

SHRP 2 Reliability Project L07

Information Dissemination Plan

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TRANSPORTATION RESEARCH BOARD

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Situational Analysis

The travel time reliability Design Guide and Analysis Tool were developed as SHRP 2 Solutions, designed to assist state and local transportation agencies and private contractors in comparing, evaluating, and selecting design treatments that will reduce nonrecurrent congestion. Both products are intended to be go-to decision-making resources for planning, design, and operations engineers, for developing and managing existing and new roadway systems.

Begun in 2008 as part of the second Strategic Highway Research Program's (SHRP 2) suite of new research, Project L07's objective is to identify the full range of possible roadway design features available to transportation agencies on freeways, design features that reduce nonrecurrent congestion and improve travel time reliability. The research team assessed the costs, operational effectiveness, and safety impacts of each of these features and provided recommendations for their use and eventual incorporation into appropriate design guides. The design features were assembled into a Design Guide, along with procedures for engineers to evaluate and select treatments, as well as case studies of the treatments' use across the country.

In addition to the Design Guide, researchers developed an Analysis Tool that allows inputs of site-specific data to evaluate which treatment would have the best benefit-cost ratio on a given roadway. This Analysis Tool was further enhanced and has become part of the final product offering as a companion to the Design Guide.

Reliability is a new focus area within the transportation industry. SHRP 2 researchers are developing basic analytical techniques, design procedures, and institutional approaches to address unexpected traffic events—such as crashes, work zones, special events and inclement weather—that result in unpredictable congestion and make travel times unreliable.

The Design Guide and Analysis Tool were developed to catalog and analyze the many design solutions available to the transportation community. Until now, these solutions were only being developed and used sporadically. With the Design Guide and Analysis Tool, transportation engineers will have the ability to review a multitude of solutions that have been identified as cost-effective, viable treatments that reduce unexpected travel delays for commuters and freight operators.

This document provides a strategic approach to disseminating the SHRP 2 research results. Sharing these findings broadly will help to promote the adoption of new and established practices across state and local Departments of Transportation (DOTs), and ultimately stimulate the utilization of both the Design Guide and Analysis Tool by transportation engineers throughout the industry.

Approach

The strategic dissemination of Project L07's research results will require outreach to multiple stakeholder groups, with careful consideration of each group's values and needs. Clear messaging and calls to action are critical to effectively engage constituents with various levels of organizational authority and industry influence.

From the initial development of the Project L07 scope of work, it was determined that a successful dissemination plan needed to be developed. This plan had to: (1) provide clear messages about the value of the products; (2) demonstrate how the products help solve problems; (3) increase comfort with adoption of the research recommendations and with use of the products among stakeholder groups; and (4) establish a clear strategy for incorporating the research recommendations and products into current transportation management practices, given restricted budget and staff resources. To respond to these issues, the research team has developed a four-pronged approach that:

1. Provides clear and distinct messages outlining what the products are and how they add value to the target audience;
2. Engages partnerships to help reach a broader audience and add credibility to the research recommendations and products;
3. Delivers effective training for prospective implementers on how to use the products; and
4. Offers a strategy for what target audiences should do with the information.

In addition to this approach, the plan accounts for the overarching activities of the SHRP 2 marketing program. The effectiveness of these activities is, however, dependent upon their concurrent implementation with the overall marketing efforts of SHRP 2.

Goals

The dissemination plan goals are as follows:

1. ***Increase awareness of Project L07's research findings, including the benefits and value of the Design Guide and Analysis Tool within the transportation community.***
2. ***Spur the adoption and integration of the Design Guide and Analysis Tool into policies and standard practice within the transportation community.***

Market Assessment and Key Findings

In order to understand the opportunities and challenges in marketing to the transportation community, the research team conducted a series of market inquiries. As part of this process, the research team:

- Hosted a focus group with key transportation representatives, including DOTs and university researchers, during a two-day workshop in Kansas City, Missouri. The focus group provided in-depth information about the values of the target audience and discussed the benefits and drawbacks of both the Design Guide and Analysis Tool; and
- Conducted in-depth phone interviews with target audience stakeholders from across the country. These conversations helped research team members better understand the characteristics and values of the target market, barriers and aids in communicating about the products, and preferred communications channels.

Taken together, the above-mentioned activities shaped the team's market assessment and led to the identification of two groups as the project's target market. Ultimately, all dissemination strategies will be focused on reaching these groups.

State and Local Transportation Agencies

Includes: state DOTs, tribal transportation organizations, and local and regional authorities, including metropolitan planning organizations, transit agencies, and port and toll authorities.

Private Transportation Planning, Design and Operations Professionals

Includes: design consultants, urban planners, inspectors, Intelligent Transportation System (ITS) professionals, bridge and road builders, driver education programs, transportation service providers and insurance companies.

Key Findings of the Market Assessment

- Travel time reliability is a relatively new concept in transportation. The industry has not wholly accepted it as a valuable focus in roadway development or maintenance. Due to SHRP 2, a broad-scale education and marketing initiative is currently beginning to establish travel time reliability as an essential tenet in transportation management, along with conventional safety and capacity models.
It will be vital to collaborate with SHRP 2's MarCom group to leverage these broader marketing activities.
- State and local DOTs are experiencing multiple pressures resulting from budget constraints and an increasing rate of experienced staff retirements. These pressures are causing DOTs to find ways to be more efficient and to produce results with smaller budgets and less experienced staff. Messages must reflect this sense of "doing more with less." Key points will highlight how these products increase efficiency and maximize budgets.
- The research community is eager to learn more about the findings and products from SHRP 2 and will be a partner in disseminating information throughout the transportation community.

- The endorsement and adoption of the recommended strategies and products by trusted and credible sources like AASHTO, FHWA, and TRB will aid in building credibility and establishing product value. Such endorsements will signal to agency managers that the products are worth additional vetting at the agency level.
- Target audiences are currently skeptical about the actual benefits of new methodologies and tools and will require proof of the solutions working in the field.
- Key association and agency events and electronic publications are valued and credible vehicles for disseminating information about new industry products.

Target Audience Profiles

Below are profiles of each target audience needed to reach the overall target market. These profiles were developed from the market assessment and mirror the SHRP 2 MarCom Market Assessment Findings. Some audiences listed are also part of the overall target market.

State and Local Transportation Agencies

Includes: DOT leadership, DOT directors and middle managers, and DOT technicians—i.e., planning, design, and operations engineers

Values

1. *Products that are recommended by trusted peers, required by management, or backed by proven results; and*
2. *Products that reduce cost, enhance safety, or offer better performance*

Professional Associations

Includes: industry and discipline-based professional organizations such as the Institute of Transportation Engineers, American Society of Civil Engineers, Intelligent Transportation Society, American Public Transportation Association, American Planning Association, as well as state and regionally based trade organizations.

Values

1. *Unbiased products and research they can recommend to their members*
2. *Product recommendations from peer associations*
3. *Products that save time and money*

Private Industry Transportation Professionals

Includes: design consultants, urban planners, inspectors, intelligent transportation system (ITS) professionals, bridge and road builders, driver education programs, transportation service providers, and insurance companies.

Values

1. *Products they can recommend to their clients and use to win more business*
2. *Product endorsements from professional associations*
3. *Products that save time and money*
4. *Products that present the industry in a positive light*

Research Community

Includes: research facilities, laboratories, libraries, university transportation centers, and other universities, both in the United States and abroad.

Values

1. *Credible bodies of knowledge not otherwise available*
2. *Products that are endorsed by their members*

Branding

As a part of the overall SHRP 2 Solutions program, branding for the travel time reliability Design Guide and Analysis Tool must be aligned with the overall SHRP 2 Solutions program brand positioning. As such, all product branding is being designed and provided by the SHRP 2 MarCom group. Please see the SHRP 2 Solutions Strategic Marketing Plan for additional information.

Messaging

Key messages clearly explain the product being promoted; connect it to the target audience's interests; and indicate a set course of action for audience members to take. Once employed, such messages capture audience members' attention; expand their product knowledge and understanding; and can generate positive behavioral change. In keeping with the overall SHRP 2 brand positioning statement, key messages (Table 1) were developed to respond to each target audience's values.

Travel Time Reliability Design Guide and Analysis Tool Product Statement

The travel time reliability Design Guide is a SHRP 2 Solutions decision-making handbook for identifying, comparing, and selecting roadway design treatments that reduce unexpected travel delays. These proven treatments help reduce congestion during unexpected events, like crashes or inclement weather, to improve travel time reliability for commuters and freight carriers. The Design Guide provides a go-to catalog of design treatments, offering transportation planners, designers, and operators the most up-to-date solutions to address specific travel time reliability issues on a given highway segment. As a companion to the Design Guide, the travel time reliability Analysis Tool is a user-friendly program, which helps transportation analysts compare, evaluate, and select the best and most cost-effective treatments using site-specific data.

Table 1. Key Messages by Audience Type

Target Audience	Why It Matters to the Audience	What They Should Do
DOT Leadership	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Bring together cutting-edge transportation expertise, from across the country and internationally, that can be applied in your community • Help state and local transportation agencies better analyze treatments for addressing non-recurrent congestion and improve travel time reliability • Enable planners and engineers to determine the best and most cost-effective treatments to reduce unexpected delays for commuters, travelers, and freight carriers 	<ul style="list-style-type: none"> • Visit SHRP2.org to view a video overview of the Design Guide and Analysis Tool • Host a speaker at your next agency meeting to demonstrate the Design Guide and Analysis Tool • Include the Design Guide and Analysis Tool in your agency's facilities development manual • Make reliability a priority in your agency's decision-making processes • Talk about reliability and the Design Guide and Analysis Tool in your next agency communication (i.e. blog or newsletter)
DOT Directors	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Help planners and engineers determine the best, most cost-effective treatments to reduce nonrecurrent travel delays and increase safety on a given highway segment • Spur inter-agency collaboration to plan, design, and operate safer roads • Offer tested solutions that supplement standard investments in highway capacity and safety • Are vetted and approved by FHWA, AASHTO, and TRB as valuable resources in the next chapter of transportation management • Are a go-to resource for the most up-to-date treatments that increase travel time reliability for commuters, transit riders, and the freight industry 	<ul style="list-style-type: none"> • Host a speaker at your next director's meeting to demonstrate the Design Guide and Analysis Tool • Share your experiences using the guide and Analysis Tool on our webpage at SHRP2.org/Reliability/design-guide • Sign up to be a lead implementation agency for your next planning or design project • Talk about reliability and the Design Guide and Analysis Tool in your next department communication (i.e., e-newsletter or memo) • Make reliability a priority in your department's decision-making processes
DOT Technicians	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Bring together cutting-edge transportation expertise, from across the country and internationally, that can be applied in your community • Save engineers time, by bringing together proven travel time reliability design strategies and application examples for faster, more convenient evaluation • Help technicians evaluate and determine the best solutions based on site-specific characteristics and expected results 	<ul style="list-style-type: none"> • Learn more about reliability, the Design Guide, and Analysis Tool. • Become a reliability champion by encouraging your colleagues to use the Design Guide and Analysis Tool in decision-making processes. Learn more at SHRP2.org/Reliability/guide • Sign up for the travel time reliability workshop or demonstration at your next regional or national transportation conference

Table 1. Key Messages by Audience Type, continued.

Target Audience	Why It Matters to the Audience	What They Should Do
DOT Technicians, continued.	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Provide specific application examples and evaluation criteria for each treatment, allowing transportation engineers to fully integrate these strategies into transportation planning and programming decision-making 	<ul style="list-style-type: none"> • Try it out! Use the Design Guide and Analysis Tool on your next planning or design project. Share your experience at SHRP2.org/reliability/guide
Private Research Organizations	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Are vetted and approved by FHWA, AASHTO and TRB as valuable resources in the next chapter of transportation management • Are a go-to resource for the most up-to-date treatments that increase travel time reliability for commuters, transit riders, and the freight industry 	<ul style="list-style-type: none"> • Learn more. Review the research report and Travel Time Reliability Design Guide at SHRP2.org/reliability/guide • Spread the news! There's a new tenet in transportation management and it's changing everything. Learn more at SHRP2.org/reliability • Prepare the next generation of engineers. Include the reliability research findings and tools in your class curriculum. Visit the website for presentations and demonstration videos.
Professional Associations	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Bring together cutting-edge transportation expertise, from across the country and internationally, that can be applied in your community • Are vetted and approved by FHWA, AASHTO and TRB as valuable resources in the next chapter of transportation • Save engineers' time, by bringing together proven travel time reliability design strategies and application examples for faster, more convenient evaluation 	<ul style="list-style-type: none"> • Spread the news! There's a new tenet in transportation management and it's changing everything. Learn more at SHRP2.org/reliability • Encourage your members to sign up for the travel time reliability workshop or demonstration at your next regional or national transportation conference • Host a speaker at your next meeting to demonstrate the Design Guide and Analysis Tool
Private Transportation Planning, Design and Operations Consultants	<p>The Design Guide and Analysis Tool:</p> <ul style="list-style-type: none"> • Help planners and engineers decide the best, most cost-effective solutions to reduce nonrecurrent travel delays and increase safety on a given highway segment • Are a go-to resource for the most up-to-date treatments that increase travel-time reliability for commuters, transit riders, and the freight industry 	<ul style="list-style-type: none"> • Learn more about reliability, the Design Guide and Analysis Tool. • Become a champion, encourage your clients to use the Design Guide and Analysis Tool in decision-making processes. Learn more at SHRP2.org/Reliability/guide • Try it out! Use the Design Guide and Analysis Tool on your next planning or design project. Share your experience at SHRP2.org/reliability/guide • Sign up for the travel time reliability workshop or demonstration at your next regional or national transportation conference

Guiding Strategies

The following guiding strategies, and the tactics that support them, are designed to provide specific approaches to achieve each goal.

1. *Develop and use partnerships to reach key stakeholders and share research findings, the Design Guide and Analysis Tool.*
2. *Utilize established information channels to share and promote the use of research recommendations, specifically the Design Guide and Analysis Tool*
3. *Enlist “champions” to advocate for the adoption and use of the Design Guide and Analysis Tool within stakeholder organizations*
4. *Educate and train technical engineers on the effective implementation of research recommendations and use of the Design Guide and Analysis Tool*
5. *Monitor and evaluate the incorporation and use of the Design Guide and Analysis Tool throughout the transportation community*

It is important to note that all product-specific marketing efforts will require a close partnership with the SHRP 2 MarCom group. All efforts will be more effective if they are: (1) implemented in conjunction with major milestones in the reliability focus area; (2) coordinated with other reliability education and training activities; and (3) presented, along with other SHRP 2 Solutions, as the next step in standardizing travel time reliability as a core tenet within transportation management.

Dissemination Tactics

Goal 1: Increase awareness of research findings, including the benefits and value of the Design Guide and Analysis Tool within the transportation community

Guiding Strategy 1	Develop and use partnerships to reach key stakeholders and share research findings, the Design Guide and Analysis Tool
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Recommended Tactics

Build Support Base

Connect with key stakeholders in the research community to present research findings and demonstrate use of the Design Guide and Analysis Tool— i.e., university transportation research departments and AASHTO’s Research Advisory Committee. Enlist their help in publicizing the value of the products. Use the SHRP2.org website to accept requests for presentations and comments. Encourage the research community to provide feedback on the research and to participate in area workshops and demonstrations. Post a map of lead implementation agencies and encourage peer-to-peer exchanges about the use of the tools. Provide a case-by-case scenario for the operations strategies and design assessment options to further explain how the tools can be utilized.

Develop Partner “Champions”

Identify “champions” within partner organizations (i.e. AASHTO’s implementation committee, university researchers etc.) to spur discussions about the Design Guide and how it is a valuable resource within the industry. Provide champions with a toolkit of communications materials to share with their colleagues, including: product one-sheets, case studies from lead implementation agencies, and customizable presentation templates. Provide champions with training on the effective use of the tools. Highlight the activities of the champions, such as efforts in newsletter releases and website or social media posts. (For example: “Congratulations to this agency for successfully integrating the travel time reliability Design Guide and Analysis Tool in their roadway planning process.”)

Select Pilot Sites and Lead Implementer Agencies

Identify lead implementing agencies to pilot the use of the Design Guide and Analysis Tool. Develop implementation case studies from these pilot sites; including testimonials, updates, and results achieved. Post case studies and information on the website and in various newsletters and journal articles.

Guiding Strategy 2

Use established information channels to share and promote use of the research recommendations, specifically the Design Guide and Analysis Tool

Recommended Tactics

Develop Marketing Materials

Create product one-sheets, research trading cards, a training presentation template, a research reporting presentation template, brochures, conference post-card mailers, case studies, a media kit, website content, and an executive summary of the research report. Develop a case-by-case scenario for the operations strategies and design assessment options to further explain how the tools can be utilized. These materials will be used to communicate to target audiences and can be disseminated by champions.

Produce a Video Overview and Demonstration

Develop a video overview and demonstration of the Design Guide and Analysis Tool. Post on SHRP 2 and other partner YouTube channels and websites. Use the video during exhibits, conference presentations, and training sessions as appropriate.

Encourage Peer-to-Peer Exchanges and Poster Presentations

Host peer-to-peer exchanges and/or poster presentations during national and regional meetings to share findings, demonstrate the use of the guide, review lead implementer experiences, and gain feedback from peers.

Present at Meetings and Conferences

Face-to-face meetings are a mainstay within the transportation community and are very effective for disseminating information about new products and processes. Conduct presentations at regional or local conferences, director’s meetings, and agency meetings. Provide an overview of the research problem and findings, demonstrate the Analysis Tool, and review the Design Guide. Additional features should include: case study sheets, treatment case study videos, and testimonials from lead implementing and pilot organizations.

Engage Credible Information Publications

Utilize established and trusted information channels (Table 2) to disseminate information about the launch of and updates to the Design Guide and Analysis Toolkit, including:

Table 2. Existing Dissemination Channels

Organization	Information Dissemination Channels
FWHA	eNews and Every Day Counts emails, online magazines, Transportation Planning Update Newsletter, FastLane Blog (from Ray LaHood), Facebook, Twitter, LinkedIn, YouTube channel
AASHTO	Transportation TV News, Daily Transportation Update email, SHRP 2 website page, Mobile App, various email newsletters, Facebook and Twitter pages
TRB	Monthly Inside Scoop email, SHRP 2 eNews, <i>TR News Magazine</i> , Facebook, Twitter and LinkedIn pages
Institute of Transportation Engineers	<i>ITE Journal</i> , ITE Connect e-newsletter, website community blogs, Facebook, Twitter, LinkedIn pages
SHRP2.org	Website and other publications as developed

Host Product Overview Webinars

Host periodic webinars to give an overview and demonstrate the use of the Design Guide and Analysis Tool. Use webinars to enlist interested professionals to sign up on the website. Answer any questions and direct participants to resources to obtain actual copies of the Design Guide and Analysis Tool.

Speakers Bureau

Develop a product-based speakers bureau. Speakers will be trained and knowledgeable about the Design Guide and Analysis Tool, case studies, research recommendations, and policy implications for state and local DOTs. Utilize speakers for conference presentations and training sessions. Accept sign-ups online at SHRP2.org. Enlist champions to participate in a speakers bureau.

Publish Report

Publish a report of the research findings and email it to key state and local DOT directors. Provide the report to national organizations for inclusion on SHRP 2 webpages, including the TRB Bookstore (<http://books.trbbookstore.org>). Promote reviews of the report through links in e-newsletters, flyers, social media posts, and articles, and mention the report at all face-to-face presentations.

Social Media

Develop a @SHRP2RelDesign twitter page. Use the twitter page to post information about the Design Guide, case studies, answer questions from technicians, share additional SHRP 2 information, and post upcoming presentations and trainings. Utilize existing SHRP 2, AASHTO, TRB, FHWA, and ITE social media outlets to share messages about the tools. Develop sample Twitter- and Facebook-friendly posts and promotional cover photos to encourage distribution by communications partners.

Goal 2: Spur the adoption and integration of the Design Guide and Analysis Tool into policies and standard practice within the transportation community

Guiding Strategy 3	Enlist “champions” to advocate for the adoption and use of the guide and Analysis Tool within stakeholder organizations
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Recommended Tactics

Make Signing Up Easy

Post a sign-up on the [SHRP2.org/Reliability/Design-Guide](https://shrp2.org/Reliability/Design-Guide) for champions, potential lead states, and other interested engineers to receive more information and training on how to promote the guide’s use within their organizations or agencies. Offer incentives for champions to sign up, i.e., paid registration to a conference to participate in a demonstration or workshop

Assist with Design Manual Integration and Identify Liaisons

Assist with the development of design manuals. Write a sample facilities development manual chapter for inclusion in agency policy manuals. Assign a dedicated liaison to each interested state to assist with technical challenges in adopting the tools and recommendations into agency policy. Liaison will provide resources, answer questions, and assist with technical writings.

Guiding Strategy 4	Educate and train technical engineers on the effective implementation of the research and use of the Design Guide and Analysis Tool
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Recommended Tactics

Provide Product Training Webinars

Partner with training organizations and institutes to conduct usability trainings. Potential partners include: National Highway Institute (NHI) Operations Academy, through the FHWA Resource Center, and the Institute of Transportation Engineers (ITE) Professional Development Program. Offer continuing education and professional development credits to participants.

Produce Video Case Studies

Develop a video case study companion for the guide that demonstrates case studies, including video of specific treatments and how the Design Guide and/or Analysis Tool were used to evaluate and select the treatment based on site-specific characteristics and expectations. Include testimonials from professionals who participated in the evaluation and document the results of the treatment.

Recommended Tactics**Conduct Online Evaluations**

Send email questionnaires and polls to stakeholders periodically, to determine what changes in perception have occurred regarding the use of the Design Guide and Analysis Tool. Post a comment form on the website to capture any additional feedback from professionals. This form should remain on the site as a go-to resource for commenting and receiving implementation help, if needed. Post periodic poll questions on the website and social media pages. Request feedback in communications, i.e., articles and brochures.

Quantify Reach

Continuously track the number of attendees at workshops, training sessions, and webinars. Provide speakers and trainers with a standard evaluation form that tracks attendance, audience questions, and feedback, and any follow-up needed.

Monitor Adoption Rates

Ask stakeholders to provide feedback on their experience using the Design Guide and Analysis Tool. Post an email address or comment form on the [SHRP2.org/Reliability/Travel-timeGuide](https://shrp2.org/Reliability/Travel-timeGuide) web page. Post a tab on the website for professionals who are planning to test the Design Guide and Analysis Tool on their next project. Monitor hits to this tab and actual registrations and sign-ups.

Consistent Updates

Coordinate with the SHRP 2 MarComm group to post updates and encourage use of the Knowledge Transfer System and website. On the website, utilize a users forum to provide additional updates and case studies for the new tool. Post newer versions of the tool on the [SHRP2.org/reliability](https://shrp2.org/reliability) website and include announcements of and links to these new editions via the various outreach communications.

Next Steps

- Finalize and approve the Design Guide and Analysis Tool
- Approve the Information Dissemination Plan
- Identify the group responsible for implementation
- Align the dissemination schedule with Implementation Committee product prioritization schedule
- Collaborate with the SHRP 2 MarCom group for overall marketing activities
- Develop communication materials
- Upon SHRP 2 approval, implement strategies and metrics as approved

Conclusion

This product dissemination plan is intended to be a guide on how to increase awareness, interest, and acceptance of the travel time reliability Design Guide and Analysis Tool within the transportation community. As a working document, this plan is open for updates as market forces shift and priorities become clearer. The research team recommends a periodic review of this document to ensure it includes up-to-date media references and opportunities for disseminating product information. In addition, as strategies are evaluated, updates should be made as needed.

Appendix A: Dissemination Tactics by Phase

PHASE 1

PHASE 2

PHASE 3

Tactic	Activity	Tactic	Activity	Tactic	Activity
Develop Marketing Materials	<ul style="list-style-type: none"> Design and publish product one-sheeters, training presentation templates, research reporting presentation templates, brochures, conference post card mailers, case studies, media kits, website content, and an executive summary of the research report. 	Engage Credible Information Publications	<ul style="list-style-type: none"> Utilize established and trusted information channels to disseminate information about the launch of and updates to the Design Guidebook and Analysis Toolkit. 	Host Product Overview Webinars	<ul style="list-style-type: none"> Host periodic webinars to give an overview and demonstrate the use of the Design Guidebook and Analysis Tool. Use webinars to enlist interested professionals to sign up on the website. Answer any questions and direct participants to resources to obtain actual copies of the guide and Analysis Tool.
Publish Report	<ul style="list-style-type: none"> Publish a report of the research findings and email it to key state and local DOT directors. Provide the report to national organizations for inclusion on SHRP 2 webpages, including http://books.trbbookstore.org. Promote reviews of the report through links in e-newsletters, flyers, social media posts, and articles, and mention the report at all face-to-face presentations. 	Present at Meetings and Conferences	<ul style="list-style-type: none"> Conduct presentations at regional or local conferences, director's meetings, and agency meetings. Provide an overview of the research problem and findings, demonstrate the Analysis Tool, and review the Design Guidebook. Include: case study sheets, treatment case study videos, testimonials from lead implementing and pilot organizations. 	Provide Product Training Webinars	<ul style="list-style-type: none"> Partner with training organizations and institutes to conduct usability trainings. Offer continuing education and professional development credits to participants.
Make Signing Up Easy	Post a sign-up form on the SHRP2.org/Reliability/Design-Guidebook for champions, potential lead states, and other interested engineers to receive more information. Offer incentives for champions to sign up, i.e., paid registration to a conference to participate in a demonstration or workshop.	Build Support Base	<ul style="list-style-type: none"> Connect with key stakeholders in the research community to present research findings and demonstrate use of the Design Guidebook and Analysis Tool. Enlist their help in publicizing the value of the products. Use the SHRP2.org website to accept requests for presentations and comments. Encourage feedback on the research and participation in area workshops and demonstrations. Post a map of lead implementation agencies on the website and encourage peer-to-peer exchanges about the use of the tools. Provide a case-by-case scenario for the operations strategies and design assessment options to further explain how the tools can be utilized. 	Conduct Online Evaluations	<ul style="list-style-type: none"> Send periodic email questionnaires and polls to gauge stakeholder perceptions. Post comment form on the website to capture feedback Post periodic poll questions on the website and social media pages. Request feedback in communications, i.e., articles and brochures.

Appendix A: Dissemination Tactics by Phase

PHASE 1

PHASE 2

PHASE 3

Tactic	Activity	Tactic	Activity	Tactic	Activity
Make Signing Up Easy	<ul style="list-style-type: none"> • Post a sign-up form on the SHRP2.org/Reliability/Design-Guidebook for champions, potential lead states, and other interested engineers to receive more information. • Offer incentives for champions to sign up, i.e., paid registration to a conference to participate in a demonstration or workshop. 	Build Support Base	<ul style="list-style-type: none"> • Connect with key stakeholders in the research community to present research findings and demonstrate use of the Design Guidebook and Analysis Tool. • Enlist their help in publicizing the value of the products. • Use the SHRP2.org website to accept requests for presentations and comments. • Encourage feedback on the research and participation in area workshops and demonstrations. • Post a map of lead implementation agencies on the website and encourage peer-to-peer exchanges about the use of the tools. 	Conduct Online Evaluations	<ul style="list-style-type: none"> • Send periodic email questionnaires and polls to gauge stakeholder perceptions. • Post comment forms on the website to capture feedback • Post periodic poll questions on the website and social media pages. • Request feedback in communications, i.e., articles and brochures.
Select Pilot-Sites and Lead Implementer Agencies	<ul style="list-style-type: none"> • Identify lead implementing agencies to pilot the use of the Design Guidebook and Analysis Tool. • Develop implementation case studies from pilot sites; including testimonials, updates, and results achieved. • Post case studies and information on the website and in various newsletters and journal articles. 	Develop Partner champions	<ul style="list-style-type: none"> • Identify champions within partner organizations to spur discussions about the Design Guidebook and how it is a valuable resource within the industry. • Provide champions with a toolkit of communications materials to share with their colleagues, including product one-sheets, case studies from lead implementation agencies, and customizable presentation templates. • Provide champions with training on the effective use of the tools. • Highlight the activities of the champions' efforts in newsletter releases and website or social media posts. 	Assist with Design Manual Integration & Identify liaisons	<ul style="list-style-type: none"> • Research standard facilities development manuals. • Write a sample facilities development manual chapter for inclusion in agency policy manuals. • Assign a dedicated liaison, from the implementation team, to assist each interested state with technical challenges in adopting the tools and recommendations into agency policy. • Provide resources, answer questions, and assist with technical writings.
Produce A Video Overview	<ul style="list-style-type: none"> • Develop a video overview and demonstration of the Design Guidebook and Analysis Tool. ▪ Post video on SHRP2 and other partner YouTube channels and websites. • Use video during exhibits, conference presentations, and training sessions as appropriate. 	Encourage peer-to-peer exchanges and poster presentations	<ul style="list-style-type: none"> • Host peer-to-Peer exchanges and/or poster presentations during national and regional meetings to share findings. • Demonstrate how to use the guidebook, review lead implementer experiences, and gain feedback from peers. 	Quantify Reach	<ul style="list-style-type: none"> • Develop standard workshop attendance forms, including attendance, audience questions, and feedback, and any follow-up needed • Include form in trainer's and speaker's kit • Continuously track the number of attendees at workshops and training sessions,

Appendix A: Dissemination Tactics by Phase

PHASE 1		PHASE 2		PHASE 3	
Tactic	Activity	Tactic	Activity	Tactic	Activity
Social Media	<ul style="list-style-type: none"> • Set up @SHRP2RelDesign twitter page. • Post information about: the Design Guidebook, case studies, Q&A from technicians, retweet SHRP2 information, upcoming presentations and trainings. • Connect with existing partners social media outlets. • Develop sample Twitter and Facebook friendly posts and promotional cover photos to share with partners for distribution. 	Produce Video Case Studies	<ul style="list-style-type: none"> • Produce a video case study companion for the guidebook to demonstrate case studies. • Interview lead implementer agencies to gather stories of successful use of the Design Guidebook and Analysis Tool 	Monitor Adoption Rates	<ul style="list-style-type: none"> • Request stakeholders feedback on their experience using the Design Guidebook and Analysis Tool. • Post an email address or comment form on the SHRP2.org/Reliability/Travel-timeguidebook web page. • Post a tab on the website for professionals planning to test the Design Guidebook and Analysis Tool. • Monitor hits to this tab and registrations
Speakers' Bureau	<ul style="list-style-type: none"> • Encourage “champions” to participate in speakers’ bureau. • Train speakers how to use the Design Guidebook and Analysis Toolkit, • Provide speakers with speaker kit, including: case studies, research recommendations and policy implications for state and local DOTs. • Develop a speakers schedule for conference presentations and training sessions. • Accept sign ups for speakers online at SHRP2.org. 			Consistent Updates	<ul style="list-style-type: none"> • Coordinate with the SHRP2 MarComm group to post updates and encourage use of the Knowledge Transfer System and website. • On the website create and use a “users forum” to provide additional updates and case studies for the new tool. • Post newer versions of the tool on the SHRP2.org/reliability website and include announcements of and links to these new editions via the various outreach communications.

Glossary of Acronyms

AAPA	American Association of Port Authorities
AASHTO	American Association of State Highway and Transportation Officials
DOT	Department of Transportation
FHWA	Federal Highway Administration
ITE	Institute of Transportation Engineers
ITSA	Intelligent Transportation Society of America
MPO	Metropolitan Planning Organization
NHTSA	National Highway Traffic Safety Administration
RAC	Research Advisory Committee (AASHTO)
SCOR	Standing Committee on Research (AASHTO)
TransComm	Subcommittee on Transportation Communications (AASHTO)
TRB	Transportation Research Board
UTC	University Transportation Center

Appendix B: Dissemination Tactics by Audience

Target Audience	Tactic	Activity	Stakeholder Organizations	Role of organization	Level within Organization
DOT Leadership DOT Directors DOT Technicians Private Consultants Professional Assoc. Research Orgs.	Develop Marketing Materials	Design and publish product one-sheets, training presentation templates, research reporting presentation templates, brochures, conference post card mailers, case studies, media kits, website content, and an executive summary of the research report.	L07 Implementing team; ITE; AASHTO; FHWA; TRB; US, State, & Local DOTs; AASHTO; MPOs; AAPA; UTCs	Understand the value of SHRP2 L07 products Distribute materials to key audiences	AAPA—Technical Committees
					ITE—Technical Councils and Chapters
					Communications staff/committees
					UTC—Director
DOT Leadership DOT Directors Research Orgs.	Publish Report	Publish a report of the research findings and email it to key state and local DOT directors.	Research team; TRB; AASHTO; FHWA; ITE	Host publication and distribute through existing channels	FHWA—Division Office staff members
		Provide the report to national organizations for inclusion on SHRP 2 webpages, including http://books.trbbookstore.org .			ITE—Technical Councils and Chapters
		Promote review of the report through links in e-newsletters, flyers, social media posts and articles and mention the report at all face-to-face presentations, i.e. AASHTO publications subscriptions list. http://research.transportation.org/Pages/Publications-Subscriptions.aspx		Promote publication to key audiences	TRB—Standing Committee—Research
					AASHTO—SCOR, RAC, TransComm and Technology Implementation Group
DOT Directors DOT Technicians Private Consultants Professional Assoc.	Make Signing Up Easy	Post a sign-up form on the SHRP2.org/Reliability/Design-Guidebook for champions, potential lead states, and other interested engineers to receive more information.	L07 Implementing team; ITE; TRB; AASHTO; ITSA	Encourage audiences to sign up as champions	Communications staff/committees
		Offer incentives for champions to sign up, i.e., paid registration to a conference to participate in a demonstration or workshop.		Connect to SHRP2.org website	ITE—Chapters
					AASHTO—TransComm ITSA—state chapters
DOT Leadership DOT Directors DOT Technicians Private Consultants	Select Pilot Sites / Lead Implementer Agencies	Identify lead implementing agencies to pilot the use of the Design Guidebook and Analysis Tool.	L07 Implementing team; research team; U.S., state, & local DOTs	Connect with agencies to encourage piloting guidebook and tool	DOT directors and leadership
		Develop implementation case studies from pilot sites; including testimonials, updates, and results achieved.		Identify potential projects to be piloted	
		Post case studies and information on the website and in various newsletters and journal articles.		Understand the value of L07 products and how to implement them	

Appendix B: Dissemination Tactics by Audience

Target Audience	Tactic	Activity	Stakeholder Organizations	Role of organization	Level within Organization
DOT Directors DOT Technicians Professional Assoc. Private Consultants	Produce A Video Overview	Develop a video overview and demonstration of the Design Guidebook and Analysis Tool.	L07 Implementing team; AASHTO; FHWA; U.S., state, and local DOTs	Share video with target audiences	DOT—directors and technicians AASHTO—SCOR, RAC, TransComm
		Post video on SHRP 2 and other partner YouTube channels and websites.		Participate in production of video content	FHWA—Office of Administrator—Research, Planning, Operations, and Safety; Office of Public Affairs
		Use video during exhibits, conference presentations, and training session as appropriate.			
DOT Technicians Private Consultants Professional Assoc. Research Orgs.	Social Media	Set up @SHRP2RelDesign twitter page.	L07 Implementing team; ITE; AASHTO; TRB; FHWA; U.S., state, and local DOTs	Share communication from implementing teams	All—Communication staff / committees
		Post information about: the Design Guidebook, case studies, Q&A from technicians, retweet SHRP2 information, upcoming presentations, and trainings.			
		Connect with existing partners on social media outlets.			
		Develop sample Twitter- and Facebook-friendly posts and promotional cover photos to share with partners for distribution.			
DOT Technicians DOT Leadership DOT Directors Research Orgs. Private Consultants	Speakers Bureau	Encourage champions to participate in a speakers bureau.	L07 Implementing team; U.S., state, & local DOTs; ITE; FHW; AASHTO	Participate as a speaker	ITE—Technical Councils; Chapters
		Train speakers how to use the Design Guidebook and Analysis Toolkit.		Invite speakers to various meetings and events Commit needed resources for speakers to participate (i.e., time away from work; venue from training)	DOT—Technicians FHWA—Divisional Office staff members AASHTO—SCOR, RAC, TransComm
		Provide speakers with speaker kit, including: case studies, research recommendations, and policy implications for state and local DOTs.			
		Develop a speakers' schedule for conference presentations and training sessions.			
		Accept sign-ups for speakers online at SHRP2.org.			
DOT Technicians Private Consultants Professional Assoc. Research Orgs.	Engage Credible Information Publications	Utilize established and trusted information channels to disseminate information about the launch of and updates to the Design Guidebook and Analysis Toolkit.	L07 Implementing team; AASHTO; TRB; FHWA; ITE; ITSA; UTCs	Provide access to communication channels and distribute information	ALL—Communications staff/committees
DOT Leadership DOT Directors DOT Technicians Private Consultants Professional Assoc. Research Orgs.	Present At Meetings And Conferences	Conduct presentations at regional or local conferences, director's meetings, and agency meetings.	L07 Implementing team; Research team; U.S., state, & local DOTs; ITE; ITSA; UTCs	Provide L07 Implementing team with information about upcoming meetings	DOT—Directors
		Provide an overview of the research problem, findings, and demonstrate the Analysis Tool and review the Design Guidebook.		Request a presenter	ITE and ITSA—Conference Planning Committees
		Include: case study sheets, treatment case study videos, testimonials from lead implementing / pilot organizations.			

Appendix B: Dissemination Tactics by Audience

Target Audience	Tactic	Activity	Stakeholder Organizations	Role of organization	Level within Organization
Research Orgs. Professional Assoc.	Build Support Base	Connect with key stakeholders in the research community to present research findings and demonstrate use of the Design Guidebook and Analysis Tool.	L07 Implementing team; AASHTO; FHWA; TRB; NHTSA; UTCs; relevant university departments	Recruit supporters for L07 products	ALL—Communications staff/committees
		Enlist their help in publicizing the value of the products.		Serve as vocal supporters	
		Use the SHRP2.org website to accept requests for presentations and comments.		Promote L07 products as vetted, effective and efficient tools	
		Encourage feedback on the research and participation in area workshops and demonstrations.		Understand how to access information and updates for L07 products	
		Post a map of lead implementation agencies on the website and encourage peer-to-peer exchanges about the use of the tools.			
DOT Directors DOT Technicians Professional Assoc. Private Consultants	Develop partner champions	Identify champions within partner organizations to spur discussions about the Design Guidebook and how it is a valuable resource within the industry.	L07 Implementing team; TRB; ITE; UTCs; FHWA; AASHTO	Recruit champions to participate as a champion	ALL—Communications staff/committees
		Provide champions with a toolkit of communications materials to share with their colleagues, including: product one-sheeters, case studies from lead implementation agencies, and customizable presentation templates.		Be a broad champion of L07 products	
		Provide champions with training on the effective use of the tools.		Connect interested stakeholders with L07 implementing team	
		Highlight the activities of the champions' efforts in newsletter releases and website or social media posts.		Share information with colleagues about L07 products	
DOT Technicians Professional Assoc. Research Orgs. Private Consultants	Encourage Peer-to-Peer Exchanges and Poster Presentations	Host peer-to-peer exchanges and/or poster presentations during national and regional meetings to share findings.	Research team; TRB; DOT technicians	Provide presenters for various meetings	TRB—Standing Committee—Research
		Demonstrate how to use the guidebook, review lead implementer experiences, and gain feedback from peers.		Know and understand value of SHRP 2 L07 products and how to implement them	DOT Technicians
DOT Directors DOT Technicians Private Consultants	Produce Video Case Studies	Produce a video case study companion for the guidebook to demonstrate case studies.	L07 Implementing team; U.S., state, & local DOTs; MPOs	Submit case study information for production review	DOT technicians and directors
		Interview lead implementer agencies to gather stories of successful use of the Design Guidebook and Analysis Tool		Participate in production of video	MPO—Planners and communications staff

Appendix B: Dissemination Tactics by Audience

Target Audience	Tactic	Activity	Stakeholder Organizations	Role of organization	Level within Organization
DOT Technicians Private Consultants Professional Assoc.	Host Product Overview Webinars	Host periodic webinars to give an overview and demonstrate the use of the Design Guidebook and Analysis Tool.	L07 Implementing team; Research team; ITE; AASHTO	Participate in webinars	ITE - communications staff and chapters
		Use webinars to enlist interested professionals to sign up on the website.		Promote webinars	AASHTO - TransComm
		Answer any questions and direct participants to resources to obtain actual copies of the guide and Analysis Tool.		Produce webinars	
DOT Technicians Professional Assoc. Private Consultants	Provide Product Training Webinars	Partner with training organizations and institutes to conduct usability trainings.	L07 Implementing team; Research team; ITE; AASHTO	Participate in webinars Identify opportunities and outlets to present webinars	ITE - communications staff and chapters
		Offer continuing education and professional development credits to participants.		Promote webinars	AASHTO - TransComm
DOT Leadership DOT Directors DOT Technicians Private Consultants Professional Assoc. Research Orgs.	Conduct Online Evaluations	Send periodic email questionnaires and polls to gauge stakeholder perceptions.	L07 Implementing team; AASHTO; ITE; FHWA	Collect and analyze data regarding product adoption	Communications staff/committees
		Post comment form on the website to capture feedback		Promote evaluative measures, e.g. comment forms online	FHWA - division office staff members
		Post periodic poll questions on the website and social media pages.		Submit evaluative data	AASHTO - TransComm, SCOR and RAC
		Request feedback in communications, i.e. articles and brochures.		Identify opportunities and outlets to present webinar	ITE - Technical Councils and Chapters
DOT Technicians DOT Directors	Assist with Design Manual Integration & Identify Liaisons	Research standard Facilities Develop Manuals.	L07 Implementing team; FHWA; AASHTO; ITE	Produce document templates	FHWA - division office staff members
		Write a sample Facilities Development Manual chapter for inclusion in agency policy manuals.		Approve templates	AASHTO - SCOR and RAC
		Assign a dedicated liaison, from the implementation team, to assist each interested state with technical challenges in adopting the tools and recommendations into agency policy.		Share information about Design Manual assistance	ITE - Technical Councils
		Provide resources, answer questions, and assist with technical writings.			FHWA - division office staff members
DOT Leadership DOT Directors DOT Technicians Private Consultants Professional Assoc. Research Orgs.	Quantify Reach	Develop standard workshop attendance form, include attendance, audience questions and feedback, and any follow up needed	L07 Implementing team	Collect and analyze data	Communications staff
		Include form in trainers and speakers kit		Report progress as needed	
		Continuously track the number of attendees at workshops, training sessions, and webinars.			
DOT Leadership DOT Directors DOT Technicians Private Consultants	Monitor Adoption Rates	Request stakeholders feedback on their experience using the Design Guidebook and Analysis Tool.	L07 Implementing team; US, State, & Local DOTs; MPOs	Collect and analyze data	DOTs - Leadership and Directors
		Post an email address or comment form on the SHRP2.org/Reliability/Travel-timeguidebook web page.		Report progress as needed	
		Post a tab on the website for professionals planning to test the Design Guidebook and Analysis Tool.		Provide adoption information	MPO - Planners
		Monitor hits to this tab and registrations			

Appendix C: Stakeholder Outreach

Organizations Interviewed	Representative Interviewed
Wisconsin DOT / University of Wisconsin	John Shaw Traffic Engineering Analysis & Data Management Program Leader, Bureau of Highway Operations
DOT Maryland State Highway Administration	Eric Tabacek Deputy Director of the Office of Traffic and Safety
Florida DOT	Fred Heery Deputy State Traffic Engineer Operations Manager
Pennsylvania DOT	Steve Koser Chief of Roadway Management in the Bureau of Maintenance and Operations
Kansas DOT / AASHTO	Jim Brewer Engineering Manager, State Road Office Bureau of Design, and voting member of AASHTO Technical Committee on Geometric Design
Institute of Transportation Engineers	Christina Garneski Communications Department

Focus Group Participants	Representative
Minnesota DOT	Darwin Yasis State Geometrics Engineer
Wisconsin DOT	John Shaw Traffic Engineering Analysis & Data Management Program Leader, Bureau of Highway Operations
Port Authority of New York and New Jersey (PANYNJ)	Steven Demetropoulos Traffic Engineer
Nevada DOT	Rick Nelson Assistant Director, Operation and L07 Oversight Subcommittee, Reliability TCC
California DOT	John Wolf Assistant Division Chief, Operations
Kansas DOT	Jim Brewer Engineering Manager, State Road Office
Washington DOT	John Nisbet State Traffic Engineer
FHWA	Jawad Paracha L07 Oversight Subcommittee and Office of Transportation Operations

Appendix C: Stakeholder Outreach

Plan Review Focus Group	Representative
Virginia DOT	Terry Knouse P.E., Location and Design
Kansas DOT	Leslie Fowler ITS Program Manager
California DOT (Caltrans)	Bassem Barsoum Area Traffic Engineer John Wolf Retired
AASHTO	Gummada Murthy Associate Program Director, Operations
FHWA	Jawad Paracha Operations Jim Hunt Operations Planning
CH2M Hill	John Conrad Chair, SHRP 2 Reliability Technical Coordinating Committee