems to site, etc.)?
- 16) When are messages displayed? What messages are displayed on the DMS systems? Are there formal guidelines on what messages to display? Are the messages logged and archived?
- 17) Is there a deployment log containing the dates and sites of the portable systems? Which deployment sites have adequate detection coverage? Which sites have alternate/parallel arterials?
- 18) Are the signs shared by multiple agencies or districts? If so, how are priorities arranged?

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# Appendix B

*List of Survey Targets*



# List of Survey Targets

## ■ Statewide Traveler Information and Architecture Plan Internal Questionnaire

Last Name	First Name	Agency
Allaby	Dave	WisDOT Bureau of Automation Services (BAS)
Barrett	Bridget	TranSmart Technologies, Inc.
Berg	John	FHWA – Wisconsin Office
Brock	Brian	WisDOT D3 SPO/Traffic
Cantwell	Tom	WisDOT DMV
Davis	Jan	WisDOT Transit Services
DeCabooter	Phil	WisDOT Investment Management (DTIM)
Deeter	Dean	Castle Rock Consultants
Hanley	Tim	WisDOT D4
Hardy	Michael	WisDOT D2
Huxtable	Sandy	WisDOT DSP
Keiffer	Jack	WisDOT D7 SPO/Operations
Kreitzman	David	WisDOT Bureau of Highway Operations
Larson	Barry	WisDOT CVISN
Maassen	Joe	WisDOT Office of General Counsel
Nelson	Mark	URS Corp.
Obenberger	Jay	WisDOT D1 SPO/Planning
Olson	Karen	WisDOT D5 SPO/Traffic
Ran	Bin	University of Wisconsin at Madison
Rylander	Gary	Edwards and Kelcey, Inc.
Scott	Brian	SRF Consulting Group, Inc.
Wendels	Jim	WisDOT D4
Western	Jeff	WisDOT Infrastructure Development (DTID)

## ■ The Fox Cities Plan Internal Questionnaire

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Last Name	First Name	Agency
Abrahamson	Mark	Wisconsin State Patrol
Berg	John	FHWA
Beyer	Al	WisDOT
Brock	Brian	WisDOT
Cavanaugh	Jeanette	WisDOT
Corbin	John	WisDOT
DeHaan	Mike	Wisconsin Motor Carriers Association
Drewery	Dan	Brown County Highway
Ducharme	Maura	WisDOT
Hanson	Greg	City of Appleton
Kamp	Chuck	Valley Transit
Kiesow	Keith	Town of Menasha Fire Department
Kocken	Dennis	Brown County Sheriff
Mahlik	John	WisDOT
Martin	Jerome	Grand Chute P.D.
Meier	Tom	Village of Allouez
Nelson	Scott	WisDOT
Pirlot	Chris	City of Green Bay
Schell	Ann	East Central Wisconsin Regional Planning
Schuette	Aaron	Brown County Planning
Tedlie	Bill	Winnebago County Sheriff's Department
Van Laanen	Jim	Bay-Lake Regional Planning Communications

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## ■ Portable Changeable Message Sign Internal Questionnaire

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Last Name	First Name	Agency
Abrahamson	Mark	Wisconsin State Patrol
Bowker	Marc	WisDOT D8
Drewery	Dan	Brown County Highway
Jones	John	Wisconsin State Patrol
Mattson	Greg	WisDOT D8
Nelson	Scott	WisDOT D3
Olig	Nancy	WisDOT 911 Dispatch Supervisor
Rasmussen	Joel	Winnebago County Highway Department
Rohloff	Randy	Outagamie County Highway Department
Sharma	Ashwani	WisDOT Bureau of Highway Operations
Shortess	Gary	Outagamie County Sheriff's Department
Tedlie	Bill	Winnebago County Sheriff's Department
Timmerman	Al	Green Bay Police Department (Commander)

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# Appendix C

*Oversize/Overweight Permitting Evaluation –  
Questionnaires and Results*

Wisconsin Department of Transportation (WisDOT)  
**Oversize/Overweight Carrier Customer Survey - 2003**

1. Which single gross vehicle weight category best describes your typical Wisconsin application?
  - My vehicles or loads are only over-dimensional (Skip to Question 2.)
  - 150,000 lbs or less
  - 151,000 to 190,000 lbs
  - 191,000 to 220,000 lbs
  - 221,000 lbs or more
  
2. Please indicate how your vehicle or loads is typically over-dimensional
  - Length
  - Width
  - Height
  - All dimensions
  - My vehicle or load is typically NOT over-dimensional
  
3. How often do you obtain single trip permits from Wisconsin? (Check one.)
  - Once a month or less
  - Twice a month
  - Three or more times a month
  
4. Have you ever obtained a multiple trip permit from Wisconsin?
  - Yes (What type of multiple trip permit? \_\_\_\_\_ )
  - No
  
5. Which methods of application have you used to obtain Wisconsin O/O Permits? (Check all that apply.)
  - Company employee comes to the Madison counter
  - Mail-in application
  - Internet
  - Phone-in
  - Commercial permit service  
(Which service do you use most often? \_\_\_\_\_ )
  
6. Do you use the Internet to do your trucking business?
  - Yes
  - No
  - Not yet, but I know I'm going to have to do so soon

7. Are you aware that the Wisconsin DOT, Motor Carrier Services has an informational web site?

- No
- Yes

8. What information do you most want to be able to obtain from a state's motor carrier web site?

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9. Are you aware that you can apply for Wisconsin O/O permits on the Internet?

- Yes
- No

10. Is your company authorized to apply for permits using Wisconsin O/O permits using the Internet?

- Yes
- No (Skip to Question 14.)

11. Approximately how many permits has your company applied for using the Wisconsin Internet application?

- 10 or fewer
- 11 to 20
- 21 or more

12. Has use of the Internet permit application changed the way your company handles O/O permitting? (Check all that apply.)

- No
- Get our permits quicker, so we wait until we are more certain about the weight or size of the vehicle/load
- Order other states' permits before applying for the Wisconsin permit
- Fewer of our people can order Wisconsin permits
- More of our people can order Wisconsin permits
- We get fewer requests for additional information
- More likely to order our own permits rather than use a permit service
- Other (Please describe in detail.)

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13. What does your company think of the Wisconsin Internet O/O permit application?

- Big step forward
- Haven't formed an opinion yet
- Seems like you are going in the wrong direction

14. On average, how long does it take your company to receive a Wisconsin permit? (Check what most closely approximates your usual experience in 2002.)

- Under two hours
- Two to 4 hours
- Five to eight hours
- Nine to 24 hours
- 25 to 72 hours
- More than 72 hours

15. How satisfied are you with this turnaround time? (Check one.)

- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

16. Rate the importance of the following issues in your decision to conduct oversize trucking business in any jurisdiction. (Circle the number: least important = 1; most important = 5.)

- |   |                 |   |   |   |   |   |                |
|---|-----------------|---|---|---|---|---|----------------|
| (a) Permit turnaround time .....  | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (b) Permit fee .....  | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (c) Gross weight limits .....   | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (d) Axle weight limits.....   | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (e) Private escort requirements .....   | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (f) Police escort requirements.....   | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (g) Special conditions of movement,<br>e.g., limits on hours of operation ..... | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |
| (h) Other (please identify below) .....   | Least Important | 1 | 2 | 3 | 4 | 5 | Most Important |

\_\_\_\_\_

17. The questions in the following table relate to your experience with three areas in WisDOT that review and issue permits. If you have not interacted with staff in an office, skip down to the next office listed.

Have you interacted with:		Staff were: Pleasant and professional?	Able to provide technical information correctly and promptly?	Able to resolve problem?	
O/O Office	<input type="checkbox"/> Yes  <input type="checkbox"/> No (skip down to next line)	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	Comments:
Bridge Office	<input type="checkbox"/> Yes  <input type="checkbox"/> No (skip down to next line)	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	Comments:
District Office	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	Comments:



18. Other than Wisconsin, name the two jurisdictions from which you obtain O/O permits that you believe have the best overall operation and briefly describe what makes them the best.

(1) \_\_\_\_\_

Why: \_\_\_\_\_

(2) \_\_\_\_\_

Why: \_\_\_\_\_

19. How does Wisconsin compare to these jurisdictions? (Check one.)

Much better

Slightly better

About the same

Slightly worse

Much worse

20. What do you like best about obtaining permits from Wisconsin?

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21. What do you dislike most about obtaining permits from Wisconsin?

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22. What changes would you like to see in our permit issuance process, in order of importance?

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**Thank you so much for your thoughts and information. To return this survey to WisDOT, please place it in the enclosed stamped, self-addressed envelope.**



Wisconsin Department of Transportation (WisDOT)

**Permit Service Customer Survey - 2003**

1. Which single gross vehicle weight category best describes your typical Wisconsin application?  
  
 The vehicles or loads are only over-dimensional (Skip to Question 2.)  
 150,000 lbs or less  
 151,000 to 190,000 lbs  
 191,000 to 220,000 lbs  
 221,000 lbs or more
  
2. Do carrier customers usually request that you apply for their permits:  
  
 On day of move  
 One to two days ahead  
 3 to six days ahead  
 A week or more ahead  
 Don't know
  
3. Approximately how many applications do you submit to Wisconsin each week? \_\_\_\_
  
4. How often do you obtain single trip permits in Wisconsin? (Check one.)  
  
 Once a month or less  
 Twice a month  
 Three or more times a month
  
5. Have you ever obtained a multiple trip permit from Wisconsin?  
  
 Yes (What type of multiple trip permit? \_\_\_\_\_)  
 No
  
6. Which methods of application have you used to obtain Wisconsin O/O Permits? (Check all that apply.)  
  
 Company employee comes to the Madison counter  
 Mail-in application  
 Internet
  
7. Do you use the Internet to do your business?  
  
 Yes  
 No  
 Not yet, but I know I'm going to have to do so soon

8. Are you aware that the Wisconsin DOT, Motor Carrier Services has an informational web site?

- No
- Yes

9. What information do you most want to be able to obtain from a state's motor carrier web site?

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10. Are you aware that you can apply for Wisconsin O/O permits on the Internet?

- Yes
- No

11. Is your company authorized to apply for Wisconsin O/O permits using the Internet?

- Yes
- No (Skip to Question 15.)

12. Approximately how many permits has your company applied for using the Wisconsin Internet application?

- 10 or fewer
- 11 to 20
- 21 or more

13. Has use of the Internet permit application changed the way your company handles O/O permitting? (Check all that apply.)

- No
- Get our permits quicker, so we wait until we are more certain about the weight or size of the vehicle/load
- Order other states' permits before applying for the Wisconsin permit
- Fewer of our people can order Wisconsin permits
- More of our people can order Wisconsin permits
- We get fewer requests for additional information
- Other (Please describe in detail.)

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14. What does your company think of the Wisconsin Internet O/O permit application?

- Big step forward
- Haven't formed an opinion yet
- Seems like you are going in the wrong direction

15. On average, how long does it take your company to receive a Wisconsin permit? (Check what most closely approximates your usual experience in 2002.)

- Under two hours
- Two to four hours
- Five to eight hours
- Nine to 24 hours
- 25 to 72 hours
- More than 72 hours

16. How satisfied are you with this turnaround time? (Check one.)

- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

17. The questions in the following table relate to your experience with three areas in WisDOT that review and issue permits. If you have not interacted with staff in an office, skip down to the next office listed.

Have you interacted with:		Staff were: Pleasant and professional?	Able to provide technical information correctly and promptly?	Able to resolve problem?	
O/O Office	<input type="checkbox"/> Yes  <input type="checkbox"/> No (skip down to next line)	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	Comments:
Bridge Office	<input type="checkbox"/> Yes  <input type="checkbox"/> No (skip down to next line)	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	Comments:
District Office	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	<input type="checkbox"/> Always  <input type="checkbox"/> Usually  <input type="checkbox"/> Often not	Comments:

18. Other than Wisconsin, name the two jurisdictions from which you obtain O/O permits that you believe have the best overall operation and briefly describe what makes them the best.

(1) \_\_\_\_\_

Why: \_\_\_\_\_

(2) \_\_\_\_\_

Why: \_\_\_\_\_

19. How does Wisconsin compare to these jurisdictions? (Check one.)

- Much better
- Slightly better
- About the same
- Slightly worse
- Much worse

20. What do you like best about obtaining permits from Wisconsin?

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21. What do you dislike most about obtaining permits from Wisconsin?

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22. What changes would you like to see in our permit issuance process, in order of importance?

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**Thank you so much for your thoughts and information. To return this survey to WisDOT, please place it in the enclosed stamped, self-addressed envelope.**

**Table C.1 Oversize/Overweight Carrier Customer Survey 2003**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
1	What single gross vehicle weight category best describes your typical Wisconsin application?	Only over-dimensional	9	25%	151,000 to 190,000 was the most frequent response, followed by "too variable to identify."
		150,000 lbs or less	20	56%	
		151,000 to 190,000 lbs	5	14%	
		191,000 to 220,000 lbs	1	3%	
		221,000 lbs	2	6%	
		<b>36</b>			
2	Please indicate how your vehicle or load is typically over-dimensional.	Length	8	22%	
		Width	18	50%	
		Height	7	19%	
		All dimensions	16	44%	
		Typically NOT over-dimensional	1	3%	
		<b>36</b>			
3	How often do you obtain single trip permits in Wisconsin?	Once a month or less	13	36%	Thirteen respondents answered three times or more a month. Three answered once a month or less.
		Twice a month	5	14%	
		Three or more times a month	18	50%	
		<b>36</b>			
4	Have you ever obtained a multiple trip permit from Wisconsin?	Yes (for type, see comment field)	11	31%	Eight carriers had obtained multiple trip permits.
		No	25	69%	
		<b>36</b>			
5	Which methods of application have you used to obtain Wisconsin O/O Permits?	Company employee comes to Madison	2	6%	Most of the 16 carriers answered commercial permit service and phone-in. Four identified mail-in.
		Mail-in application	3	8%	
		Internet	6	17%	
		Phone-in	21	58%	
		Commercial permit service	25	69%	
		<b>36</b>			
6	Do you use the Internet to do your trucking business?	Yes	27	75%	
		No	6	17%	
		Not yet	3	8%	
		<b>36</b>			



**Table C.1 Oversize/Overweight Carrier Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
7	Are you aware that WISDOT Motor Carrier Services has an informational web site?	No	13	36%	
		Yes	23	64%	
			<b>36</b>		
8	What info do you want from a state's motor carrier web site?	(For answer, see comment field)	23	n/a	
			<b>36</b>		
9	Are you aware that you can apply for Wisconsin O/O permits on the Internet?	Yes	13	36%	
		No	23	64%	
			<b>36</b>		
10	Is your company authorized to apply for Wisconsin O/O permits using the Internet?	Yes	11	31%	
		No	24	67%	
			<b>36</b>		
11	Approximately how many permits has your company applied for using the Wisconsin Internet application?	10 or fewer	7	64%	
		11 to 20	1	9%	
		21 or more	6	55%	
			<b>11</b>		
12	Has use of the Internet permit application changed the way your company handles O/O permitting? (Check all that apply.)	No	6	55%	
		We can wait until we are more certain about weight or size	5	45%	
		Order other states' permits before applying for Wisconsin permit	2	18%	
		Fewer of our people can order Wisconsin permits	2	18%	
		More of our people can order Wisconsin permits	3	27%	
		We get fewer requests for additional information	1	9%	
		More likely to order own permits than use a permit service	6	55%	
		Other	2	18%	
			<b>11</b>		

**Table C.1 Oversize/Overweight Carrier Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
13	What does your company think of the Wisconsin Internet O/O permit application?	Big step forward	8	73%	
		Haven't formed an opinion yet	5	45%	
		Seems like you are going in the wrong direction	0	0%	
		<b>11</b>			
14	On average, how long does it take your company to receive a Wisconsin permit? (Check what most closely approximates your experience in 2002.)	Under two hours	20	56%	Under eight hours: two responses 25 hours or more: 10 responses 49 hours or more: four responses
		Two to four hours	5	14%	
		Five to eight hours	2	6%	
		Nine to 24 hours	4	11%	
		25 to 72 hours	4	11%	
		More than 72 hours	0	0%	
<b>36</b>					
15	How satisfied are you with this turnaround time?	Very satisfied	13	36%	14 responses were received. Four (25 percent of 16) were "satisfied" or "very satisfied." Ten (63 percent of 16) were "dissatisfied" or "very dissatisfied."
		Satisfied	14	39%	
		Dissatisfied	5	14%	
		Very dissatisfied	2	6%	
<b>36</b>					
16a	Rate the importance of permit turnaround time in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	1	3%	
		2	0	0%	
		3	2	6%	
		4	9	25%	
		5 (most important)	23	64%	
<b>36</b>					
16b	Rate the importance of the permit fee in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	4	11%	
		2	7	19%	
		3	7	19%	
		4	12	33%	
		5 (most important)	5	14%	
<b>36</b>					

**Table C.1 Oversize/Overweight Carrier Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
16c	Rate the importance of gross weight limits in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	4	11%	
		2	1	3%	
		3	7	19%	
		4	12	33%	
		5 (most important)	11	31%	
		<b>36</b>			
16d	Rate the importance of axle weight limits in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	4	28%	
		2	2	6%	
		3	8	22%	
		4	11	31%	
		5 (most important)	10	28%	
		<b>36</b>			
16e	Rate the importance of private escort requirements in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	4	11%	
		2	5	14%	
		3	8	22%	
		4	11	31%	
		5 (most important)	6	17%	
		<b>36</b>			
16f	Rate the importance of police escort requirements in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	6	17%	
		2	6	17%	
		3	6	17%	
		4	8	22%	
		5 (most important)	7	19%	
		<b>36</b>			
16g	Rate the importance of special conditions of movement (e.g., limits on hours of operation) in your decision to conduct oversize trucking business in any jurisdiction.	1 (least important)	2	36%	
		2	3	8%	
		3	7	19%	
		Four	10	28%	
		5 (most important)	13	36%	
		<b>36</b>			

**Table C.1 Oversize/Overweight Carrier Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
16h	Rate the importance of any other issues or conditions in your decision to conduct oversize trucking business in any jurisdiction. (See comment field.)	1 (least important)	0	0%	
		2	0	0%	
		3	0	0%	
		4	2	6%	
		5 (most important)	5	14%	
		<b>36</b>			
17a	Have you interacted with the O/O Office?	Yes	27	75%	
		No	7	19%	
		<b>36</b>			
17b	Have you interacted with the Bridge Office?	Yes	5	14%	
		No	23	64%	
		<b>36</b>			
17c	Have you interacted with the District Office?	Yes	4	11%	
		No	24	67%	
		<b>36</b>			
18	Name two states from which you obtain permits that have the best overall operation.	Most commonly identified: Illinois (12), Iowa (5), Minnesota (4), Kentucky (3), Texas (3)	n/a	n/a	Illinois (9), Minnesota (3), Iowa (2), Michigan (2)
			n/a	n/a	
19	How does Wisconsin compare to these jurisdictions?	Much better	3	8%	Fourteen responses were received. Four carriers (25 percent of 16) rated Wisconsin "about the same" or "better" than other states. Ten (63 percent of 16) rated Wisconsin "slightly worse" or "much worse."
		Slightly better	2	6%	
		About the same	12	33%	
		Slightly worse	8	22%	
		Much worse	3	8%	
		<b>36</b>			

<sup>1</sup> Percentages are based on the number of respondents (36 or 11, depending on the question), and may not total 100 because multiple answers are possible.

**Table C.2 Permit Service Customer Survey 2003**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
1	What single gross vehicle weight category best describes your typical Wisconsin application?	Only over-dimensional 150,000 lbs or less 151,000 to 190,000 lbs 191,000 to 220,000 lbs 221,000 lbs	4 9 3 2 2 <b>14</b>	29% 64% 21% 14% 14%	
2	Do carrier customers usually request that you apply for their permits:	On day of move One to two days ahead Three to six days ahead A week or more ahead Don't know	12 6 0 0 0 <b>14</b>	86% 43% 0% 0% 0%	All customers requested permit on the day of move or one or two days ahead.
3	How many applications do you submit each week?		<b>573</b>	<b>44</b>	The number ranged from two to 160, with 35 the average.
4	How often do you obtain single trip permits in Wisconsin?	Once a month or less Twice a month Three or more times a month	3 0 10 <b>14</b>	21% 0% 71%	
5	Have you ever obtained a multiple trip permit from Wisconsin?	Yes (see comment field for type) No	7 7 <b>14</b>	50% 50%	
6	Which methods of application have you used to obtain Wisconsin O/O permits?	Company employee comes to the Madison counter Mail-in application Internet	2 1 10 <b>14</b>	14% 7% 71%	
7	Do you use the Internet to do your trucking business?	Yes No Not yet	12 1 1 <b>14</b>	86% 7% 7%	

**Table C.2 Permit Service Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
8	Are you aware that WISDOT Motor Carrier Services has an informational web site?	No	1	7%	
		Yes	13	93%	
			<b>14</b>		
9	What info do you want from a state's motor carrier web site?	(For answer, see comment field)	9	n/a	
			<b>14</b>		
10	Are you aware that you can apply for Wisconsin O/O permits on the Internet?	Yes	13	93%	
		No	1	7%	
			<b>14</b>		
11	Is your company authorized to apply for Wisconsin O/O permits using the Internet?	Yes	11	79%	
		No	3	21%	
			<b>14</b>		
12	Approximately how many permits has your company applied for using the Wisconsin Internet application?	10 or fewer	1	9%	
		11 to 20	1	9%	
		21 or more	9	82%	
			<b>11</b>		
13	Has use of the Internet permit application changed the way your company handles O/O permitting? (Check all that apply.)	No	4	36%	
		Get our permits quicker, so we wait until we are more certain about weight or size of the vehicle or load	4	36%	
		Order other states' permits before applying for Wisconsin permit	1	9%	
		Fewer of our people can order Wisconsin permits	1	9%	
		More of our people can order Wisconsin permits	3	27%	
		We get fewer requests for additional information	5	45%	
		Other	3	27%	
			<b>11</b>		

**Table C.2 Permit Service Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
14	What does your company think of the Wisconsin Internet O/O permit application?	Big step forward	9	82%	
		Haven't formed an opinion yet	2	18%	
		Seems like you are going in the wrong direction	0	0%	
		<b>11</b>			
15	On average, how long does it take your company to receive a Wisconsin permit? (Check what most closely approximates your experience in 2002.)	Under two hours	6	43%	Eight of the 11 services received a permit within nine to 24 hours. The remaining three services received theirs within 25 to 72.
		Two to four hours	5	36%	
		Five to eight hours	1	7%	
		Nine to 24 hours	2	14%	
		25 to 72 hours	0	0%	
		More than 72 hours	1	7%	
<b>14</b>					
16	How satisfied are you with this turnaround time?	Very satisfied	8	57%	Two permit services (18 percent of 11) were "satisfied," six were "dissatisfied" (55 percent), and three "very dissatisfied" (27 percent)
		Satisfied	5	36%	
		Dissatisfied	1	7%	
		Very dissatisfied	0	0%	
		<b>14</b>			
17a	Have you interacted with the O/O Office?	Yes	14	100%	
		No	0	0%	
		<b>14</b>			
17b	Have you interacted with the Bridge Office?	Yes	5	36%	
		No	9	64%	
		<b>14</b>			
17c	Have you interacted with the District Office?	Yes	3	21%	
		No	10	71%	
		<b>14</b>			
18	Name two states from which you obtain permits that have the best overall operation.	Most commonly identified: Illinois (5), Iowa (2), Pennsylvania (2), Tennessee (2)	n/a	n/a	Illinois and Minnesota most frequently identified, followed by Iowa, Idaho, Kansas, and Missouri
		Minnesota (2)	n/a	n/a	
		<b>14</b>			

**Table C.2 Permit Service Customer Survey 2003 (continued)**

No.	Question	Answer Choice	Total Responses	Percent <sup>1</sup>	1998 Survey Comparison (16 Respondents)
19	How does Wisconsin compare to these jurisdictions?	Much better Slightly better About the same Slightly worse Much worse	0 0 5 6 3 <b>14</b>	0% 0% 36% 43% 21%	Twenty percent of the permit services considered Wisconsin “slightly worse” and 80 percent considered Wisconsin “much worse.”

1 Percentages are based on the number of respondents (36 or 11, depending on the question), and may not total 100 because multiple answers are possible.