CLOSEOUT REPORT

Submitted by the AASHTO TIG Lead States Team for
the following technology:

Grade Crossing Electronic Document Management System (GCEDMS)

Lead States Team Members and Agencies:

Jack Hubbard, Chair, Pennsylvania DOT

Michael Wray, Virginia DOT

Steve Laffey, Illinois Commerce Commission

Andrew (Drew) Thomas, North Carolina DOT

Tom Woll, Federal Railroad Administration (Retired)

Eric Felty, Pennsylvania DOT

Ric Cruz, Moffatt & Nichol
(also representing North Carolina DOT)

Date: August 21, 2012

American Association of State Highway and Transportation Officials
AASHTO The Voice of Transportation

Driving Innovation for Transportation
TIG
AASHTO Technology Implementation Group

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Where the names of products or manufacturers appear herein, their inclusion is considered essential to the objectives of this report. AASHTO does not endorse products or manufacturers.

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Introduction

The responsibility assigned to the GCEDMS Lead States Team was to help streamline grade crossing information management and communication processes across the country by promoting the benefits and use of GCEDMS to all other State DOTs as well as to other transportation agencies.

The GCEDMS Lead States Team met in Harrisburg, PA on January 19-21, 2010 to prepare a Marketing Analysis and a Marketing Plan. The agenda for this meeting is included as Appendix A, and the Marketing Analysis and the Marketing Plan are attached as Appendices B and C, respectively.

This closeout report is divided into five sections:

Marketing Activities
Performance Measurement
Lessons Learned
Transition Plan
Final Expenditure Summary

Marketing Activities

The GCEDMS Lead States Team put together a marketing plan designed to reach out to all State DOT highway-rail crossing inventory contacts and their industry partners within the railroad grade crossing arena. This included Public Utility Commissions, railroad companies, and other organizations and companies that provide railroad related services.

The objective of the GCEDMS Lead States Team was to inform, educate, and provide available resources and information regarding the benefits of implementing a comprehensive cost effective electronic highway-rail grade crossing inventory data information and management system.

Methods of communication used included presentations and/or display booths at various railroad conferences and meetings, participated in a grade crossing webinar, and published trade journal articles, website information, GCEDMS Brochure, online surveys, and a self-guided power point presentation.

Information delivered to the State DOT's and their industry partners included goals for the system, how the system works, the operational benefits and what it can do for them, and why this technology is needed:

1. To maintain up-to-date and accurate crossing inventory data,

2. To improve public safety and assist in reducing the number of needless tragedies at highway-rail crossings,

3. To provide a cost effective internal management tool,

4. To support and improve the DOT National Highway-Rail Crossing file inventory database information,

5. To facilitate compliance with Federal inventory requirements, and

6. To enhance systems (GIS mapping, photographs, report generator, etc.).

Actual and perceived barriers to be overcome to do a trial or to adopt this technology as a standard were identified as:

1. Availability of funding and on-going costs and manpower resources to maintain GCEDMS system,

2. Internal information technology policies, protocols and infrastructure, and

3. Lack of system standardization between the primary stakeholders (States, Railroads, FRA).

Potential partners in marketing this technology include:

1. AASHTO SCOH and subcommittees,
2. State Agencies,
3. Federal Railroad Administration,
4. Manufacturers and developers of existing systems, and
5. Railroad companies.

This report and additional information about GCEDMS are available at http://tig.transportation.org/Pages/GradeCrossingElectronicDocumentManagementSystem.aspx.

Presentations at Conferences and Meetings

Conference or Meeting	Date	Target Audience	Presenter
AREMA Committee 36 Meeting	March 2010	States and Railroads	Tom Woll
Illinois Commerce Commission ICC Rail Section Staff Meeting	March 2010	Illinois State Railroad Safety Specialists	Steve Laffey
TRB Webinar on Rail Crossings	April and August, 2010	Railroad Safety Specialists	Steve Laffey
Regional Highway-Rail Crossing Conferences	Summer 2010	Railroad Safety Specialists	Tom Woll Steve Laffey Ric Cruz
ASLRRA National Conference	May 2010	Shortline Railroad Officials	Tom Woll
2010 Farwest Rail Corridor Safety Conference	June 2010	Railroad Safety Specialists	Steve Laffey Tom Woll Ric Cruz
TRB Annual Meeting Session and Committee Meeting	January 2011	All listed target categories	Steve Laffey
Kansas/Missouri Highway/Rail Safety Conference	March 2011	All listed target categories	Ric Cruz
AASHTO Standing Committee on Railroads (SCORT)	Sept. 2011	Mid-level HQ Managers and Railroad Safety Specialists	Ric Cruz
AASHTO Annual Meeting	Oct. 2011	CEO's and SCOH Members	Exhibit Only
2011 National Highway-Rail Crossing Safety Training Conference	Nov. 2011	All listed target categories	Tom Woll Steve Laffey Ric Cruz Michael Wray
AASHTO Webinar "Data Driven Approach to Crossing Safety"	June 2012	All listed target categories	Ric Cruz Steve Laffey
Southern Crossing Safety Conference	Nov. 2012	All listed target categories	Ric Cruz Michael Wray

**Exhibit booths were arranged for the 2011 National Highway-Rail Crossing Safety Training Conference and the 2011 AASHTO Annual Meeting. The handouts provided at these booths were well-received.*

Publications

Date Produced	Publication Type	Total Number Produced	Recipients and Distribution Method
2010	GCEDMS Background Information	200	Conference Attendees
2010	TRB Webinar	NA	300 attendees and website visitors
2011	PowerPoint Presentations	2	Conference Attendees and Website Visitors
2011	Tri-fold brochure	500	Conference Attendees and Website Visitors
2012	AASHTO Webinar	NA	150 attendees and website visitors
June 2013	Transportation Research Board – TR News	NA	TR News Subscribers/Readers
TBD	ITE Journal	NA	ITE Journal Subscribers/Readers

Performance Measurement

The following table is an analysis of results from the technology experience survey conducted in 2012. The survey was sent to 247 stakeholders, with 44 responses received, representing 34 States.

Survey Information	Pre Lead State Activities	Post Lead State Activities
Number of State agencies indicating use of this technology on a routine or standard basis	11	19
Number of additional agencies that plan to implement this technology	NA	5

Lessons Learned

Effective Tools and Methods

Conference presentations, the discussion periods after presentations, and display booths provided useful information and seemed particularly beneficial to participants. One of the most effective methods was personal contact and interchange of ideas. Identify needs through survey responses.

Unique Tools and Methods

Live demonstration of GCEDMS was done through the use of mobile technology.

An extensive contact list was provided by the FRA.

Visual use of spatial data aerial imagery and ground photographs was quite effective..

Allowing outside access to proprietary GCEDMS test environments for systems analysis proved very helpful to other agencies.

Ineffective Tools and Methods

Streamlining of PowerPoint presentations would have been beneficial.

The effectiveness of handouts, brochures, etc. was questionable.

General Comments

The GCEDMS Lead State Team had regular conference calls throughout period of high activity. LST chair provided conference call minutes afterwards to remind team members of promised activities between conference calls.

Transition Plan

Reference Materials

Reference	URL
AASHTO TIG GCEDMS Website	http://tig.transportation.org/Pages/GradeCrossingElectronicDocumentManagementSystem.aspx
Tri-Fold Brochure	http://tig.transportation.org/Documents/GCEDMS/GCEDMS_brochure.pdf
Initial Survey Results	http://desktop.vovici.com/analysis/generatepublicreport.aspx?esid=313712&subaccountid=30839
Final survey Results	http://desktop.vovici.com/analysis/generatepublicreport.aspx?esid=374543&subaccountid=30839
System Sharing Examples and PowerPoint Presentations in GCEDMS Webpage Library	http://tig.transportation.org/Documents/GCEDMS/GCDEMS%20Online%20Presentation.ppsx

Technology Transfer

Contact	Office Name, Location	Phone	Email
Steve Laffey	TRB Committee on Highway-Rail Grade Crossings, AHB60	217-785-9026	slaffey@icc.illinois.gov

Primary On-going Implementation Responsibility

(

Contact	Committee Name, Organization	Phone	Email
Steve Laffey	TRB Committee on Highway-Rail Grade Crossings, AHB60	217-785-9026	slaffey@icc.illinois.gov

Other Planning Efforts for On-going Implementation

Contact	Committee Name, Organization	Responsibility Discussed and Response
Steve Laffey	TRB Committee on Highway-Rail Grade Crossings, AHB60	Establish a subcommittee on data and models - task to promote GCEDMS

Specific Future Actions

Future Activity	Time Frame	Recommended Organization to Perform
Continued education of interested states	When contacted	Lead States
Any regional conference opportunities	Open	Local State DOT
Establish a subcommittee on data and models	Open	Steve Laffey, Chairman - TRB Committee on Highway-Rail Grade Crossings, AHB60

On the Web

http://tig.transportation.org/Pages/GradeCrossingElectronicDocumentManagementSystem.aspx

Final Expenditure Summary

Total Expenses

$10,100 estimated.

Appendix A: Initial Meeting Agenda

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO
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AGENDA

TIG
DRIVING INNOVATION FOR TRANSPORTATION
AASHTO TECHNOLOGY IMPLEMENTATION GROUP

Initial Meeting
Grade Crossing Electronic Document Management Systems (GCEDMS)
Lead States Team

Pennsylvania Department of Transportation
400 North Street
Harrisburg, Pennsylvania, 17120-0094
January 20-21, 2010

Day 1 - 8:00 P.M. to 4:30 P.M.

Task Assignment **Lead Person**

- Welcome ..... Jack Hubbard
- Self Introductions ..... All
- Review Agenda and Goals of the Meeting ..... Jack Hubbard and Paul Krugler
- QA about the Process ..... Paul Krugler
- TIG Executive Committee Perspective on the Technology and LST Tasks ..... Paul Krugler

Develop Market Analysis (See Chapter 3 and appendix E of the lead states team guidebook for detailed information about what we will need to develop. The Marketing Analysis is largely in simple tabular format.)

We hope to be able to expedite development of the market analysis. The plan is for the chair and facilitator to consolidate all pre-meeting question responses from LST members and provide this consolidated information to team members several days prior to the meeting. Each member will also be asked at that time to take a lead role in preparing one of more of the below listed tables or sections of the plan when we meet in Harrisburg. While the consolidated information should go a long way toward establishing the information needed for each part of the plan, time is allowed on the agenda for each member to obtain additional input from other team members.

- Discussions led by each LST member. (Suggest discussions be limited to 5 to 15 minutes.)
    - Defining the Need for and Benefits Provided by the Technology ..... LST Member
    - Identifying Broad Target Audiences ..... LST Member
    - Identifying Decision Makers ..... LST Member
    - Information Needed by Decision Makers ..... LST Member
    - Identifying Perceived and Actual Barriers to Implementation ..... LST Member
    - Identifying Existing Marketing Opportunities ..... LST Member
    - Identifying LST Partners ..... LST Member

- Optional Breakout Approach – Individual work time (possibly 30 minutes) to prepare draft tables or paragraph based on group discussions. Provide drafts to facilitator to compile into a first draft Market Analysis document during lunch or break.

- Review of draft document by full team, revise as needed, and approve for submission to the AASHTO TIG Executive Committee ……..…..…….……..……..… Jack Hubbard

Develop Marketing Plan (See Chapter 3 and appendices D and F of the lead states team guidebook as well as the Marketing Plan template provided in a separate MSWord document.)

- Select Marketing Methods …… Jack Hubbard and Paul Krugler
    - Rank probable effectiveness of marketing methods and tools. (Consideration should include but is not limited to the methods described in appendix D of the lead states team guidebook.)
    - Compare tentative list of marketing methods to the list of broad target audiences. (Are all audiences adequately addressed using one or more methods?)
    - Compare tentative list of marketing methods to the list of target decision makers. (Do selected marketing methods adequately communicate to all decision makers?)
    - Prioritize perceived and actual barriers to implementation.
    - Prioritize existing marketing opportunities.
    - Compare tentative list of marketing methods to prioritized lists of barriers and opportunities. (Are prioritized barriers adequately addressed by one or more marketing methods, and have marketing methods been selected to take best advantage of existing marketing opportunities?)

- Determine the Message …….……..… Jack Hubbard and Paul Krugler
    - Review information that was gathered while defining the need for the technology. Determine how each need or benefit can best be communicated, and which marketing methods should emphasize or include each need or benefit.
    - Review list of information needed by decision makers. (Assign each information item to each marketing method where it should be part of the message.)
    - Review prioritized barriers and opportunities. (Attempt to address every prioritized barrier and opportunity with factual information and assign information items to appropriate marketing methods.)
    - Review list of partners. Determine how each partner can best assist with the need and marketing methods.

- Determine the Marketing Activities …… Jack Hubbard and Paul Krugler
    - Brainstorm potential marketing activities considering the market analysis, the prioritized barriers and opportunities, the potential marketing methods/tools, and the intended message.
    - Prioritize and select potential marketing activities.
    - Develop the goal and scope of each selected marketing activity.
    - For each selected activity, determine promotional tools and information distribution methods.
    - Decide which LST member will coordinate each selected activity.
    - Show each selected activity as a task in the work plan section of the Marketing Plan. Clearly state the goal and scope of each activity, including planned promotional tools and information distribution methods. Provide adequate detail to substantiate the associated cost estimate in the budget. The last task should be the closeout report. Identify the coordinator for each task.

- Schedule the Marketing Activities ……..……..… Jack Hubbard and Paul Krugler
    - Determine the length of time required for each task and the relative timeline among tasks for the

duration of your LST's activities.

- Place each task in chronological order on the Activity Schedule in the Marketing Plan. A rearrangement of tasks may be required to achieve an appropriate chronological order of tasks. Consider audience and message priorities and continuity when scheduling.

If time permits, proceed to items on the day two agenda.

Adjourn for the Evening

****

Day 2 - 8:00 A.M. to noon.

- Prepare the Budget ……..……..… Jack Hubbard and Paul Krugler
    - Estimate expenditures to accomplish each task. Separately tabulate expenses for which the AASHTO TIG will be invoiced and those that the lead states or other organizations will cover. See appendix F of the lead states team guidebook for the budget worksheet. The final step in the budgeting process is to determine the individual fiscal year budgets by assigning each task's budget or portions of each task's budget to the AASHTO fiscal year into which the activities are planned to occur.
- Develop the Communications Plan ……..……..… Jack Hubbard and Paul Krugler
    - Develop the communications plan by completing the table of information shown in the Marketing Plan template separately provided. Show the offices to be contacted within large organizations. For example, under the category of all AASHTO member agencies, show the offices to be contacted, such as the chief engineers, the state bridge engineers, the state materials engineers, etc.
- Develop the Performance Measurement Plan ……..……..… Jack Hubbard and Paul Krugler
    - Select the means by which the LST plans to determine the degree of success achieved at the end of planned activities by completing the table of information shown in the Marketing Plan template separately provided.

Assemble the Marketing Plan

- Assign LST members to prepare each section of the Marketing Plan in final form as may still be needed. ……..….. Jack Hubbard
- Individual work time, as needed, to prepare draft sections of the plan based on earlier team discussions. Provide drafts to LST Chair or facilitator to compile into a first draft Market Plan document. ……..…..…….……..… All
- Full LST review, revision, and approval of the proposed Marketing Plan to be submitted to the AASTHO TIG Executive Committee. ……..……..……..….. Jack Hubbard

Travel Claim Submittal Guidance ……..……..... Paul Krugler

Next Steps for the LST Team ……..……. Jack Hubbard and Paul Krugler

Adjourn

Appendix B: Marketing Analysis

AASHTO TIG
Lead States Team
Marketing Analysis

for

GRADE CROSSING ELECTRONIC DOCUMENT MANAGEMENT SYSTEM (GCEDMS)

January 21, 2010

MARKETING ANALYSIS

What is the need for this technology?

1. Inventory Requirements:
    a. Rail Safety Improvement Act of 2008 (RSIA 2008) requires Railroads and States to update the National File.
    b. An accurate inventory is required in support of the Emergency Notification System (ENS) for posting toll-free telephone numbers to report problems in emergencies.
    c. Ability to address the FRA Safety Advisory 2009-03 issued by the National Transportation Safety Board (NTSB) pertaining to identifying and documenting "Hump Crossings".
    d. Accurate crossing inventory and data is essential to the Federal Railroad Administration's (FRA) Web Accident Prediction System (WBAPS) generated reports. These reports list at-grade crossings with their ranking value of predicted collisions per year, which is used in determining and prioritizing crossing locations for safety improvements.

2. National Inventory:
    a. Provides a consistent national inventory of all highway-rail crossings that contains current and accurate information.
    b. Allows for crossing inventory data fields to be maintained and uploaded to the National File.
    c. Will minimize internal system data discrepancies.
    d. Reconciliation of your data with US DOT National File.
    e. Simplifies the process of exchanging data to the FRA and railroads.
    f. Simplifies how crossing updates are stored and transferred to and from the FRA through the system

3. Enhancements/Benefits:
    a. Crossing locations (via lat/long) linked to a GIS mapping system
    b. Photographs of the crossings.
    c. Used to run reports generators.
    d. Provides direct links to other references MUTCD, US DOT WBAPS, etc.
    e. Improved Public Safety.
    f. Being able to add enhancements.

4. Management Tools:
    a. Project Management tool that allows for the efficient and effective management, planning, and document storage of Railroad Crossing projects (Ex. Section 130).
    b. Project/funding tracking.
    c. Project prioritization and selection process when approving the use of Federal funds for Section 130 projects.
    d. Transferring electronically various railroad forms to our railroad business partners.
    e. Validation/Justification of Crossing Safety programs (Funding).
    f. Moving from electronic document storage to information management and analysis.

5. Cost Effectiveness:
    a. Significantly reduced travel costs to grade crossing sites to make decisions.
    b. This is a move toward becoming a greener public agency. Reduced paper and reduced emissions (from reduced travel).
    c. Reduced legal inquiries if data is made public.
    d. Cost effectiveness of public funding, best use of limited funding.
    e. Use by external partners (Ex. FHWA, Railroads, and PUC).
    f. Locations that pose geometric challenges to low ground clearance challenged vehicles, such as "Humped" rail crossings, could be linked via GIS coordinates to truck route mapping software and other computer assisted dispatching. In addition, school bus, hazmat and EMS vehicles.

Who are the broad target audiences for the LST?

Agency	Primary Target	Secondary Target
State DOTs	X	
State public railroad commissions and bureaus	X	
Railroad Companies (Class I)	X	
Federal Railroad Administration (FRA)		X
Federal Highway Administration (FHWA)		X
Railroad Companies (Shortline and Regional)		X
AAR – Association of American Railroads		X
ASLRRA – American Shortline and Regional Railroad Association		X
AREMA – American Railway Engineers and Maintenance of Way Association		X
APTA – American Public Transit Association		X

Who are the decision makers in the primarily targeted agencies?

Agency	Decision-making Office
State DOT	Top State DOT Executives and Administrators
	HQ Division Managers
	Chief of Utilities and ROW Section (responsible for grade crossings)
	Grade Crossing Engineer
	Level that determines the distribution of Section 130 Funding
State public railroad commission or bureau	Commissioners
	Executive Director
	Chief Information Officer
	Transportation Bureau Chief
	Railroad Safety Specialist
Class I Railroads	Director of Public Works
	Public Project Engineer

What information will decision makers want to know to reach a conclusion about trying or adopting this technology?

Information	Interest Level	
	Critical	Desirable
System cost information: • Implementation cost • Maintenance cost • How long will it take to recoup system cost through savings being obtained?	 X X X	
System benefits information: • Optimized traveling public safety • Reduced organizational risk • Scalable • Facilitates users meeting required deadlines (compliance) • Assortment of additional functionality is possible	 X X X	 X X
RSIA - 2008 mandatory requirements are met	X	
Will it handle future FRA or rule making requirements?	X	
How is technology available/accessible?	X	
What are system hardware and software needs at the central office and at district offices?	X	
FTE impact	X	
Will system save time for users?	X	
Ease of use	X	
Integration with current state highway inventory systems	X	
Are there political implications? (What do rail companies think about this?)	X	
How can system be used to support our other current DOT systems?		X
Who would be the users and how will system support their job duties?		X
Expected useful life of system		X

What are actual and perceived barriers to be overcome to do a trial or to adopt this technology as a standard?

Barrier	Type	
	Actual	Perceived
Availability of funding to implement	X	
On-going cost and manpower resources to maintain system	X	
Belief that use in my state won't ever recoup cost of building system		X
Question if internal resources are sufficient to justify cost of developing and implementing system	X	X
Belief that system won't improve my business process		X
Users see no value		X
Difficulty in accepting a new way of doing business • Internal • External		 X X
Approval of agency IT management is required	X	
Potential inadequacy of existing internal IT infrastructure to handle new system	X	
Recent upgrades to infrastructure and/or Safety Program not readily compatible with FRA requirements.	X	X
Outdated technology	X	X
Training requirements	X	

What marketing opportunities already exist?

Opportunity	Dates
AREMA Committee 36 Meeting	March 2010
TRB Webinar on Rail Crossings	April and August, 2010
Four Highway-Rail Crossing Regional Conferences	May, May, June, September, 2010
SCOH Annual or Spring Meeting	May 2010, Fall 2010, Spring 2011
ASLRRA National Conference	May 2010
AAR Crossing Committee (Class I)	TBD
AASHTO Standing Committee on Railroads (SCORT)	2010
ITE Annual Conference	Fall 2010
12th International Level Crossings Conference - Tokyo	October 2010
TRB Annual Meeting Session and Committee Meeting	January 2011
National Highway-Rail Crossing Safety Conference	Fall, 2011
Railroad trade journals	Periodic
NHI Training Program	TBD

Who are our potential partners in marketing this technology?

Potential Partner	Possible Supporting Activities
AASHTO Standing Committee on Railroads (SCORT)	TBD
Federal Railroad Administration	TBD
Federal Highway Administration	TBD
State governments that developed technology "in-house"	TBD
Other states with existing systems developed by contractors	TBD
Contract developers of existing systems	TBD
Information technology industry partners	TBD
AAR Crossing Committee (Class I)	TBD
ASLRRA - Class II and III railroad companies	TBD
Engineering consultants contracted for engineering services related to safety program projects.	TBD

Appendix C: Marketing Plan

AASHTO TIG
Lead States Team
Marketing Plan

for

GRADE CROSSING ELECTRONIC DOCUMENT MANAGEMENT SYSTEM (GCEDMS)

Lead States Team:

Jack Hubbard , Chair, Pennsylvania DOT
Steve Laffey , Illinois Commerce Commission
Michael Wray , Virginia DOT
Andrew Thomas , North Carolina DOT
Tom Woll , Federal Railroad Administration
Eric Felty , Pennsylvania DOT
Ric Cruz , Guest
Bryan Larkin , Guest

January 25, 2010

WORK PLAN

Task 1.	Title: **Conduct State and Railroad Surveys.**

Task Description:

Subtask 1.1 Initial Survey	**LST Member(s) to Lead Subtask**
Subtask 1.1.1. - Develop information questions, matrix, and survey. Develop communication delivering survey.	Steve Laffey
Subtask 1.1.2. - Receive input from LST members and revise matrix, question list, and communication method.	
Subtask 1.1.3. - Telephone contacts and then send them the link to the web-based survey. Follow up as needed.	
Subtask 1.1.4. - Place obtained information into matrix.	

Subtask 1.2 Final Survey	**LST Member(s) to Lead Subtask**
Subtask 1.2.1. - Develop information matrix. Develop questions to obtain necessary information to fill in matrix. Develop communication delivering survey.	Michael Wray and Steve Laffey
Subtask 1.2.2. - Receive input from LST members and revise matrix, question list, and communication method.	
Subtask 1.2.3. - Telephone contacts and then send them the link to the web-based survey. Follow up as needed.	
Subtask 1.2.4. - Place obtained information into matrix.	

Task 2.	Title: **Develop Communication Tools**

Task Description:

Subtask 2.1. Comprehensive PowerPoint Presentation	**LST Member(s) to Lead Subtask**
Subtask 2.1.1 - Develop overall PowerPoint content outline, case study content outline, and slide template.	Jack Hubbard
Subtask 2.1.2 - Receive input from LST members and revise.	
Subtask 2.1.3 - Gather and consolidate case studies from four lead states into initial PowerPoint presentation.	
Subtask 2.1.4 - Develop additional presentation content describing survey results, benefits, barriers, etc., and assistance available to other states from LST.	
Subtask 2.1.5 - Review, revision, approval of PowerPoint presentation.	

Subtask 2.2. Trade Journal Article	**LST Member(s) to Lead Subtask**
Subtask 2.2.1 - Identify and prioritize railroad-interest trade journals.	Bryan Larkin and Steve Laffey
Subtask 2.2.2 - Write journal article describing results of LST survey and other selected content for primary target audience (administrators of DOTs and railroads).	
Subtask 2.2.3 - Article review and approval by LST.	
Subtask 2.2.4 - Submit to selected trade journal for early publication.	

Task 3.	Title: **Gather Existing PowerPoint Presentations**
Task Description:	
Gather existing PowerPoint presentations describing individual state systems and have them placed on the AASHTO TIG web site. (Coordinated by Jack Hubbard)	

Task 4.	Title: **Presentations at Conferences and Meetings**
Task Description:	

Attend and give PowerPoint presentations developed in Subtask 2.1 to target audiences. Provide demonstration booth at selected conferences.

Targeted conferences and meetings include:

Conference/Meeting	Location & Date	Target Audience	LST Member to Coordinate with Meeting Chair to get on Agenda
AREMA Committee 36 Meeting	March 2010	States and Railroads	Tom Woll
TRB Webinar on Rail Crossings	April and August, 2010	Railroad Safety Specialists	Steve Laffey
Four Highway-Rail Crossing Regional Conferences	May, May, June, September, 2010	Railroad Safety Specialists	Tom Woll Speakers TBD
SCOH Annual or Spring Meeting	May 2010, Fall 2010, Spring 2011	Top State DOT Administrators	Jack Hubbard
ASLRRA National Conference	May 2010	Shortline Railroad Officials	Tom Woll Speakers TBD
AAR Crossing Committee (Class I)	TBD	Railroad Company Executives	Tom Woll
AASHTO Standing Committee on Railroads (SCORT)	2010	Mid-level HQ Managers and Railroad Safety Specialists	Drew Thomas
12th International Level Crossings Conference – Tokyo (Travel not at AASHTO expense)	October 2010	International government agencies	Steve Laffey
TRB Annual Meeting Session and Committee Meeting	January 2011	All listed target categories	Steve Laffey
National Highway-Rail Crossing Safety Conference	Fall, 2011	All listed target categories	Tom Woll Speakers TBD

Estimated reimbursable travel requirement is one person per conference/meeting with the exception of SCOH Meetings. Budget is based on presenting at approximately 12 conferences/meetings.

Task 5. Title: **Gather Testimonials**

Task Description:

Gather testimonials from State DOT administrators and railroad company executives for use in subtasks 2.1 and 2.2. (Coordinated by LST Chair.)

Task 6. Title: **NHI Training Development**

Task Description:

Provide information to the NHI curriculum developers. (Coordinated by Tom Woll.)

Task 7. Title: **Individual State Outreach and Assistance**

Task Description:

Individual state assistance will be offered during Task 1 survey and Task 4 presentations. States requesting individual assistance will be offered several options:

- Telephone contacts to be made by LST members. Discussions with individual LST members. (All)
- Conference call between LST and selected staff members from requesting state DOT. (Coordinated by LST Chair)
- Webinar for selected staff of requesting state DOT provided by one or more LST members. PowerPoint presentation prepared in subtask 2.1 may be used. (Coordinated by LST Chair)
- One-day visit by one or more LST members selected based on expressed and specific information needs from requesting state. (Coordinated by LST Chair)

Task 8.	Title: **Closeout Meeting and Report**

Task Description:

Review activities and prepare closeout report. (Coordinated by LST Chair)

UREDMS Team Activity Schedule

O	Original Schedule	Revision Date: January 21, 2010
R	Work Completed	
X	Revised Schedule	

Activity	FY 2010																																	
	[redacted]	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*N*	*D*	*J*	*F*	*M*	*A*	*M*																		
Task 1.1.1		**O**																																
Task 1.1.2		**O**																																
Task 1.1.3		**O**																																
Task 1.1.4		**O**	**O**																															
Task 1.2.1																																		
Task 1.2.2																																		
Task 1.3.3																																		
Task 1.4.4																																		
Task 2.1.1		**O**																																
Task 2.1.2		**O**																																
Task 2.1.3		**O**	**O**																															
Task 2.1.4		**O**	**O**																															
Task 2.1.5		**O**	**O**	**O**																														
Task 2.2.1		**O**	**O**																															
Task 2.2.2				**O**																														
Task 2.2.3				**O**	**O**																													
Task 2.2.4				**O**	**O**																													
Task 3.		**O**	**O**																															
Task 4.		**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**																		
Task 5.		**O**	**O**	**O**																														
Task 6.						**O**																												
Task 7.			**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O**																		
Task 8.																																		

COMMUNICATIONS PLAN

Communication Targets	Method(s)	Purpose
SCOH members and other top state agency administrators	SCOH Meeting Presentations, Trade Journal Article, Testimonials	Make aware of benefits available from improved railroad electronic document management and communications with railroad companies. Obtain buy in.
Second-level managers (HQ office chiefs)	AASHTO Subcommittee and Regional Meetings, TRB, Webinars, State Visits	Provide detailed information about options and benefits. Obtain buy in.
State agency railroad safety specialists	Regional Meetings, Conference Calls, Webinars, State Visits	Provide detailed information about options and benefits. Obtain buy in and provide information necessary for initiating detailed planning.
Railroad company executives	Trade journal articles and TRB	Make aware of benefits available from improved railroad electronic document management and communications with State DOT. Obtain buy in.

PERFORMANCE MEASUREMENT PLAN

Performance Measure	Measurement Method
Number of state agencies that have developed this type of system as of the date of the closeout report, relative to the number existing at initiation of the lead states team.	Initial and final surveys of all AASHTO agencies.
Number of state agencies that are planning to develop this type of system as of the date of the closeout report, relative to the number existing at initiation of the lead states team.	Initial and final surveys of all AASHTO agencies.
Number of agencies reporting familiarity with options for GCEDMSs as of the date of the closeout report, relative to the number at initiation of the lead states team.	Initial and final surveys of all AASHTO agencies.

ANNUAL BUDGETS

FY 2010 Annual Lead States Team Budget

Focus Technology: Grade Crossing Electronic Document Management System (GCEDMS)

Budget Period: March 1, 2010 through June 30, 2010

Cost Type / Description	Estimated Non-reimbursed Costs to Lead States	Costs to be Reimbursed by AASHTO	Additional Description	Subtotals of Costs to AASHTO
Labor				
Lead States Team Members				
Others from Lead States				
Other				
Total Labor	$ -			
Expendable Goods & Supplies				
Describe item				
Describe item				
Insert additional goods and supplies rows here				
Total Expendable Goods & Supplies	$ -			$ -
Operating and Other Expenses				
Travel for Task 4 - Conference Presentations		$ 6,750		
Travel for Task 7 - State Assistance		$ 2,700		
Travel for Task #				
Insert additional travel rows here				
Long Distance Telephone Charges				
Reproduction				
Shipping				
Insert additional operating or rental rows here				
Equipment Rental				
Total Operating and Other Expenses	$ -			$ 9,450
Equipment Purchases				
Describe item				
Describe item				
Insert additional equipment purchase rows here				
Total Equipment Purchases	$ -			$ -
Subcontracts**				
Describe subcontract				
Describe subcontract				
Insert additional subcontract rows here				
Total Subcontracts	$ -			$ -
TOTAL LEAD STATES CONTRIBUTION	$ -			
TOTAL AASHTO BUDGET REQUEST FOR THIS FISCAL YEAR				$ 9,450

* AASHTO's fiscal year is July 1 through June 30.

** Subcontracts should be established directly with AASHTO. Contact the AASHTO TIG Program Manager for assistance.

FY 2011 Annual Lead States Team Budget

Focus Technology: Grade Crossing Electronic Document Management System (GCEDMS)

Budget Period: July 1, 2010 through June 30, 2011

Cost Type / Description	Estimated Non-reimbursed Costs to Lead States	Costs to be Reimbursed by AASHTO	Additional Description	Subtotals of Costs to AASHTO
Labor				
Lead States Team Members				
Others from Lead States				
Other				
Total Labor	$ -			
Expendable Goods & Supplies				
Describe item				
Describe item				
Insert additional goods and supplies rows here				
Total Expendable Goods & Supplies	$ -			$ -
Operating and Other Expenses				
Travel for Task 4 - Conference Presentations		$ 6,750		
Travel for Task 7 - State Assistance		$ 8,100		
Travel for Task #				
Insert additional travel rows here				
Long Distance Telephone Charges				
Reproduction				
Shipping				
Insert additional operating or rental rows here				
Equipment Rental				
Total Operating and Other Expenses	$ -			$ 14,850
Equipment Purchases				
Describe item				
Describe item				
Insert additional equipment purchase rows here				
Total Equipment Purchases	$ -			$ -
Subcontracts**				
Describe subcontract				
Describe subcontract				
Insert additional subcontract rows here				
Total Subcontracts	$ -			$ -
TOTAL LEAD STATES CONTRIBUTION	$ -			
TOTAL AASHTO BUDGET REQUEST FOR THIS FISCAL YEAR				$ 14,850

* AASHTO's fiscal year is July 1 through June 30.

** Subcontracts should be established directly with AASHTO. Contact the AASHTO TIG Program Manager for assistance.

FY 2012 Annual Lead States Team Budget

Focus Technology: Grade Crossing Electronic Document Management System (GCEDMS)

Budget Period: July 1, 2011 through June 30, 2012

Cost Type / Description	Estimated Non-reimbursed Costs to Lead States	Costs to be Reimbursed by AASHTO	Additional Description	Subtotals of Costs to AASHTO
Labor				
Lead States Team Members				
Others from Lead States				
Other				
Total Labor	$ -			
Expendable Goods & Supplies				
Describe item				
Describe item				
Insert additional goods and supplies rows here				
Total Expendable Goods & Supplies	$ -			$ -
Operating and Other Expenses				
Travel for Task 4 - Conference Presentations		$ 2,700		
Travel for Task 7 - State Assistance		$ 8,100		
Travel for Task 8 - Closeout Meeting		$ 6,750		
Insert additional travel rows here				
Long Distance Telephone Charges				
Reproduction				
Shipping				
Insert additional operating or rental rows here				
Equipment Rental				
Total Operating and Other Expenses	$ -			$ 17,550
Equipment Purchases				
Describe item				
Describe item				
Insert additional equipment purchase rows here				
Total Equipment Purchases	$ -			$ -
Subcontracts**				
Describe subcontract				
Describe subcontract				
Insert additional subcontract rows here				
Total Subcontracts	$ -			$ -
TOTAL LEAD STATES CONTRIBUTION	$ -			
TOTAL AASHTO BUDGET REQUEST FOR THIS FISCAL YEAR				$ 17,550

* AASHTO's fiscal year is July 1 through June 30.

** Subcontracts should be established directly with AASHTO. Contact the AASHTO TIG Program Manager for assistance.

Appendix D: Semi-Annual Progress Report

Semi-Annual Progress Report

Name of Technology: Grade Crossing Electronic Document Management Systems (GCEDMS)

Period covered by this report: ☒ **February 1 through July 31**
☐ **August 1 through January 31**

Date of this Report: September 8, 2010

1. Activities during reporting period.

Task 1.	*Task Title:* **Conduct State and Railroad Surveys**
Progress: Subtask 1.1 - GCEDMS initial survey (including cover letter, introduction and background sheets, and survey) completed. E-mailed information and link to initial survey to all states contacts, Railroads, and other related business partners on 3/31/10. Received initial results on 4/21/10. Second e-mailing of survey went out on 5/26/10. Obtained a total of 39 responses to the survey.	
Task 2.	*Task Title:* **Develop Communication Tools**
Progress: A GCEDMS webpage on the AASHTO TIG website was created. The webpage is ongoing and it will/does include the following information: Background and benefits for GCEDMS, LST contact information, and a section to link PowerPoint Presentations, Photos, brochures, articles, additional resources, and conferences. Subtask 2.1 - In June two (2) PowerPoint presentations were developed. The main detailed PowerPoint presentation, which contains all of the bells and whistles, was developed for placement out on the AASHTO-TIG website on the GCEDMS webpage. A second streamlined version of the PowerPoint presentation was developed for use at venues such as conferences and seminars. Subtask 2.2 - The LST is in the preliminary phase of developing a Trade Journal Article.	
Task 3.	*Task Title:* **Gather Existing PowerPoint Presentations**
Progress: As the LST obtains copies of States PowerPoint presentations showing their individual GCEDMS systems, they will placed as a link to "PowerPoint Presentations" on the GCEDMS webpage on the AASHTO-TIG website (Ongoing).	
Task 4.	*Task Title:* **Presentations at Conferences and Meetings**
Progress: Over the last several months representatives from the LST have provided GCEDMS presentations at the following conferences/seminars (Ongoing):	

1. 2010 Far West Rail Corridor Safety Conference – June 23, 2010.
2. ICC Rail Section Staff Meeting – March 24, 2010.
3. TRB – March 11, 2010

Task 5.	*Task Title:* **Gather Testimonials**
Progress: Gathered information from various States in the development of the web-version of the GCEDMS PowerPoint presentation for Subtask 2.1. Ongoing in the gathering of information/testimonials for the trade Journal Article for Subtask 2.2.	
Task 6.	*Task Title:* **NHI Training Development**
Progress: None to date.	
Task 7.	*Task Title:* **Individual State Outreach and Assistance**
Progress: LST have offered, while attend conferences/seminars, assistance to those States asking for additional information and/or guidance (Ongoing).	
Task 8.	*Task Title:* **Closeout Meeting and Report**
Progress: None to date.	

2. Activities planned for next reporting period.

Task 1. Subtask 1.1 Initial Survey Completed. Subtask 1.2 Final survey is not until April/May 2012.
Task 2. Subtask 2.1 - PowerPoint Task Completed. Subtask 2.1- Trade Journal Article ongoing. GCEDMS webpage will be updated as needed.
Task 3. Continue to reach out to the States asking for, if available, PowerPoint presentations pertaining to their GCEDMS systems that can be added to the GCEDMS webpage.
Task 4. This task is ongoing. There will be various Conferences/Meetings over the next six months in which a presentation on GCEDMS will be made.
Task 5. This task is ongoing for gathering of testimonials for the Trade Journal Article(s). As additional testimonials/information is gathered by the LST, appropriate information will be added to the web-version of the GCEDMS PowerPoint presentation.
Task 6. This Task will start within the next six months.
Task 7. Individual State assistance is being offered by the LST when the LST attends conferences, seminars, and meetings As contacts are made the LST will offer individual State assistance as outlined in GCEDMS Marketing Plan. This task is ongoing over the next 1+ year.
Task 8. None

3. Requested changes to the approved Marketing Plan, if any.

Requested Change(s):

Briefly describe each change being requested in the approved work plan, communications plan, performance plan, or budget portion of the Marketing Plan.

Task 4 – Presentations at Conferences and Meetings – Remove the 12th International Level Crossing Conference – Tokyo – from the list.

Reason for each requested change(s):

This topic (GCEDMS) was not approved to be on the agenda.

4. Requested change in LST activity termination date, if any.

The requested new termination date for LST activities is**.**

Task 3 - current termination date is April 2010, move to January 2011.

Task 5 - current termination date is May 2010, move to March 2011.

Task 6 - current termination date is July 2010, move to March 2011.

Note: Requested changes in termination date must include the submission of revised or new annual budgets if either a new fiscal year will now be involved or if an existing annual budget will be increased or reduced.

Reason for change:

Task 3 - to allow additional time to gather States GCEDMS presentations.

Task 5 – to allow additional time to gather testimonials for the development of Trade Journal Article(s).

Task 6 – to allow additional time needed for providing information to the NHI curriculum developers.

5. Miscellaneous.

Other relevant information to be reported or requested by the LST to the AASHTO TIG Executive Committee.

N/A

Appendix E: Submitted Journal Article

Grade Crossing Electronic Document Management System – The Web Based Cost Effective Comprehensive Inventory and Project Management System

Highway-rail grade crossings are critical junctures where highways and railways intersect. Between 2006 and 2011, there were 11,118 train-vehicle collisions at highway-rail grade crossings that resulted in 4,637 injuries and 1,403 fatalities to highway users, train passengers and railroad employees. Reducing the number of collisions is an important public policy goal.

One approach to achieving this goal is to maintain the best quality information concerning grade crossing engineering, operational and related safety characteristics available in an easy to use electronic information management system. Such a system can identify high risk grade crossings and assist in managing improvements at those locations to reduce risk and optimize the funding and project management of those improvements.

In order to facilitate the adoption of best practices in Grade Crossing Electronic Document Management Systems (GCEDMS), the American Association of State Highway and Transportation Officials (AASHTO) established a Technology Implementation Group (TIG) to document and promote state of the art grade crossing information systems among the States. AASHTO has identified GCEDMS as a high-payoff, ready-to-use, innovative technology that with its use can be highly beneficial to states and their industry partners.

A GCEDMS is a comprehensive highway-rail grade crossing information system for day-to-day highway-rail crossing inventory data collection and management as specified on the US DOT Inventory Form. The system provides electronic updates to the National Highway-Rail Grade Crossing and Structure Inventory File, facilitating railroad-related internal communications, electronic document storage, and expedited external (inter-agency) communications between the State DOT, Public Utility Commission, Railroad companies, and the Federal Railroad Administration (FRA).

A GCEDMS is typically developed with the highway-rail crossing inventory element as the core "module." Additional data "modules" can be added to handle development of proposed improvement programs, collision tracking, crossing inspections, and GIS mapping. GCEDMS can be internet or intranet based and communicate electronically with all partners in the grade crossing arena (ex. Railroads, PUC, FRA, FHWA). A GCEDMS can incorporate photographs, scanned images of documents, and other "non-data" pieces of information. GCEDMS can be linked into other State DOT systems for the sharing of data.

GCEDMS, as have been developed recently by PennDOT and several other states, have proven to be of great benefit in facilitating internal railroad crossing communications and necessary external communications between the State DOT, the FRA, and railroad companies. Railroad companies are able to securely submit and view documents through the web that pertain to projects in which they are involved.

The TIG executive committee has formed a Lead State Team for GCEDMS. The Team Members - with support from AASHTO staff - include the FRA, Illinois, North Carolina, Pennsylvania, and Virginia. So far the TIG team has conducted a survey of states and railroads identifying the current state of the art, as well as ideal system components. Results of the survey and complete information on the GCEDMS TIG can be obtained at: http://tig.transportation.org/Pages/GradeCrossingElectronicDocumentManagementSystem.aspx

Appendix F: Marketing Media

GCEDMS Brochure
Trade Journal Articles – See Appendix E
PowerPoint Presentation – Title Slide Only (Entire presentation is available on TIG website)
Webpage

AASHTO TIG and GCEDMS

A long standing objective of AASHTO is to assist States in acquiring and developing new technology or engineering procedures. As a result, AASHTO TIG has identified the implementation of a Grade "Highway-Rail" Crossing Electronic Document Management System (GCEDMS) as a high-payoff, ready-to-use, innovative technology that with its use can be highly beneficial to other states and their industry partners.

The TIG executive committee has formed a Lead State Team for GCEDMS. The Team members - with support from AASHTO staff - include the Federal Railroad Administration (FRA), Illinois, North Carolina, Pennsylvania, and Virginia.

Need More Information?

For more information on AASHTO-TIG visit
www.aashtotig.org

In addition the AASHTO-TIG website contains a GCEDMS webpage filled with additional detailed information and available resources, including a GCEDMS Library.
http://tig.transportation.org/Pages/GradeCrossingElectronicDocumentManagementSystem.aspx

AASHTO
THE VOICE OF TRANSPORTATION

TIG

INSIDE BACK

LEAD STATES TEAM

TIG's Lead State Team includes representatives with GCEDMS and crossing inventory experience in their states and the FRA who can assist you with your current system or help you in evaluating the use of this system technology in your State or organization. Let our knowledgeable team members provide you with some insight, guidance, and expertise related to the implementation of GCEDMS. Team members can provide presentations at seminars / conferences, and educate others through webinars.

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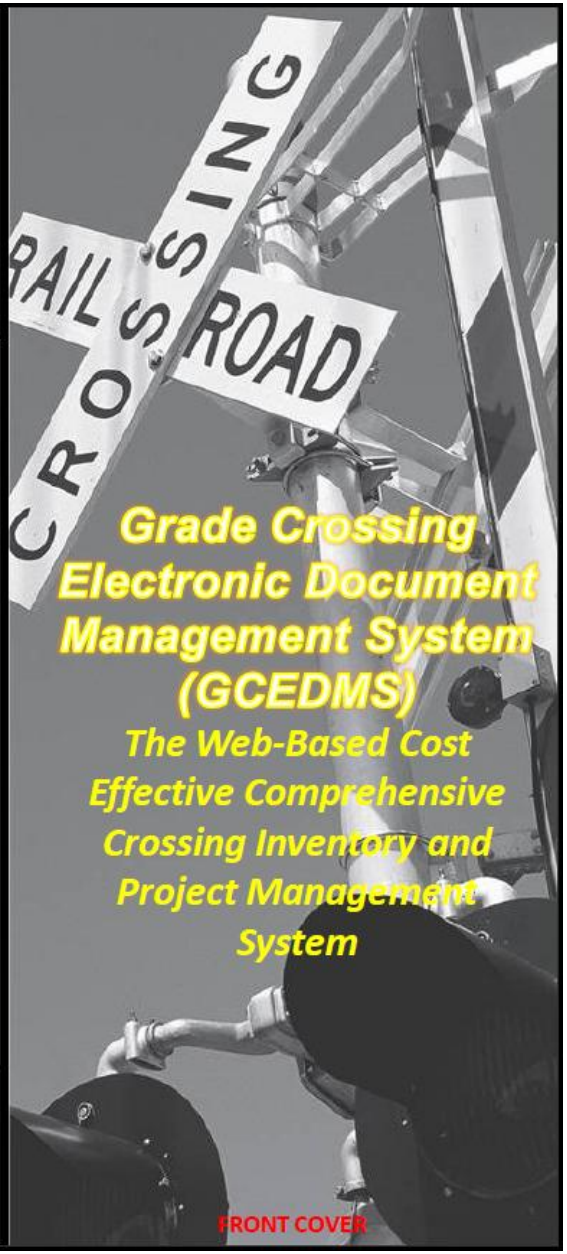
BACK



Grade Crossing Electronic Document Management System (GCEDMS)

The Web-Based Cost Effective Comprehensive Crossing Inventory and Project Management System

FRONT COVER

What is GCEDMS?

GCEDMS is a comprehensive highway-rail grade crossing information system for day-to-day highway-rail crossing inventory data collection and management as specified on the US DOT Inventory form. The system provides electronic updates to the National file, facilitating railroad-related internal communications, electronic document storage, and expedited external (inter-agency) communications between the state DOT, Public Utility Commission, Railroad companies, and the Federal Railroad Administration (FRA).

How does it Work?

GCEDMS is typically developed with the highway-rail crossing inventory element as the core "module". Additional data "modules" can be added to handle development of proposed improvement programs, collision tracking, crossing inspections, GIS mapping. GCEDMS can be internet or intranet based and communicate electronically with our partners in the grade crossing arena (ex. Railroads, PUC, FRA, FHWA).

What else can it Do?

GCEDMS can incorporate photographs, scanned images of documents, and other "non-data" pieces of information. GCEDMS can be linked into other State DOT systems for the sharing of data.

INSIDE LEFT

System Goals:

In addition to supporting highway-rail crossing inventory updates to the National file, GCEDMS can optimize the limited resources available to improve public safety at highway-rail crossings. Each year across the nation hundreds of people are either killed or injured at highway-rail crossings. The use of highway-rail crossing related data and document management system can assist in reducing the number of needless tragedies.

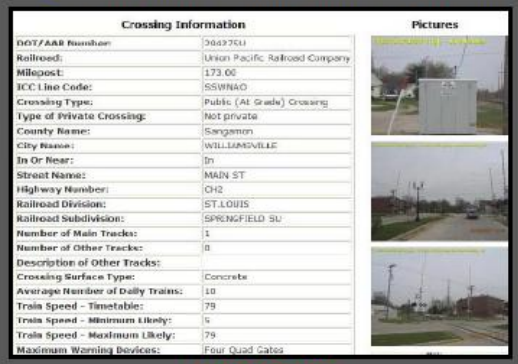
Some of the Benefits:

1. Public Safety and Operational Benefits
2. Facilitated Compliance with New Federal Inventory Requirements
3. Improved National Inventory Information.
4. Improved Internal Management Methods and Tools
5. Cost Effectiveness Improvement

INSIDE MIDDLE

Why is this Technology needed?

1. **Inventory Requirements:**
   - Updates to the National file
   - Accurate inventory - Support for ENS
   - Essential to the FRA Web Accident Prediction System (WBAPS).
2. **National Inventory:**
   - Consistent, current and accurate information
   - Maintain and upload data to the National file
   - Minimize system data discrepancies
   - Reconciliation of State data to National file
   - Simplifies how updates are stored / transferred
3. **Enhancements/Benefits**
   - Lat/Long linkage to GIS mapping system
   - Photographs of crossings
   - Report generator
   - Links to other references (MUTCD, FRA, etc.)
   - Improved Public Safety
   - Add enhancements
4. **Management Tools**
   - Efficient and Effective Project Management
   - Project funding tracking
   - Project prioritization and selection process
   - Transfer and storage of electronic documentation
5. **Cost Effectiveness**
   - Reduce travel time and legal inquiries
   - Reduce paper / reproduction – Going Greener
   - Use by external partners (Railroads, FHWA, etc.)



Crossing Information	
DOT/AAR Number:	364375U
Railroad:	Union Pacific Railroad Company
Milepost:	173.00
ICC Line Code:	SSWNAO
Crossing Type:	Public (At Grade) Crossing
Type of Private Crossing:	Not private
County Name:	Sangamon
City Name:	WILLIAMSVILLE
In Or Near:	In
Street Name:	MAIN ST
Highway Number:	CH2
Railroad Division:	ST.LOUIS
Railroad Subdivision:	SPRINGFIELD SU
Number of Main Tracks:	1
Number of Other Tracks:	0
Description of Other Tracks:	
Crossing Surface Type:	Concrete
Average Number of Daily Trains:	10
Train Speed - Timetable:	79
Train Speed - Minimum Likely:	5
Train Speed - Maximum Likely:	79
Maximum Warning Devices:	Four Quad Gates

Pictures

INSIDE RIGHT


Grade Crossing Electronic
Document Management Systems
(GCEDMS)
AASHTO Technology Implementation Group
Lead States Team

Grade Crossing Electronic Document Management System (GCEDMS)

What are Grade Crossing Electronic Document Management Systems?

Grade Crossing Electronic Document Management Systems (GCEDMS) are typically web-based methods of facilitating railroad-related internal communications, electronic document storage, and expedited external communications between the state DOT, public utility commission, railroad companies, and the Federal Railroad Administration (FRA). Railroad companies typically are able to securely submit and view documents through the web that pertain to projects in which they are involved. These systems may allow electronic submission of rail crossing inventory data as required under recently expanded and clarified FRA highway-rail crossing inventory reporting requirements.

Benefits

Grade Crossing Electronic Document Management Systems (GCEDMS), as have been developed recently by PennDOT and several other states, have proven to be of great benefit in facilitating internal railroad crossing communications and necessary external communications between the state DOT, the Federal Rail Authority (FRA), and railroad companies. Railroad companies are able to securely submit and view documents through the web that pertain to projects in which they are involved. A more detailed listing of benefits made possible by GCEDMS systems is provided below.

1. Public Safety and Operational Benefits:

    a. Public safety at grade crossings is improved through improved planning data.
    b. Grade crossing locations may be linked to a GIS mapping system using latitude and longitude coordinates.
    c. Aerial imagery and ground photographs of the crossings may be stored in the database, reducing need for travel to crossing sites when limited additional information is necessary in the office.
    d. GCEDMS may be used to generate reports for operational use in decision making.
    e. An electronic system can provide direct links to other references such as the Manual of Uniform Traffic Control Devices (MUTCD) and the US DOT Web Accident Prediction System (WBAPS).
    f. GCEDMS allows optimization of the distribution of limited highway-rail crossing safety funds so that they are targeted to the highway-rail crossings that pose the greatest risk to loss of human life and collateral property damage.
    g. GCEDMS systems are flexible enough to allow addition of enhancements.

2. Facilitated Compliance with New Federal Inventory Requirements:

    a. The Rail Safety Improvement Act of 2008 (RSIA 2008) requires railroad companies and states to regularly update the national inventory file. These systems allow automated submission of inventory updates.
    b. An accurate inventory is required in support of the Emergency Notification System (ENS) for posting toll-free telephone numbers to report problems in emergencies.

3. Improved National Inventory Information:

    a. GCEDMS systems allow improvement in consistency of data within the national inventory of highway-rail crossings. National inventory information becomes more current and accurate through automated submission of inventory updates.
    b. State data discrepancies are minimized.
    c. State data, railroad data and US DOT National Inventory File data may be are reconciled.
    d. Exchange of data with the FRA and railroads may be is simplified and expedited.
    e. A simplified method of storing and transferring data to and from the FRA may be is provided.

4. Improved Internal Management Methods and Tools:

    a. GCEDMS is a project management tool that allows for the efficient and effective management, planning, and document storage of railroad crossing project information (Ex. Section 130). Project funding may also be tracked.
    b. Project prioritization and selection processes are facilitated when approving the use of Federal funds for Section 130 projects.
    c. Various railroad forms are immediately available to our railroad business partners.
    d. Facilitated validation and justification of crossing safety programs.
    e. Moving from electronic document storage to data management.

5. Cost Effectiveness Improvement:

    a. Significantly reduced travel costs to grade crossing sites to make decisions.
    b. This is a move toward becoming a greener public agency. Reduced paper and reduced emissions (from reduced travel).
    c. Reduced legal inquiries if data is made public.
    d. Cost effectiveness of public funding is improved, allowing best use of limited funding.

Contacts – Lead States Team

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GCEDMS Library

- Brochure
- Presentations
    - Detailed Presentation
- Additional Resources
    - Survey Results

Webpage link:
http://tig.transportation.org/Pages/GradeCrossingElectronicDocumentManagementSystem.aspx