



GCM Freight Enhancement Plan



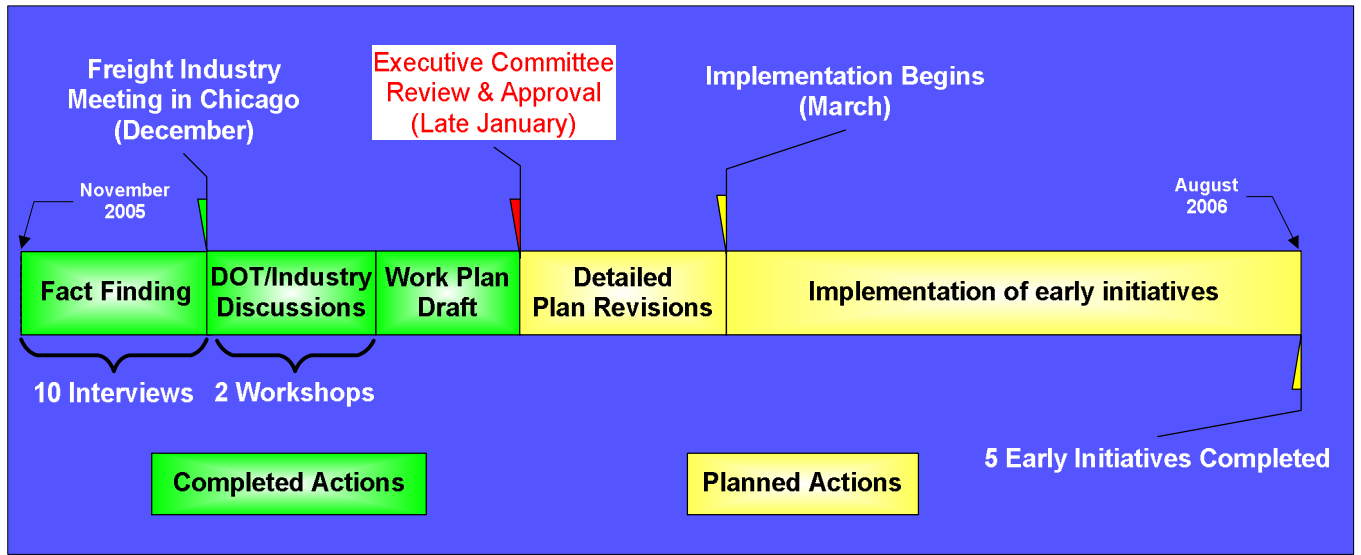
Interim Report Freight Analysis and Recommended Initiatives

June 2006

Freight Analysis and Recommended Initiatives

Executive Summary

The diagram below is an overview of the GCM Freight Enhancement Planning Process, indicating the progress to date...



Results: During the fact finding work completed over the past two months, six high-impact categories and 23 project concepts were recommended. The top seven of these projects were selected for consideration. They are listed below with details provided later in this document. Those highlighted in yellow would either be completed by October 2006 or would have a significant first phase completed by that date.

Priority	Projects	Description
1	Freight Industry Outreach Campaign	Conducts a campaign to make truck drivers more aware of regional sources for traveler information
2	Regional Corridor Action Team	Establishes a GCM team to help coordinate major road work near the Illinois/Wisconsin border
3	Expanded Advance Notification Boundaries	Develops a new process for posting DMS messages as far as 200 miles away from the GCM Corridor
4	Dynamic Message Sign Deployment	Increases the number of DMS at major diversion points
5	Webpage Publication of Local Regulations	Provides a single webpage that lists or links to sources for all regional truck regulations
6	Expanded Parking Facilities	Engages Freight Industry to identify locations where additional overnight truck parking is needed.
7	Develop and Operate Parking Facilities	Solicits Public/Private partnerships to increase truck parking availability in the region.

Freight Outreach Process

On November 1, 2005, the GCM Executive Committee directed that the GCM Corridor Coalition focus its efforts on improving freight traffic and increasing freight velocity within the Corridor. The Executive Committee outlined the following process for this effort:

- 1) Identify/Define Freight Needs
- 2) Prioritize Top Freight Needs
- 3) Initiatives to Move Forward
- 4) Action Plan
- 5) Approve Freight Movement Plan & Funding
- 6) Prioritize Action Plan
- 7) Implementation

Interviews were conducted with four trucking associations, nine trucking firms, and the American Transportation Research Institute to gather information on the needs of the trucking industry and ways that state DOTs could address those needs.

The Executive Committee met with representatives of the trucking industry in early December to determine categories where DOT enhancements would have a high impact on improving efficiency in moving freight. The following categories were identified as areas for enhancements:

- Weigh Stations
- Oversize/Overweight Regulation
- Commercial Vehicle Operator Travel Information
- Road Work Zones
- Truck Parking Areas
- Truck Only Lanes

Two workshops were held with the GCM Commercial Vehicle Operations (CVO) Work Group to specify needs and goals in these high-impact categories and to develop projects to accomplish these goals. The table below lists the goals identified during these workshops. Those goals highlighted in yellow are met by the seven top priority projects.

Impact Category	Goals
Weigh Stations	Goal 1: To reduce delays at weigh stations
Oversize/Overweight Regulations	<p style="background-color: yellow;">Goal 1: To improve availability of regulation information</p> <p>Goal 2: To improve permitting process</p> <p>Goal 3: To simplify regulations</p>

<p>Commercial Vehicle Operator Travel Information</p>	<p>Goal 1: To increase awareness of existing regional commercial vehicle operator travel information</p> <p>Goal 2: To improve how information on gcmtravel.com is presented</p> <p>Goal 3: To improve how information on gcmtravel.com is created</p>
<p>Road Work Zones</p>	<p>Goal 1: To minimize impact of road construction on freight movements</p> <p>Goal 2: To improve freight related traveler information systems</p> <p>Goal 3: To improve project staging across the GCM Corridor</p>
<p>Truck Parking Areas</p>	<p>Goal 1: To increase short term parking availability for trucks</p> <p>Goal 2: To enhance parking area services for freight industry</p>
<p>Truck Only lanes</p>	<p>Goal 1: To segregate trucks from car traffic</p>

Following this outreach, descriptions were developed for project ideas that met these identified goals. The GCM Coordination Work Group (CWG) reviewed these descriptions and prioritized them based on how well they met the identified goals and how quickly the projects could be accomplished. The recommended top priority projects were:

1. **Freight Industry Outreach Campaign**
2. **Regional Corridor Action Team Manual**
3. **Expanded Advance Notification Boundaries**
4. **Dynamic Message Sign Deployment**
5. **Webpage Publication of Local Regulations**
6. **Expanded Parking Facilities**
7. **Develop and Operate Parking Facilities**

After projects are implemented, surveys and interviews of trucking firm operators will be conducted through the state trucking associations to determine the time saved in freight shipments and other benefits derived from these projects.

Top Priority Freight Enhancement Projects

Project #1: Freight Industry Outreach Campaign	
Category	Commercial Vehicle Operator Travel Information
Goal	To increase awareness of existing regional travel information
Scope	While there are a number of traveler information resources available in the GCM Corridor, truckers may not be aware of them. This project would inform truck drivers and dispatchers about these useful information resources. The GCM Corridor will work with trucking associations to educate their members about websites such as www.gcmtravel.com , DOT websites with relevant traveler information, and email notification systems. The Corridor will distribute information on how to access and use these sites to get Corridor-wide information through association newsletters, presentations at regular association meetings, and through electronic notices. This material would be targeted at truck drivers and dispatchers and distributed through motor carrier associations. The Corridor will also work with associations to distribute this information to truckers outside of the three GCM states who make deliveries within the Corridor or travel through it.
Action Items	<ul style="list-style-type: none"> • Consult with trucking associations on how to distribute information • Develop work plan • Develop newsletter articles • Prepare and give presentations • Develop and distribute electronic notices
Deliverables	<ol style="list-style-type: none"> 1) Work plan 2) Newsletter articles 3) Presentations 4) Email notice
Performance Measures	<ul style="list-style-type: none"> • Number of presentations made • Number of notices distributed • Circulation of newsletters with outreach articles • Feedback from trucking agencies on amount used and estimated operational savings
Schedule	4 months
Budget	\$4,000 – this project cost would be accomplished through a public/private partnership with trucking associations

	No on-going operations and maintenance costs
Projected Operational Savings	<ul style="list-style-type: none">• Number of presentations made• Number of notices distributed• Circulation of newsletters with outreach articles• Feedback from trucking agencies on amount used and estimated operational savings

Project #2: Regional Corridor Action Team Manual	
Category	Road Work Zones
Goal	To minimize impact of construction on freight traffic by incorporating ITS technologies and proven operational processes
Scope	This project will develop a manual on forming small, multi-jurisdictional working groups to address coordinated operations to mitigate congestion around construction projects near state borders. What distinguishes this project from other work zone coordination activities is that this project includes the promotion of using temporary ITS technologies on a regional basis, which may or may not be standard practice for some agencies. The manual will recommend areas of coordination and activities that agencies should consider before and during construction. The manual will list agencies and private stakeholders who may potentially be involved, recommend best practices for multi-agency coordination and congestion mitigation, and identify potential ITS research projects that can advance the state of the art for traffic management during construction. It will build off the lessons learned from previous corridor action teams and construction coordination around the country to provide high level information which agencies can use for any construction projects in the GCM Corridor which require operational coordination across agency borders.
Action Items	<ul style="list-style-type: none"> • Identify potential participating corridor entities • Review best practices in cross border construction coordination • Develop construction group coordination manual • Agency review of manual
Deliverables	Construction Group Coordination Manual
Performance Measures	Number of multi-state construction operations coordination groups formed
Schedule	3 months
Budget	\$2,700 (no on-going operations & maintenance costs)
Projected Operational Savings	\$75,000 per year for a construction project (this estimate is based on 5,000 commercial vehicles saving an average of 15 minutes per year at \$60/hour by improving their travel through work zones.)

Project #3: Expanded Advance Notification Boundaries

Category	Commercial Vehicle Operator Travel Information
Goal	To increase awareness of existing regional travel information
Scope	<p>This project will notify truck drivers about major congestion conditions further away from the problem areas than is currently done. If long-haul truckers are given notification further in advance, then they can find better diversion routes that are designed to handle truck traffic. This also benefits the local drivers because there will be fewer trucks in the congested areas.</p> <p>Directors at participating traffic management centers that own DMSs agree to post messages about routine and non-routine conditions that are as far as 200 miles away and will define criteria for posting messages in those expanded areas. This will be accomplished by agencies mapping the areas of influence for all applicable DMSs within radius up to 200 miles from the GCM Corridor that affect traffic coming into the Corridor. Agencies will agree on criteria that an incident must meet in order to trigger posting these messages. New freight-related content, such as alternate routes for truckers, for these expanded notification boundary agreements will be included in existing information distribution websites. After agreements have been reached, information on this expanded resource will be distributed to motor carrier associations and trucking company dispatchers.</p> <p>This project will incorporated into additional DMS deployments.</p>
Action Items	<ul style="list-style-type: none"> • Inventory existing DMS in expanded area • Develop areas of influence maps for each applicable DMS • Identify freight-related content for messages • Agree on message and notification criteria • Sign memorandum of understanding • Incorporate additional freight information from expanded areas into existing information distribution websites • Distribute outreach material to commercial vehicle associations and freight companies
Deliverables	<ol style="list-style-type: none"> 1) Agreements between agencies to post messages 2) Complete regional catalog of Areas of Influence diagrams 3) Recommend work procedure materials for agency operations staff 4) Outreach notices for freight industry

Performance Measures	<ul style="list-style-type: none"> • Number of wide area messages delivered per year • Percent of DMSs in service (compared to full system deployment) • Percentage of Areas of Influence diagrams completed • Measure of effect on truck drivers operations (from follow-up survey)
Schedule	6 months
Budget	\$1,400 for non-agency labor 18-28 hours per agency, plus six hours/year for review or updates
Projected Operational Savings	\$300,000 per year estimated savings in user costs for truckers diverting around problem area. (This estimate based on 10,000 vehicles/year that will save an average of 1/2 hr at \$60/hr)

Project #4: Dynamic Message Sign Deployment

Category	Road Work Zones
Goal	To increase awareness of existing regional traveler information
Scope	<p>This project will build off of the Expanded Advance Notification Boundaries project by deploying additional DMSs at key decision points. Through the arrangements developed in the previous project, messages of major closures or congestion will be posted as much as 200 miles before the congested area. The new DMSs installed under this project will provide better coverage of critical decision points across the states, giving long-haul truckers better opportunities to divert around major incidents using Interstate, US or State routes designed to handle truck traffic. This also benefits the local drivers who will experience less delay because there will be fewer commercial vehicles in the congested areas.</p> <p>An inventory of diversion points that need additional DMSs will be conducted with input from the trucking associations. DOT operations staff will be consulted to determine what types of DMS are compatible with state regulations, state ITS Architectures, and previously developed DMS deployment plans. Ten new DMSs will be installed in each state over a 5-year period. These signs will then be incorporated into the Areas of Influence diagrams from the Expanded Advance Notification Boundaries project.</p> <p>As an alternative to permanent DMSs, agencies could use portable changeable message signs (PCMS) to provide this information. This would have to be compatible with agency policy for use of PCMS. These portable signs could be deployed at a lower cost and would have the benefit of being portable, but could be harder for drivers to read and messages may be harder to maintain and update.</p> <p>After the new signs are deployed, the DMS and/or PCMS operations manuals used by agencies will be updated to include new sign locations, areas of influence maps, and freight oriented message templates for use in response plans.</p>
Action Items	<ul style="list-style-type: none"> • Inventory decision points that need additional DMS coverage • Create a prioritized 5 year deployment plan (~10 signs per state)

	<ul style="list-style-type: none"> • Determine type of sign to be used • Procure and install new DMS • Incorporate new DMS into Areas of Influence diagram • Update DMS and PCMS operations manuals with areas of influence diagrams and freight-oriented message templates
Deliverables	<ol style="list-style-type: none"> 1) Deployment Plan 2) Thirty new DMS (ten in each state) by end of year five
Performance Measures	<ul style="list-style-type: none"> • Number of new DMS deployed • Number of wide area messages (up to 200 miles) delivered per year • Percent of new DMSs in service (compared to full system deployment)
Schedule	<p>5 years</p> <ol style="list-style-type: none"> 1) 120 days for identification of new DMS locations 2) 5 years for full DMS system deployment
Budget	<p>Option 1 \$2.35 Million initial cost for permanent DMSs, \$90,000/year for operations and maintenance</p> <ul style="list-style-type: none"> Ø \$100,000 for design and technical services Ø \$2.25 Million to deploy signs (\$75,000 per sign for small roadside DMSs, sign structures, communication systems, and integration into existing systems) Ø \$3,000/year per sign (on-going costs for sign maintenance and operating expenses) <p>Option 2 \$1.06 Million for initial cost using PCMS, \$60,000 /year for operations and maintenance</p> <ul style="list-style-type: none"> Ø \$100,000 for design and technical services Ø \$960,000 to deploy signs (\$32,000 per sign for PCMSs, communication systems, and integration into existing systems) Ø \$2,000/year per sign (on-going costs for sign maintenance and operating expenses)
Projected Operational Savings	<p>\$495,000 per year estimated savings in user costs for both the diverting truckers and those vehicles in the congested zone that will benefit from fewer vehicles in the queue. (This estimate based on 45,000 vehicles/year that will save 1/2 hrs at \$22/hr)</p> <p>Note: These signs will serve other uses in addition to advance notification</p>

Project #5: Webpage Publication of Local Regulations	
Category	Oversize/Overweight Regulations
Goal	To improve availability of information about truck regulations
Scope	<p>Truck drivers are not always aware of size and weight restrictions on highways or arterials. This project would provide them with a resource to determine what regulations apply. The Federal Highway Administration already maintains a website listing restrictions on state routes. This project would use that site as a model and provide additional links to county and municipal commercial vehicle regulations as a webpage added to the www.gcmtravel.com website. The GCM Corridor would partner with the trucking associations to inform their membership about this information.</p> <p>Different states and agencies are have different levels of information available on-line. Wisconsin DOT has a route map, restriction, and permit information on its website, Illinois has truck routes listed (as well as permit applications) on its site, and Indiana has some route information on its webpage with permit information on the Department of revenue page. The webpage created under this project would be a regional resource to direct users to state, county, and eventually municipal resources. This would serve as a central resource for truck drivers moving between states in the GCM Corridor.</p> <p>In the first phase of this project, the GCM Corridor will work with state and county transportation agency contacts to identify existing on-line sources for all regional trucking regulations. This information will then be made available on a new webpage at www.gcmtravel.com in the form of links to websites or listings of local agency contacts (if an agency does not have it posted on a website). This new webpage will also contain links to the FHWA webpage listing state regulations along with links to existing websites administered by the appropriate permitting agencies in Illinois, Indiana, and Wisconsin. An overview of the different approaches states take to size and weight regulations will provide a framework for how users use the information from the different states. This first phase would concentrate on state and county information and resources. Once the new GCM webpage has been developed, the Corridor will work with freight associations to inform their members of the webpage and how to use it.</p> <p>In the second phase of this project, the GCM Corridor will</p>

	<p>concentrate on incorporating municipal resources in the 16-county Corridor. This phase will last longer because hundreds of municipalities will need to be contacted and there is more variations in the type and format of data available. Information on existing resources or municipal contact will be updated on the new webpage as research and interviews are completed.</p>
Action Items	<ul style="list-style-type: none"> • Determine sources for county and local regulations • Develop webpage on GCM Travel website with links to existing local regulation sources and existing websites • Develop promotional materials for associations to distribute to their members • Determine regulations that are not already available • Post new regulatory information on GCM webpage
Deliverables	<ol style="list-style-type: none"> 1) Summary report on available information at the state, county, and municipal level in the corridor 2) Draft and final matrices or maps of regulation sources 3) Interviews with county and municipal contacts 4) Webpage listing links to local regulatory information 5) Promotional material about new GCM webpage
Performance Measures	<ul style="list-style-type: none"> • Number of sources referenced • Number of regulations made available • Number of hits received
Schedule	<p>18 months</p> <ul style="list-style-type: none"> • Phase One: 6 months • Phase Two: 12 months
Budget	<p>\$55,000 development cost, \$7,000/year for operations and enhancements</p> <ul style="list-style-type: none"> • Phase One: \$10,000 • Phase Two: \$45,000
Projected Operational Savings	<p>This project will benefit commercial carriers by reducing the level of difficulty required to achieve compliance. This will result in improved overall compliance with truck regulations, and will translate into reduced damage to roadways from overweight vehicles, less noise in quiet neighborhoods, and fewer trucks getting trapped at roadway locations with tight geometry.</p>

Project #6: Expanded Parking Facilities

Category	Truck Parking Areas
Goal	To increase short term parking availability for trucks
Scope	<p>This project will engage the freight industry in an effort to identify potential areas for truck parking that supplement the limited capacity of existing rest areas. The intent of the project is to identify the approximate locations where these additional parking facilities are needed. Truck parking is a major issue among truckers and a FHWA study found that Illinois and Indiana have a shortage of truck parking. These additional facilities would come in the form of new facilities or expansion of existing facilities.</p> <p>The scope of the project involves an outreach effort to capture information about the optimal parking locations for truck drivers who need rest stops. The first step is to create a list of potential sites with the input of key trucking association members. This will be accomplished through two workshops and a survey. The first workshop will establish a preliminary list of candidate sites. After the first workshop, a survey will be distributed to all regional trucking association members asking them to prioritize the potential sites based on their needs. The second workshop will then refine the site listing and develop final recommendations.</p> <p>Once those sites are located, the Corridor will perform a feasibility study for the top three potential locations and report the results to the appropriate DOT executives. Based on the industry input from the workshops and survey, and information from the feasibility studies, a list of recommended sites will be proposed for the following Develop and Operate Parking Facilities project to develop more parking facilities at these locations.</p>
Action Items	<ul style="list-style-type: none"> • Conduct two workshops to identify potential sites • Conduct carrier survey to rank sites in importance • Conduct feasibility of priority potential sites • Submit recommendations to DOT Executives
Deliverables	<ol style="list-style-type: none"> 1) Draft listing of potential sites 2) Survey materials and distribution 3) Feasibility study of priority sites 4) Recommendations report

Performance Measures	<ul style="list-style-type: none"> • Number of candidate sites developed • Number of carrier responses received • Percentage of survey responses incorporated into the Develop and Operate Parking Facilities project
Schedule	<p>6 months total</p> <ul style="list-style-type: none"> • 90 days to schedule both workshops and conduct Workshop #1 • 45 days to conduct survey • 45 days to conduct Workshop #2 and produce recommendations • 45 days to conduct feasibility study
Budget	<p>\$30,000 total</p> <ul style="list-style-type: none"> • \$10,000 for both workshops • \$5,000 for survey costs • \$15,000 for three site studies
Projected Operational Savings	<p>This project would precede the “Develop and Operate Truck Parking Facilities” project where public/private partnerships would be encouraged to quickly build operating facilities. Time/cost benefits will be realized with accelerated project development. Savings will be realized in terms of improved accommodations for truck parking without significant additional cost to the public sector. (i.e. public/private partnerships)</p>

Project #7: Develop and Operate Parking Facilities	
Category	Truck Parking Areas
Goal	To increase short term parking availability for trucks
Scope	<p>This project will engage the private sector in finding solutions to the problem of limited truck parking availability. The problem stems from the fact that trips over 10 hours require a driver to take a rest period. Add to that the fact that truck volumes are increasing at about 4% per year, this translates into an increasingly serious truck parking problem at rest areas. During the GCM freight fact finding effort, it was determined that there is a high probability that the private sector might be in a position to address this problem on a for-profit basis. An earlier project, Expanded Parking Facilities, will determine potential locations for new parking areas. This project would then develop facilities at those locations. It is anticipated that the additional truck parking sites could include expansion of existing rest areas, new rest areas at key locations, and new truck-only facilities through leases or franchises to the private sector.</p> <p>The scope of this project begins with a brief search for best practices and examples of successful business models relating to truck parking facilities. This investigation is then followed by a solicitation for proposals (Public/Private Partnership Proposals, or PPPPs). These solicitations may be conducted by ITS Midwest and/or SmartWays Wisconsin. University resources in all three states will also be used to conduct the solicitations. These organizations can solicit and assess the feasibility of proposals in a confidential process. Attractive strategies would then be submitted to the DOT agencies in the form of generic recommendations without violating the confidentiality of proprietary information. The DOTs can then publish requests for proposals in a formal bidding process.</p> <p>While these types of relationships are not easy to arrange, there can often be substantial benefits possible in the form of rapid deployment time, capturing private sector technical expertise, and significant cost savings for the public.</p>
Action Items	<ul style="list-style-type: none"> • Literature search of the best public/private partnerships • Literature search for truck parking business models • PPPP solicitation process • Formal contract bidding and negotiation process

Deliverables	<ol style="list-style-type: none"> 1) Best practices report 2) Successful business model report 3) RFP for PPPP 4) Solicitation, review and selection of proposals 5) Negotiated contracts with state agencies
Performance Measures	<ul style="list-style-type: none"> • Number of proposals submitted • Number of additional parking stalls created
Schedule	<p>15 months total</p> <ul style="list-style-type: none"> • 3 months to conduct searches • 6 months to conduct PPPP solicitation process • 6 months to negotiate contracts
Budget	\$15,000 for technical services
Projected Operational Savings	Time/cost benefits will be realized with accelerated project development. Savings will be realized in terms of improved accommodations for truck parking without significant additional cost to the public sector. (i.e. public/private partnerships)

Additional Freight Initiative Project Concepts

Project	Category	Description
Data Filtering/Fusing Delivery Mechanism	CVO Travel Information	This project seeks more effective ways to filter and convert existing GCM data into useful information that is delivered to truckers and dispatchers.
Expand IDOT Travel Alert Subscription Service	CVO Travel Information	The Illinois Department of Transportation is currently in the beta testing stage of rolling out a new subscription service for traveler information. This project would include carrier firms in this evaluation and would expand the program to include Indiana and Wisconsin.
Advanced Parking Notification	Truck Parking Areas	This project would build upon recent IDOT work that tracks the availability of parking at specific rest areas and then informs upstream truckers at a point where they still have other options when the rest areas are occupied.
Identify Queue-Jumping Segments	Truck Only Lanes	Queue jumping segments are short lengths of electronically tolled roadway that enable a driver to quickly bypass bottleneck segments. This project would identify candidate sites and produce a high level feasibility analysis for each.
Dedicated Truck Only Lanes	Truck Only Lanes	This project would conduct the preliminary analysis needed to move forward with dedicated truck only lanes.
US 41 Weigh Station in Milwaukee	Weigh Stations	This project identifies short term (ITS) and long term (geometric) countermeasures for the ramp interfaces at the US 41 Weigh Station in Milwaukee. It also includes implementing the short term solutions and submitting the long term solutions to the Wisconsin long range planning system. This could have applications for weigh stations in other GCM states.
WiFi Internet Access at Rest Areas	Truck Parking Areas	This project would build upon recent IDOT work and instrument the appropriate GCM rest areas with WiFi Internet capability.
Vehicle Probes	CVO Travel Information	This project would evaluate the deployment of evolving cellular phone technologies that produce travel time data by tracking cellular phone movements. Ideally it would include a demonstration project.

Truck Idling and Energy Management Enhancements	Truck Parking Areas	To reduce idling truck emissions and improve air quality at rest areas, this project would establish electrical hookups and an appropriate business model to support that operation.
Alternate Route Information Delivery	Road Work Zones	This project establishes a GCM annual process of developing alternate route information incorporating roads that do not have restrictive size/weight regulations. This list is then furnished to trucking industry associations for their electronic distribution.
GCM Project Staging Oversight Committee	Road Work Zones	This project establishes a GCM subcommittee to monitor regional agency capital improvement programs in order to identify potential conflicts for construction traffic.
Virtual Weigh Stations	Weigh Stations	This project establishes a formal “starter system” of Virtual Weigh Stations in all three states by building a central operating system for each state and then incorporating existing weigh-in-motion scales.
Best Practices in Permitting	Oversize - Overweight Regulations	This project seeks to upgrade permitting practices in all three GCM states to improve accessibility. The project identifies best practices and promotes consistency across the three states.
Best Practices in Work Zones	Road Work Zones	This project matches effective ITS tools and practices that can improve traffic flow and safety through work zones with larger work zones in the GCM Corridor. Reduced congestion in work areas will facilitate the movement of trucks through work zones and lead to expedited and more predictable delivery times.
Targeted Rideshare Services Campaign	Road Work Zones	This project commissions rideshare marketing campaigns specifically designed to target motorists using major GCM work zones to minimize the number of vehicles traveling through those work zones. Reduced congestion in work areas will facilitate the movement of trucks through work zones and lead to expedited and more predictable delivery times.
Standardized Oversize/Overweight Regulations	Oversize - Overweight Regulations	This project would study alternatives for common standard regulations and promote legislative changes to include the recommended standard commercial vehicle regulations across the three states.