

# **DRAFT**

**Greater Yellowstone Rural ITS Priority Corridor Project**

**Task 2.  
Regional Stakeholder Partnership Business Plan  
Working Paper**

**Prepared for:**

**Montana Department of Transportation  
and  
Federal Highway Administration,  
US Department of Transportation**

**In Cooperation with**

**Idaho Transportation Department  
and  
Wyoming Department of Transportation**

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## **1 Introduction**

The purpose of this working paper is to provide a “context” and “yardstick” by which the Greater Yellowstone Rural ITS Priority Corridor Project can move forward and be measured by. This working paper will also provide and be used to facilitate discussions on the roles and responsibilities of stakeholders in the short and long-term, and define the relationship of this regional “coalition” project to each states’ individual initiatives.

## **2 Background**

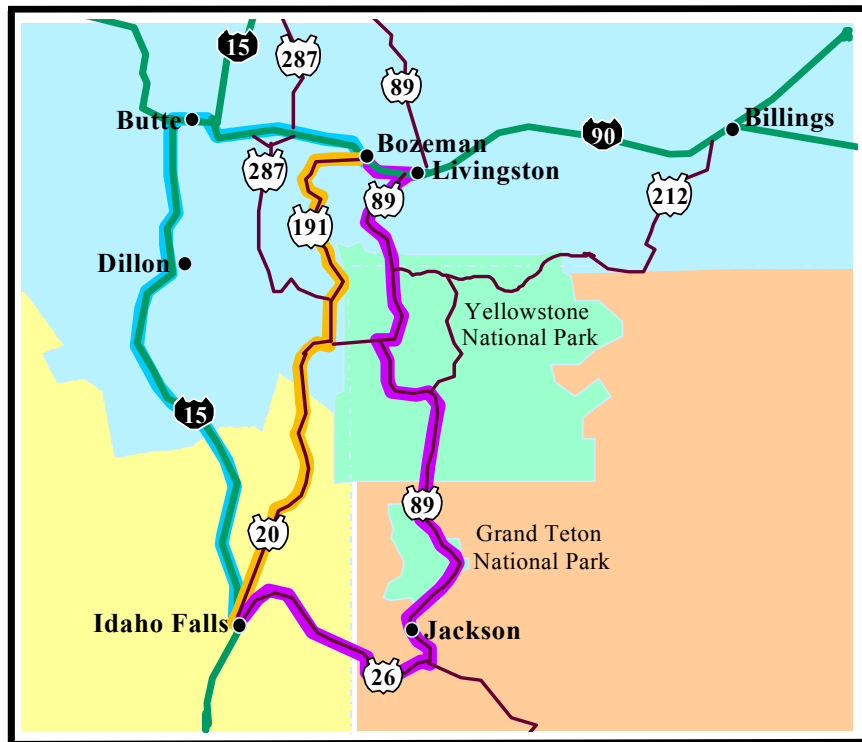
### **2.1 Project Description**

The Greater Yellowstone Rural Intelligent Transportation System (ITS) Priority Corridor (Corridor) extends from Bozeman, Montana to Idaho Falls, Idaho. The Corridor encompasses three primary travel routes:

- (1) US Highway 191/20 from Bozeman, Montana to Idaho Falls, Idaho;
- (2) Interstate 15 from Butte, Montana to Idaho Falls, Idaho including Interstate 90 from Bozeman to Butte, Montana; and
- (3) US Highway 89/26 from Livingston, Montana through Jackson, Wyoming to Idaho Falls, Idaho including Interstate 90 from Bozeman to Livingston, Montana.

The Corridor routes represent vital transportation links for the economy and well being of the three-state area of Montana, Wyoming and Idaho. It also serves the recreational and resource needs of a growing national constituency seeking to utilize the Greater Yellowstone Ecosystem and Grand Teton National Park. The Corridor traverses a broad treasure of national resources. The national importance of the Corridor is further emphasized by its function as the connector for the trucking industry between the upper Midwest markets of Interstate 90 and the Intermountain and Southwest markets approachable by Interstate 15.

The Corridor includes (1) Livingston, Montana; Yellowstone National Park; Grand Teton National Park and Jackson, Wyoming on the east and (2) Butte, Montana; Dillon, Montana and Roberts, Idaho on the west. The northern termini, Butte/Bozeman/Livingston, Montana, has a combined population of 65,000 (1990 Census), while the southern termini, Idaho Falls, Idaho/Jackson, Wyoming, totals approximately 50,000. There are only four other significant population centers within the corridor, and only one approaches a population of 10,000. The three state area encompasses 328,600 square miles with a population density of less than seven people per square mile. Despite the sparseness of the resident population within the Corridor, the use of the Corridor is extensive (Figure 1).



**Figure 1. Study Area**

In addition to the larger communities along the route, many popular destinations are within the borders of the Corridor. Big Sky, Montana and Grand Targhee, Wyoming ski and summer resorts attract thousands of people to the area annually. The area is also a popular destination for many outdoor enthusiasts. Red Rock Lakes National Wildlife Refuge, Lee Metcalf and the numerous National Forests and wilderness areas within the region near the Corridor lure large numbers of tourists, often during the most inhospitable weather conditions.

The Corridor sees some of the heaviest snowfall in the nation with some areas averaging 200 to 300 inches per season. During the winter months the road surface often consists of sanded, hard-packed ice. Storms can be blinding and road surfaces can become immediately slick. Temperatures can reach 50 degrees below zero (Fahrenheit), and it is not at all unusual to experience a 40-degree temperature swing between day and night. Travelers passing through the Corridor often must contend with high winds, fog and heavy rain.

While remote, travelers through the Corridor are perhaps more in need of information than those in some urban areas. Knowledge of the weather and roadway conditions, location of services, and emergency response can make the difference between life and death. There is also a need for more routine information for the many tourists who are traveling the route for the first time or who travel it infrequently.

As high as 20 percent of the Corridor traffic consists of commercial vehicles. Commercial traffic is generated from a number of sources located inside and outside the Corridor (e.g., forest, mining, and agricultural industries). Since most of the Corridor is two-lane highway, there are frequent passing situations that involve semi-trucks, recreational vehicles, and slow moving farm machinery.

The entire Corridor crosses migration routes for deer, elk, and moose. Farm animals, and wildlife near Yellowstone, can also periodically be found on the road. There were 93 reported animal-vehicle collisions from 1992 through 1994 on one route alone. Unreported animal-vehicle collisions are thought to add substantially to this total.

A large segment of the Corridor is not covered by cellular phone. Canyon walls and large distances also preclude reception of commercial AM or FM stations in some segments. Detection and response times to emergency situations can be considerable.

When compared to national statistics, Montana has a higher than average population age. Many of these elderly live in remote locations throughout the Corridor and are disabled or require special medical care. Little or no transit or para-transit service is available to adequately serve their needs (Figure 2).

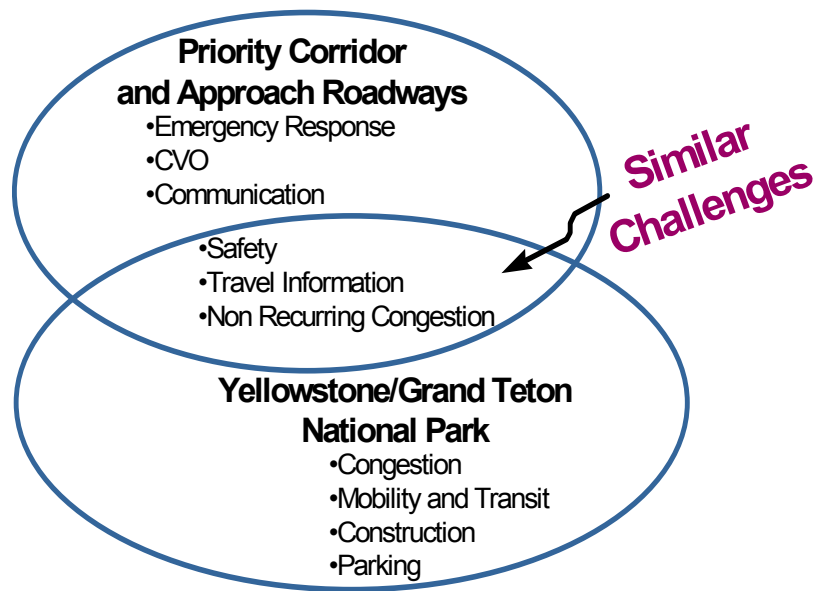


Figure 2. Transportation Challenges

The combination of varied, often less-than desirable driving conditions coupled with abundant off-road, commercial and recreational traffic, indicates an immediate and ever growing need for increased traffic safety and information measures. Intelligent Transportation Systems (ITS) is the strongest solution available and appears to be appropriate for the Greater Yellowstone Rural ITS Priority Corridor.

### **3 Goals and Objectives**

The purpose of this section is to relate the Greater Yellowstone Rural ITS Priority Corridor project vision and the specific goals and objectives of the project.

Various agencies within the Corridor envision ITS deployment, but these visions may not be consistent. As such, it is important to reach consensus on a common mission, goals and objectives that will lead to the development of a system architecture for the Greater Yellowstone Rural ITS Priority Corridor Project. This architecture will define boundaries, players and strategies for determining ITS solutions and implementing technologies. The system architecture will be determined later in the project scope of work.

#### **3.1 Preliminary Vision**

Effective ITS deployment requires commitment and a shared vision. The vision is the logical starting point for developing an architecture or framework, and is the component that drives all other goals, objectives and project development. The vision statement provides a description of the likely transportation system in the next 5, 10 and 20 years based on the National ITS Architecture. The vision identifies the ITS User Services that the transportation system is to provide. A more detailed vision that describes how a fully deployed and integrated ITS system will operate in the Corridor will be prepared in future Tasks and will allow all stakeholders to understand how each incremental deployment is building the vision.

A draft vision statement is as follows:

“The Greater Yellowstone Rural ITS Priority Corridor Project is a cooperative public-public and public-private sector project that will develop a comprehensive ITS strategic plan. The plan and related deployment will address unique rural regional and local challenges to provide for safety, mobility, travel demand management, tourism information and services, commercial vehicle operations, electronic payment, economic viability and ensure the ability to fuse and exchange data regionally. The traveling public, operating agencies and gateway communities will ultimately benefit from the planning and deployment of ITS with the following results:

- Safety management systems to provide for road/weather information, collision avoidance warning systems for animal or foreign object detection, emergency management, vision enhancement, and safe speed advisories.
- Commercial vehicle operation systems to provide for increased efficiency, advisory and enforcement through pre-clearance, weigh-in-motion, permitting and inspection improvements and to aid in hazardous material identification.
- Traveler information services systems to provide for en-route and pre-trip information on road construction, weather and traffic conditions, traveler orientation, business/yellow page information and also to increase existing public radio emergency broadcast utilization.
- Tourism and transportation institutional network to provide for the coordination, integration and seamlessness of solutions that in turn provide for economic vitality

and productivity in gateway communities, states and the region, and monitoring of economic activity.

- Travel demand management strategies to provide for improved gate access, transit operations and fleet management, parking management, and reservation systems to effectively handle capacity demands.
- Electronic payment systems to provide for the ability to monitor economic activity, collect visitor profile information and expenditures, and reward transit use.
- Information clearinghouse to provide for data and information exchange, data fusing, agency coordination, public/private partnerships and agency autonomy of individual actions.”

The Greater Yellowstone Rural ITS Priority Corridor project can serve as a catalyst for agency leadership in ITS through research, deployment, evaluation, and training. The project will also increase the knowledge and understanding of issues of the respective agencies, incorporate a philosophy of “acting locally, but thinking regionally” in their transportation decisions, and give the traveling public state-of-the-art mobility and real-time information.

### **3.2 Mission Statement**

The mission statement addresses the goals and objectives of the desired transportation system, i.e. through the Greater Yellowstone Region.

“The Greater Yellowstone Regional Partnership Coalition serves as a unifying force among its member agencies, focusing on a seamless, state-of-the art, multi-modal transportation network benefiting travelers, goods movement, economic activity, and transportation operators throughout Idaho, Montana, Wyoming, Yellowstone National Park, Grand Teton National Park and beyond. Through communication and cooperation, the Greater Yellowstone Rural ITS Priority Corridor Project and this Partnership Coalition will serve as an information clearinghouse to provide for 1) effective and efficient ITS development, deployment, and delivery and 2) the promotion of safety, mobility, trip enhancement, and environmental quality.”

### **3.3 Goals and Objectives**

The following goals and objectives support the vision and mission for the Greater Yellowstone Rural ITS Priority Corridor project. Note that the pursuit of the individual goals and objectives is dependant on the specific Corridor challenges and the project selection process (i.e., transit improvements may not be perceived as a priority, hence, no “early winner” projects may relate to transit. The pursuit of Goal #2 and its related objectives may be abandoned.)

*Goal #1. Improve the safety and security of the Greater Yellowstone Region rural transportation system users.*

Objectives:

- Provide sustainable traveler information systems that disseminate credible and accurate “real-time” information.



- Provide systems that advise regional transportation system users of slow-moving vehicles, obstructions and weather conditions.
- Provide systems that advise unfamiliar motorists of alignment and speed conditions, tourist attractions, services, construction, weather and provide for the ability to request assistance.
- Coordinate public fleet responses to unsafe conditions (weather, incidents, detour routes) to provide for improved regional movement.
- Reduce severity and fatality rates through improved emergency response times.
- Reduce exposure to unsafe situations through motorist aid devices.
- Provide improved methods for commercial vehicle monitoring, and hazardous material identification.

*Goal # 2. Enhance personal mobility and accessibility to services and enhance convenience and comfort of travelers destined for Yellowstone National Park, Grand Teton National Park, other regional attractions.*

Objectives:

- Increase public awareness of public transportation alternatives to and within the Parks.
- Encourage and provide incentives for increased transit utilization.
- Improve access to services and tourist areas through expanded information availability.
- Coordinate transit services and availability to Parks.
- Provide parking information to reduce internal Park congestion.

*Goal # 3. Increase operational efficiency and productivity of the transportation system focusing on system providers.*

Objectives:

- Collect, process and share data between local, state, and federal agencies to increase efficiency and resources utilization.
- Provide automated notification of conditions that may impact operations and maintenance of regional roadways to improve resource management and allocation.
- Improve communication system capabilities to provide for increased coordination of services (i.e. radio, wire-line/wireless).

*Goal # 4. Enhance economic productivity of individuals, businesses and organizations.*

Objectives:

- Develop projects that meet local needs but provide for national “showcase”.
- Improve identification of goods, services, and opportunities in regional communities (i.e. en-route information, transportation service information, etc.)
- Provide mechanism by which tourism industry, transportation and transit services can work more closely together.
- Provide opportunity for commercial vehicles and goods to be moved more efficiently (i.e. pre-clearance systems).

*Goal # 5. Reduce energy consumption, environmental costs and negative impacts.*

Objectives:

- Improve hazardous material incident response.
- Promote and encourage the use of alternative fuels and the use of transit in the Parks.

*Goal # 6. Develop and foster long-term partnerships that will result in the deployment of ITS initiatives and traditional solutions that address rural needs of the region.*

Objectives:

- Establish formal and informal opportunities to inform public and private sector decision-makers on initiatives for the Greater Yellowstone Rural ITS Priority Corridor project.
- Gain support for ITS efforts from key stakeholders.
- Facilitate a technical and financial group for the promotion of partnership projects.
- Develop opportunities for public-public and public private partnerships for operations and maintenance

*Goal # 7. Ensure compatibility with statewide and national ITS initiatives.*

Objectives:

- Coordinate Greater Yellowstone project with statewide efforts.
- Provide for technology transfer between state agencies.

*Goal # 8. Incorporate ITS into the State Transportation Improvement Program planning efforts.*

Objective:

- Provide for the incorporation of advanced technology applications to be considered in the Transportation Improvement Plan (TIP) process.

## **4 Project Administration Issues**

Throughout the previous Steering Committee meetings, a number of issues related to project administration were raised. These issues are summarized below.

### **4.1 Project Organizational Structure**

Select members raised concerns about the role of the Western Transportation Institute (WTI) and the interaction between the Steering Committee and project managers. Other concerns were raised related to the responsibilities and roles of the various agencies involved in this multi-state project. It was recommended that the Steering Committee should be comprised of representatives from transportation, trucking, tourism, emergency management and private industries.

### **4.2 Stakeholders**

Several concerns were raised about who should be considered as stakeholders and how to best educate them about rural ITS. Concerns were also raised related to the lack of attendance at stakeholder meetings. It was suggested that differences in stakeholder attendance and attributes be reviewed for the two stakeholder meetings held thus far. Further involvement of stakeholders was recommended to provide a feeling that they are participating in a meaningful purpose.

### **4.3 Funding**

Several questions were raised related to project funding. These included:

- Who pays?
- Who buys into this project?
- Where does the funding come from?
- Who manages the funding?

The Montana Department of Transportation (MDT) is contributing a substantial amount of time and money to this effort. Also, the Wyoming Department of Transportation (WYDOT) has contributed matching funds through the purchase of a variable message sign that can be used for Corridor needs and local match requirements. If additional federal funding is directed through MDT, local match is required. Local match requirements changed with the NAHS bill passed in November; match monies no longer have to be in cash form but can be equipment, services or other. Some confusion existed as to which organizational department should review the project-related information for legality purposes.

### **4.4 Information Management**

A desire was expressed for this project to avoid any duplication of previous work. Input from all of the various project partners will help to prevent any duplication. Issues were also raised related to difficulties in obtaining data to support problem identification. The various project partners expressed difficulties with providing much of the information requested from WTI researchers. Much of the information was specific to various departments or divisions within

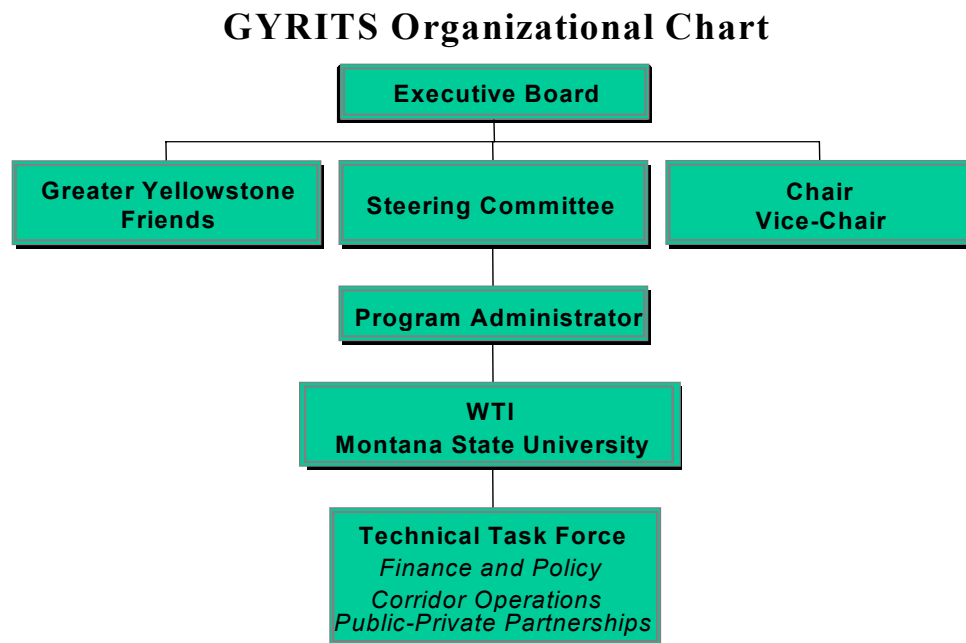
and agency and not obtainable from a single agency contact. Also, the quantity of data requested was time-consuming to provide.

#### **4.5 Summary**

Many of these issues are a natural occurrence in a developing multi-state coalition where many agencies and jurisdiction must work cooperatively. What is needed is a mechanism by which the issues can be resolved and addressed in order to meet all members needs. In order to provide a resolution to the project administrative issues, WTI has prepared the following report sections that provide details for an organizational structure, and project selection.

## 5 Business Plan and Management Structure

The objective of a business plan and management structure is to provide a framework for policy, process and action among the public and private jurisdictions involved. By establishing a management structure, the interest and involvement of the Greater Yellowstone Rural ITS Priority Corridor Project coalition can continue. The interest must continue in order for the deployment of solutions to maintain continued success. The organizational structure is arranged to maximize the group’s ability to meet its objectives and to minimize bureaucratic impediments, which sometimes result in large groups. In order that each of the policy, technical and financial interests are represented the following structure is proposed (see Figure 3).



**Figure 3. Organizational Structure and Relationships**

### 5.1 Executive (CEO) Board

While many of the technical and institutional issues will be decided through the Steering Committee, it must be recognized that some specific and critical issues will arise that may require input above those involved at a Steering Committee level. Some of these issues may be related to long-term agency roles and responsibilities, funding sustainability and resolution of politically sensitive matters. As such, it is recommended that an Executive Board be created, consisting of the highest level managers and that this body will meet every six months (or as needed) with presentations made on critical project issues by WTI.

### 5.2 Steering Committee

The role of the Steering Committee is to work with the Western Transportation Institute, Montana State University through the following actions:

- review project progress;
- review and provide input on project deliverables such as technical memoranda;
- participate in outreach workshops; and
- provide assistance in the encouragement of community business and agency leaders in project participation.

In order to provide for these actions three task forces are proposed, each with a different focus and skill set, but each important in project development and evaluation. It is envisioned that the Steering Committee will function as the oversight and policy guidance body for a deployment plan. It is also envisioned that this body review new technologies and new concepts, as they become available, and to determine if any changes are needed in existing direction for deployment. The Steering Committee will consist of one voting representative for each active member agency or participant. The Steering Committee is responsible for the overall policy direction and project development approval as well as organizing itself, establishing rules and conducting business. The current Steering Committee members are shown in Table 1.

**Table 1: Steering Committee Members**

Name	Affiliation
Albert, Stephen	Western Transportation Institute
Barna, Basil	Idaho National Engineering and Environmental Laboratory
Blackwood, Clint	Travel Montana
Gaulke, Glenn	Wyoming Department of Transportation
Gianfrancisco, Sam	Gallatin County Road Department
Holmstrom, Lance	Idaho Transportation Department
McDonald, Patrick	Idaho State Police
Hult, Dennis	Montana Department of Transportation
Roberts, Jack	Yellowstone National Park
Rose, Gary	Idaho Falls Fire Department
Rue, Lloyd*	Federal Highway Administration, Region 8
Bill Schaap	Three Bear Lodge
Seliskar, Robert	Federal Highway Administration, Montana Division
Stockstad, Ralph	Advanced Technology Applications Associates
Keith Trimels	Federal Highway Administration, Wyoming Division
VanOver, Larry	Idaho Transportation Department

\*non-voting members

### **5.2.1 Steering Committee Chairperson and Vice-Chairperson**

The Steering Committee while composed of public and private sector representatives will have a Chairperson from the public sector serving for a period of two years. The duties of the Chairperson include developing meeting agendas in cooperation with the Western Transportation

Institute and chairing meetings. The Chairperson and Program Administrator may be the same individual. After two years, a new Chairperson will be selected by the Steering Committee.

The Vice-Chairperson is elected by the Steering Committee through a voting process. The Vice-Chairperson is responsible for supporting the Chairperson, including temporarily assuming the duties of the Chairperson during his or her absence. After two years a new Vice-Chairperson will be selected by the Steering Committee.

As of May 30, 1996, the Chairperson is Dennis Hult, Montana Department of Transportation and the Vice-Chairperson is Basil Barna, Idaho National Engineering and Environmental Laboratory.

### **5.2.2 Program Administrator**

The Program Administrator operates under advisement of the Steering Committee and is responsible for contract management of the Western Transportation Institute, MSU. The Program Administrator is an employee from the lead administrative state that controls expenditures from the funding source. The Program Administrator is responsible for contract administration, recommending contract preparation, contract requests authorizing payments and informing the Steering Committee of all contract progress.

As of January 28, 1997, Montana is the lead administrative state and Dennis Hult, Montana Department of Transportation, is the Program Administrator.

### **5.2.3 Task Forces**

Task forces study, in detail, those areas of interest identified by the Steering Committee. Potential task force activities include problem definition, private sector participation, and future program planning. Voting authority on task forces issues is limited to Steering Committee member agencies. This authority may be given to an agency's full Steering Committee member or a designated representative. Task force members are shown in Table 2.

#### **5.2.3.1 Corridor Operations Task Force**

The role of the Corridor Operations Task Force (COTF) is to provide documentation on day-to-day problems as they may relate to traffic, safety, enforcement, emergency response and management, transit, fleet management, and commercial vehicle operations. It will be the responsibility of the COTF to assist WTI in the development of criteria and selection of "early winner" projects that will provide immediate benefits, assist operational efficiency of the region's roadways, and make rural travel more safe and convenient. A task force leader for the COTF will ensure that "early winners" are selected to meet immediate critical needs. It is the responsibility of the leader to assist WTI in facilitating discussions on operational issues and provide direction on needs and opportunities. A task force leader will be selected from the public sector and serve for a period of one year. After one year, a new task force leader will be selected by the Steering Committee.

As of October 16, 1997 the Corridor Operations Task Force leader is Dave Schofield, Wyoming Highway Patrol.



**5.2.3.2 Partnership Task Force**

The role of the Partnership Task Force is to provide outreach to industry, institutions, and public sector representatives to ensure that respective input is received on a variety of issues. The role

**Table 2: Potential Task Force Committee Members \***

Name	Representative Organization	Corridor Operations Task Force	Partnership Task Force	Finance and Policy Task Force
Stephen Albert	Western Transportation Institute	✓		
Basil Barna	Idaho National Eng. Env. Laboratory (INEEL)		✓	
Keith Trimels	Federal Highway Administration - Wyoming			✓
Clint Blackwood	Travel Montana			✓
Alicia Bradshaw	Greater Yellowstone Coalition		✓	
Jim Gaulke	Wyoming Department of Transportation	✓		
Sam Gianfransisco	Gallatin County	✓		
Russ Gomke	Western Transportation Institute		✓	
Thomas Harper	Greyhound Bus Lines		✓	
Lance Holmstrom	Idaho Transportation Department	✓		
Dennis Hult	Montana Department of Transportation			✓
Lloyd Rue	Federal Highway Administration - Region 8			✓
Larry Van Over	Idaho Department of Transportation			✓
Pat McDonald	Idaho State Police	✓		
Vacant	Federal Highway Administration – Idaho			✓
Pat McGowan	Western Transportation Institute	✓		
Shawn Peterson	Travel Montana			
Paul Pisano	Federal Highway Administration		✓	✓
Jim Richard	Idaho Transportation Department	✓		
Jack Roberts	Yellowstone National Park	✓		
Gwen Robins	Senator Baucus’ Office			✓
Gary Rose	Idaho Falls Fire Department	✓		
Bill Schaap	Three Bears Lodge		✓	
Bob Seliskar	Federal Highway Administration - Montana	✓		
Ralph Stockstad	Communications Consultant		✓	
Matt Ulberg	Western Transportation Institute			✓
Other				

**\*Due to misplaced notes, by WTI staff, from the 10/16/97 Steering Committee Meeting, the above Task Force members should be considered “preliminary”.**

of this task force will be to provide an understanding of project objectives and to ensure that each respective group has a meaningful role by which projects can be maintained in the short and long-term. This task force will provide input into “early winners” so that a system can be developed that aids both economic viability and transportation sustainability. A task force leader will be selected from the private or public sector to serve for a period of one year. It is the responsibility of the leader to assist WTI in facilitating discussions on public-public and public-private partnerships and to provide direction on needs and opportunities. After one year, a new task force leader will be selected by the Steering Committee.

While not yet decided, one area of focus that this task force may be responsible for is the development of a non-profit, public benefit corporation for funding the Greater Yellowstone Rural ITS Priority Corridor projects. An example of the Articles of Incorporation and Bylaws are in the Appendix.

As of October 16, 1997 the Partnership Task Force leader is Basil Barna, Manager, Idaho National Engineering and Environmental Laboratory.

### **5.2.3.3 Finance and Policy Task Force**

Finance and policy will be important to the selection and direction of the Greater Yellowstone Rural ITS Priority projects. The Finance and Policy Task Force will help to ensure that available funds are programmed for short and long-term ITS deployment, operations and maintenance. This task force will provide input to those task forces previously discussed and to WTI so that critical issues can be presented to the Executive Board for resolution. A task force leader will be selected from the public sector and serve for a period of one year. It is the responsibility of the leader to assist WTI in facilitating discussions on issues of life cycle cost and policy direction. After one year a new task force leader will be selected by the Steering Committee.

As of October 16, 1997 the Finance and Policy Task Force Leader is Dennis Hult, ITS Coordinator, Montana Department of Transportation and/ or a Chamber of Commerce Representative.

It should be noted that as of the October 16, 1997 Steering Committee that the Finance and Policy Task Force will not be activated specific project and funding requirements have been identified.

## **5.3 Cooperative Agreement**

The Greater Yellowstone Rural ITS Priority Corridor Project will involve the planning, design, implementation and operation of ITS capital equipment deployment. The deployment will be performed by various agencies within the multi-state region. Because communication, coordination and cooperation is an essential element to effective long-term regional management of the transportation system, it is anticipated that a Memorandum of Agreement (MOA) will need to be developed. The MOA would provide for a formalized mechanism by which the public and private sector organizations may agree on existing and proposed improvements within the 800 mile Corridor. The areas addressed within the MOA could include:

- organizations involved;

- premise for agreement (ie. purpose and benefits of participation);
- agreement specifics (goals, description of project/ program/ management oversight);
- term of agreement (length);
- authorized signatures; and
- party responsibilities and budget.

## **6 Project Selection**

The general goal of the Greater Yellowstone Rural ITS Priority Corridor Project is to develop a strategic deployment plan that “improves rural traveler safety, convenience and mobility”. In the end, the deployment plan will consist of a set of interrelated projects that provide individual benefits and collective, synergistic benefits. The Steering Committee will decide which projects meet their needs. The end result will be a regional ITS plan.

The following sections describe a regional ITS plan; project implementation process and responsibilities; overall project selection process; early winner nomination process; and the relationship between the project and individual state strategic plans.

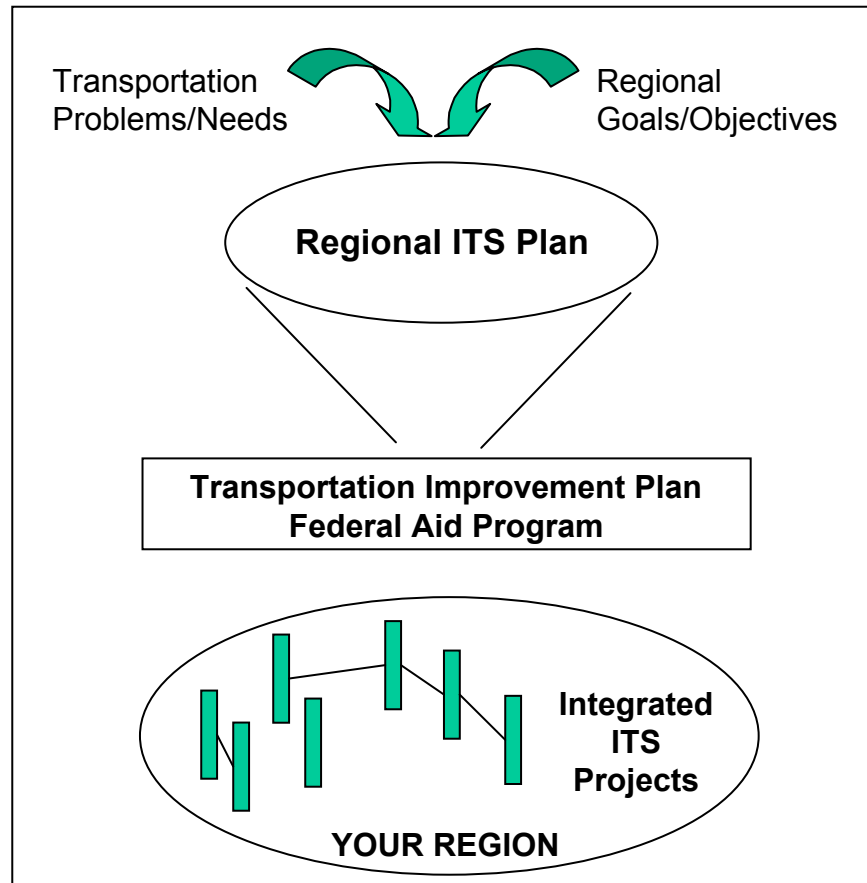
### **6.1 Overview**

A regional ITS plan sets the general direction for ITS deployment based on the region’s transportation needs. Its primary purpose is to develop a clear picture of what is envisioned for the region’s ITS deployment, and to define a series of projects that will implement that vision. Typically, to achieve this purpose, it is necessary to review the region’s goals and objectives (these may already be included in a regional transportation plan or early deployment plan); identify stakeholders in regional ITS deployment; identify additional needs and problems; screen potential ITS solutions; determine how these stakeholders can share information with each other, what functions the ITS systems should perform to achieve the region’s goals and objectives, how existing ITS components can be integrated, which procurement strategies work best, how the systems in a region can be operated and maintained in an efficient and cost-effective manner, and how system performance evaluation can be used in future upgrades of ITS systems.

Figure 4 outlines a general process that translates regional transportation needs into candidate ITS projects for the Transportation Improvement Plan (TIP).

Some benefits of planning for ITS in your region include:

- Spending time and effort up front allows your region to maximize its investment in ITS.
- Up front planning reduces the cost of the overall effort.
- Planning helps target (focus) ITS solutions to transportation problems that cross multiple modes.
- Provides clear and consistent direction, and allows better tracking and management of projects.
- Helps to manage expectations.
- Helps to explain (and perhaps defend) what your region is doing in ITS.
- Helps to prioritize ITS goals.



**Figure 4. Regional ITS Plan Development**

Formulating a Regional ITS Plan is not a one-time exercise; rather, the plan requires periodic revision to adjust to the region’s evolving needs and goals. Consequently, the plan is maintained over time and is a long-term asset of the region. If, at some point in the future, it is necessary to expand ITS, then the same plan will facilitate that expansion by supporting interoperability, agreements between transportation agencies, and the use of system interface standards.

Items to consider in developing a Regional ITS Plan include:

- stakeholders;
- inventory of existing and committed ITS;
- information sharing needs;
- regional ITS systems architecture;
- operational requirements;

- phasing of projects and funding; and
- evaluation plan.

## **6.2 Project Implementation and Responsibilities**

In trying to develop a project implementation process that meets Wyoming, Montana and Idaho project development processes, WTI has reviewed the following information:

- WYDOT “Project Design Flowchart”;
- Montana “State of MDT Pre-construction Management System – Users Manual and Activity Descriptions, Montana Road Design Manual and held discussion with the Pre-Construction Engineer; and
- Idaho, no action was taken.

The result of this analysis indicates that while the State DOT’s have similar processes, each have different names describing the individual phases that lead to implementation. As such, it would be more easily understood and beneficial to develop general steps that individual DOTs can identify with for the implementation of the capital equipment (Figure 5). It was initially envisioned that the responsibility of the Western Transportation Institute was to develop a strategic deployment plan that meets regional organizational needs, and not to purchase, install, or deploy capital equipment within state or business rights-of-way. Because this was only WTI’s impression, it was requested by MDT that this initial impression be confirmed with each DOT partner. Based on WTI’s investigation only MDT has requested that WTI provide pre-construction related activities. Idaho and Wyoming Departments of Transportation perceived that pre-construction (PS+E) efforts were better suited for them to do.

## **6.3 Overall Project Selection Process**

The overall project selection process will be based on the Strategic Plan elements shown in Figure 5. Because the Strategic Plan will detail ITS improvements by jurisdiction, it will be the responsibility of that jurisdiction to ensure that the defined project meets their individual needs. Projects will be developed that cross jurisdictional lines, too. An example of this project type may include the development of a traveler information system by which variable message signs are placed upstream of known high accident locations and in proximity of highway interchanges where motorists make route decisions. The variable message signs could be located in Wyoming, Montana and Idaho and still be defined as a single project.

## **6.4 Early Winner Nomination Process**

Because it is important to build political and public support for ITS and because there are typical projects that have immediate benefits, “early winners” will be identified. The early winner projects simultaneously meet public identified problems and obvious public sector need.

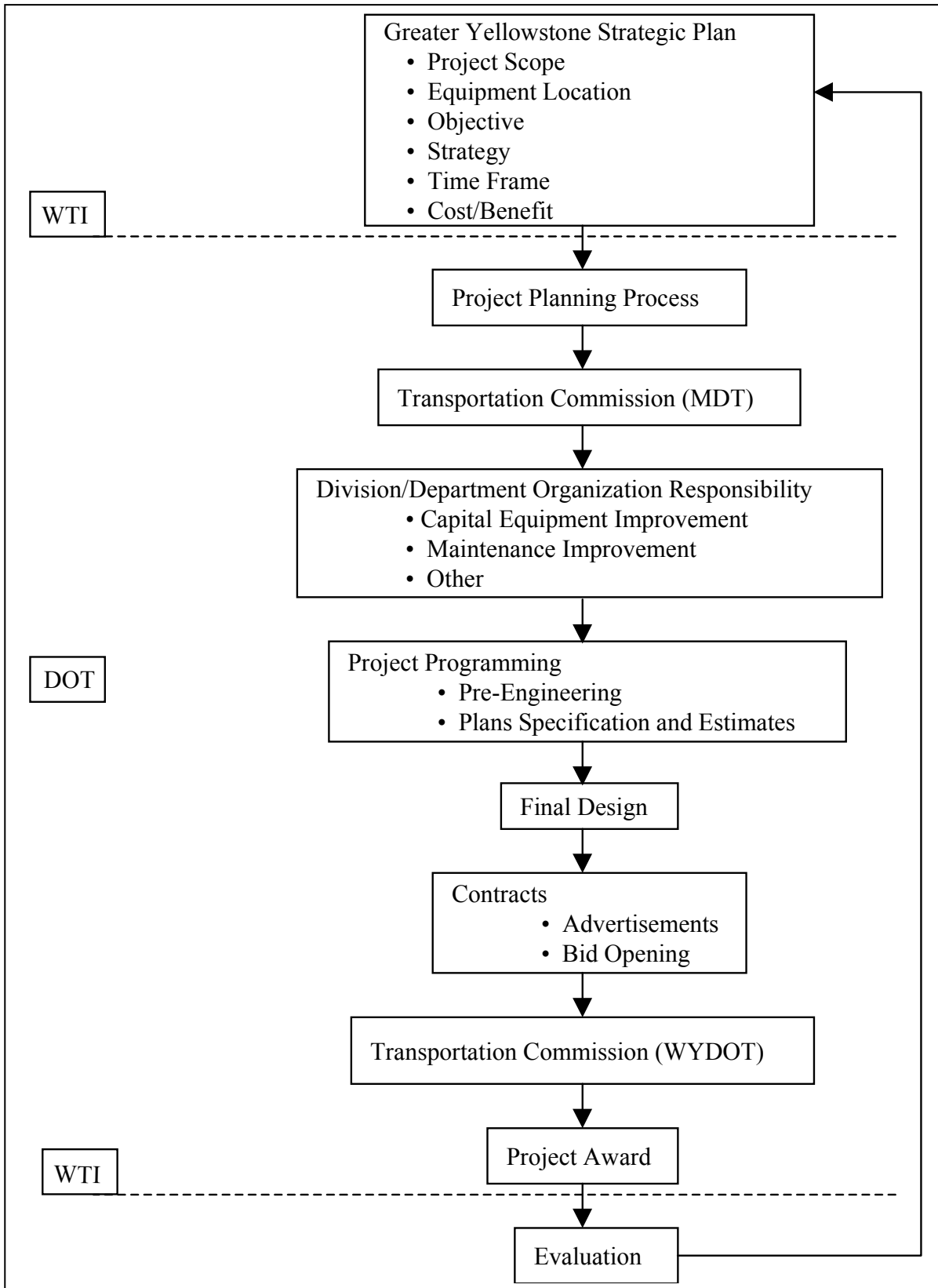


Figure 5. Project Implementation Process



The selection process is intended to quantify the relative importance and value of proposed initiatives based on agency and group requirements. Each member will rank each proposed project; the most useful projects will be included in the deployment plan.

The six selection criteria recommended for use by the Steering Committee to assess individual projects are as follows:

1. Value and sustainability of results and efforts (30 %). This is the most important criterion because it rates the value and usefulness of the project.
2. Sustainability to the Greater Yellowstone Region (20%). This criteria is meant to determine whether or not this is an appropriate project for the Greater Yellowstone Rural ITS Priority Corridor Project based on its goals, objectives and consistency with group needs.
3. Project feasibility (15%). Can this project be implemented and completed?
4. Timeliness of project (15%). To what degree is the proposed project timely to the Greater Yellowstone coalition? Is it appropriate at this time?
5. Cost realism (10%). Does the anticipated cost for the proposed project seem reasonable and appropriate?
6. National recognition (10%). Does the project “showcase” solutions that may attract increased public or private sector funding from national sponsors?

Once Steering Committee members rank the proposed projects using the prepared ranking form (Figure 6), the Western Transportation Institute will ensure that they meet long-term goals and fit within the Greater Yellowstone Rural ITS Priority Corridor Project system architecture and report back to the Program Administrator and Steering Committee. Each agency may choose not to participate in a project or decide that the decision is dependent on the Executive Board’s recommendation.

### **6.5 Project vs. Statewide Strategic Plan**

The Greater Yellowstone Rural ITS Priority Corridor Project’s mission is to cooperatively provide Intelligent Transportation Systems through the Corridor. The intent is not a master system operated by a single entity, but rather a series of local systems (or projects) that are planned, designed, implemented and operated in close coordination with each other under the jurisdiction of individual state and local government agencies and operational authorities. An important part of the Greater Yellowstone Rural ITS Priority Corridor Project is to develop a coherent vision of the future “end state” of ITS and its relationship to broader statewide initiatives. The Greater Yellowstone Rural ITS Priority Corridor Project is a focused multi-state, area-wide deployment plan that is concentrating on specific transportation corridor challenges and should not be confused with a statewide strategic plan.

## Greater Yellowstone Rural ITS Priority Corridor Project Selection Criteria

### Project Ranking Form

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

Project Title: \_\_\_\_\_

Agency Representative: \_\_\_\_\_

	Points (0-10)	Weighted Value
<p><b>1. Value and sustainability of results and efforts (30%)</b> This is the most important criterion because it rates the value and usefulness of the project. Weighted 30%</p> <p><b>No Value 0-----5-----10 Highly Valuable</b></p>		
<p><b>2. Sustainability to the Greater Yellowstone Region (20%)</b> This criterion is meant to determine whether or not this is an appropriate project for the Greater Yellowstone Rural ITS Priority Corridor Project based on its goals, objectives and consistency with group needs. Weighted 20%</p> <p><b>Not Sustainable 0-----5-----10 Very Sustainable</b></p>		
<p><b>3. Project feasibility (15%)</b> Can this project be implemented and completed? Weighted 15%</p> <p><b>Not Feasible 0-----5-----10 Highly Feasible</b></p>		
<p><b>4. Timeliness of project (15%)</b> To what degree is the proposed project timely to the Greater Yellowstone coalition? Is it appropriate at this time? Weighted 15%</p> <p><b>Not Appropriate 0-----5-----10 Very Appropriate</b></p>		
<p><b>5. Cost realism (10%)</b> Does the anticipated cost for the proposed project seem reasonable and appropriate? Weighted 10%</p> <p><b>Not Reasonable 0-----5-----10 Very Reasonable</b></p>		
<p><b>6. National recognition (10%)</b> Does the project “showcase” solutions that may attract increased public or private sector funding from national sponsors? Weighted 10%</p> <p><b>Not Nat'l in Scope 0-----5-----10 Nat'l in Scope</b></p>		

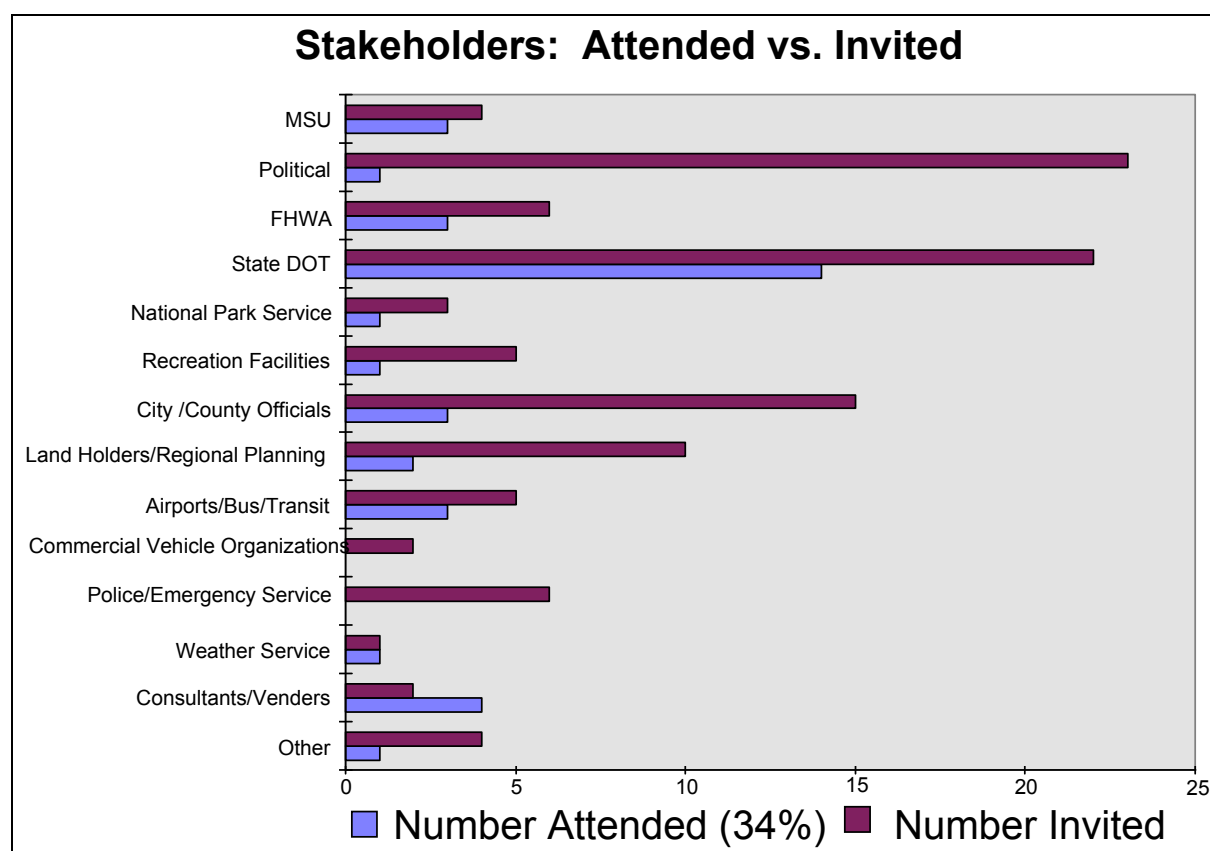
SubTotal : \_\_\_\_\_

Total: \_\_\_\_\_

**Figure 6. Early Winner Project Ranking Form**

## 7 Stakeholders

Consensus building is the key to effective transportation planning. Developing a formal approach to a challenge and involving key people in decision making is the first step in this process. As such, it is critical to expand and involve regional stakeholders to increase the likelihood of project success. As evidenced by the March 13, 1996 GYRITS Corridor Stakeholder Workshop, the need exists to expand and increase stakeholder attendance (Figure 7).



**Figure 7. March 13, 1996 Stakeholder Attendance**

### 7.1 Existing Project Partners

A coalition of possible users, partners, individuals or organizations with an interest in applying ITS within the region is being established for this project. Initially this partnership has been informal; however, over time and with sufficient interest, it is envisioned that a more formal “coalition” may be established. It is also envisioned, that with time and interest, the regional coalition will establish an identity and a name such as “SMART: Safety and Mobility for the Advancement of Rural Travel”. The purpose of the Greater Yellowstone Regional SMART Partnership Coalition will be to enhance communications and participation in the project planning process to include a broader group of potential ITS users, partners or other

organizations. To date, project partners have included those stakeholder groups shown in Table 3.

**Table 3: Greater Yellowstone Regional SMART Partnership User and Stakeholder Groups**

<b>Public Sector</b>	<b>Private Sector</b>
Idaho Transportation Department	Chambers of Commerce
Montana Department of Transportation	Land owners
Wyoming Department of Transportation	Transportation
City/County DOT's	Communications
National Parks Service	Traveler Services Organizations
Emergency Services	Transit Carriers
Police	
Commercial Vehicle Organizations	
Weather Service	
Tourism	
Public Transportation/Transit	
Political Representatives	

## **7.2 Additional Involvement**

By far, the predominant stakeholder-related problem was poor attendance at stakeholder meetings. As shown previously by the March 13, 1996 GYRITS Corridor Stakeholder Workshop, the need exists to expand and increase stakeholder attendance (Figure 4). Typically, the stakeholders comprised a mix of federal, state, county, and city transportation personnel but few representatives from non-transportation related disciplines (Table 3). Because the implementation of ITS could involve or affect a wide variety of disciplines, the stakeholder meetings would have been more productive if representatives from these groups had been in attendance. Interdisciplinary discussions were limited simply because of the under-representation or absence of critical agencies. Singular representatives from non-transportation related disciplines may have been hesitant to speak up or their opinion may not be representative of their industry as a whole. Most often, when the group was asked to identify additional stakeholders that should be involved, groups or agencies were raised that had been invited to the meeting but chose not to attend.

The imbalance in agency representation at the workshop likely indicated the need for an alternative invitational approach. Some personnel may be less likely to attend if the purpose of the meeting and their role is not clearly defined. The approach taken was for researchers from the Western Transportation Institute to contact an extensive list of stakeholder from various disciplines. It may have been more effective to identify one "champion" in each discipline and have them assist WTI in making contact with various individuals. Potential champions are identified in Table 4. This approach would accomplish two things: (1) the presence of a champion for ITS within their own discipline would better emphasize the importance of their attending, and (2) the champion would better understand and describe potential benefits or effects from ITS specific to that discipline.

Table 4. General Committee Attendance and Potential Champions

Name	Representative Organization	June 4, 1996 West Yellowstone, MT	August 22, 1996 West Yellowstone, MT	November 14, 1996 Idaho Falls, ID	May 28, 1997 Bozeman, MT	
Stephen Albert	Western Transportation Institute		✓	✓	✓	✓
Basil Barna	Idaho National Engineering Laboratory (INEL)	✓	✓	✓		✓
Fred Bauer	Western Transportation Institute				✓	
John Berg	Federal Highway Administration - Wyoming			✓		
Clint Blackwood	Travel Montana					
Alicia Bradshaw	Greater Yellowstone Coalition	✓	✓	✓		
Jim Gaulke	Wyoming Department of Transportation	✓	✓	✓	✓	✓
Sam Gianfransisco	Gallatin County	✓	✓	✓	✓	✓
Russ Gomke	Western Transportation Institute			✓		
Thomas Harper	Greyhound Bus Lines	✓				
Lance Holmstrom	Idaho Transportation Department		✓			✓
Dennis Hult	Montana Department of Transportation	✓	✓	✓	✓	✓
Jeff Kolb	Federal Highway Administration - Region 8		✓	✓		
Greg Laragan	Idaho Department of Transportation			✓		
Pat McDonald	Idaho State Police			✓		✓
Dave Miller	Federal Highway Administration - Montana	✓	✓			
John Mounce	Western Transportation Institute	✓			✓	
Shawn Peterson	Travel Montana			✓	✓	
Paul Pisano	Federal Highway Administration		✓			
Jim Richard	Idaho Transportation Department	✓	✓	✓	✓	
Carolyn Roberts	Idaho National Engineering Laboratory (INEL)			✓		
Jack Roberts	Yellowstone National Park	✓	✓	✓	✓	✓
Gwen Robins	Senator Baucus' Office			✓		
Gary Rose	Idaho Falls Fire Department			✓		
Bill Schaap	Three Bears Lodge			✓		✓
Bob Seliskar	Federal Highway Administration - Montana			✓		✓
Ralph Stockstad	Communications Consultant	✓	✓		✓	✓
Traci Ulberg	Western Transportation Institute	✓				
John West	California Department of Transportation	✓				

## 8 Summary and Next Steps

In summary, this working paper has defined the Greater Yellowstone Rural ITS Priority Corridor Project mission and provided potential organizational structure alternatives for consideration by the Steering Committee. The next step in providing added-value to this working paper will be to 1) finalize Steering Committee input on the vision, mission statement, goals and objectives; 2) define the vision conceptually, both written and schematically, and 3) define how ITS is expected to function in a statewide or regional transportation system. A written vision or “theme” provides a description for a wide-ranging audience, from elected officials to field technicians. The vision will provide a general idea of how advanced technologies can be used to solve rural transportation challenges. A schematic vision will be developed that will provide similar benefits and address similar audiences as the written vision. This latter work will be a result of Task 5.