Communication Matters

Communicating the Value of Transportation Research

Guidebook

NCHRP REPORT 610
National Cooperative Highway Research Program

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National Cooperative Highway Research Program

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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway and Transportation Officials initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Federal Highway Administration, United States Department of Transportation.

The Transportation Research Board of the National Academies was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communications and cooperation with federal, state and local governmental agencies, universities, and industry; its relationship to the National Research Council is an insurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

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The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

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Introduction

The need for transportation research can be a tough sell to policy makers and the public. Many in the transportation community regard the lack of awareness and knowledge of the value of such research as a major obstacle to securing adequate funding for further advances in safety, mobility, and infrastructure.

Most people conceptually grasp the value of research and its results, but this awareness does not always lead to support for innovations or implementation of new technologies—particularly those that take years to develop. Today's climate of tough decision-making, tight budget cycles, and limited funding demands immediate results. The approval process for new or continuing research projects requires that we clearly communicate how these innovations will be applied and how they will affect Americans' lives now and in the future.

"The time is long past when the value of the research will simply sell itself with no additional effort."

Successfully conveying the value of research can contribute to ongoing future support.

If you are reading this guidebook, you likely are a transportation researcher, research manager, or someone who uses research findings to make decisions and get results. You recognize the vital role research plays in our national transportation system. Your work provides solutions so we can reduce congestion, build better and safer roads for drivers and pedestrians, and increase the service life of bridges. By informing policies and bringing new technologies to the forefront, such research creates extraordinary benefits for society, increasing both our productivity and standard of living.

Properly packaging a research report alone will not ensure implementation or further research funding for follow-up studies. Effectively communicating both the results and return on investment of a single project or an entire program remains a major challenge for transportation research organizations at all levels. The time is long past when the value of the research will simply sell itself with no additional effort.

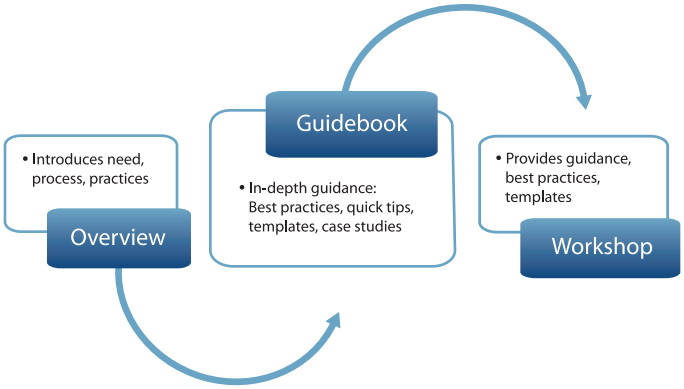
Why You Want to Read This Guidebook

Among the resources developed under the National Cooperative Highway Research Program's (NCHRP) Project 20-78, "Communicating the Value of Research," this guidebook will advise transportation researchers, planners, managers, and others how to overcome communication challenges. Some still believe research is best communicated at the end of a project and that communication is a costly and complicated venture. The information in this guidebook will show you how incorporating a basic communication strategy into your research process can make that process easier, and that by following this practical advice, you can increase the likelihood of your research accomplishing your desired goal.

Successful communication of research results is not merely a matter of modifying the skill sets of research directors and their scientists. Transportation engineers and researchers will not become trained professional communicators after reading this guidebook. Rather, it offers a blueprint for integrating communication throughout the research process and introduces new ways of thinking about it.

This guidebook stresses the importance of **adopting a principle of continual communications throughout the research process**. This means integrating communication at the beginning of your research planning and involving others in each step. Incorporating communication produces important assets that complement the research results: building public trust, strengthening credibility, and inspiring positive action.

NCHRP Project 20-78, "Communicating the Value of Research," consists of three interconnected information materials: an overview, this guidebook, and a workshop.



"The information in this guidebook will show you how adopting a principle of continual communications throughout the research process can increase the likelihood of your research accomplishing your desired goal."

How the Guidebook Is Organized

Extensive research and examination of communication best practices, both within and outside of the transportation community, formed the basis of this guidebook. From this work, we gleaned practical tips, a model process, case studies, and examples of good communication methods that all transportation researchers can use. This guide will explain the process so you can master how to communicate when it really matters.

The book is organized into the following four chapters and two appendices:

Chapter 1: Signs of Good Communication Practices presents the seven signs of good communication practices. These were drawn from our examination of the best practices both inside and outside of the transportation community.

Chapter 2: The Communication Process examines why communication matters and explores the process for planning, talking, writing, and creating. This is what most people have in mind when they think about communication.

Chapter 3: Planning & Evaluating Your Research Communication looks at two important elements of the communication process—planning and evaluating your communication efforts.

Chapter 4: Putting It All Together: Communicating to Specific Audiences provides examples of how to communicate with audiences that matter to transportation researchers: legislative leaders and their staff, research peers, transportation policy and program officials, the news media, and the public.

Appendix 1: Transportation Case Studies contains seven transportation case studies that illustrate these good communication practices. They were compiled during the research we conducted in creating this guidebook.

Appendix 2: Non-Transportation Best Practices presents brief summaries of four non-transportation organizations whose approach to communicating the value of their research illustrates good practice.

Several features in this guidebook will make using it more efficient. Boxes on the sides or bottom of the page provide practical advice, templates, and case-study examples. Look for the following:

Summarizes key points drawn from the text discussion.

Highlights a case-study application of the text discussion—drawn from one of seven transportation case studies included in Appendix 1.

Provides examples or templates, such as how to write a one-page project description.

Chapter 1 Signs of Good Communication Practices

Our research examined successful transportation research projects and programs to glean the best practices in communicating the value of research. We identified seven common attributes of effective communication practices. This chapter provides these seven signs of good communication practices and how they can affect the worth-perception and value-exchange process.

What Are the Signs of Good Communication Practices?

Before reviewing the signs of good practice, it is useful to define what makes a communication effort successful.

Successful communication efforts link researchers and research results with their intended audience by strengthening the information flow throughout the research process.

The key words in the above definition are "throughout the research process." The communication process is continual, not just a one-time effort when the research has concluded. That means making it a part of the research process, at the onset of a project when the planning begins.

According to *NCHRP Synthesis 280*, one of the keys to building and maintaining a robust research program is "Market Boldly" during every stage of the research process (Dean and Harder 1999). This applies in soliciting problems, in anticipating research needs, in justifying the time and budget required for persuading others to test and deploy the product, and in selling the overall need for research.

Effective communication about research requires advance planning—knowing your audience and your goals for reaching out to that audience. It also brings a network of researchers, decision makers, and other stakeholders into the research process and subsequently builds relationships that last throughout and beyond a particular project.

This is simply good public relations. If we look at the definition of public relations in the acclaimed textbook *Effective Public Relations,* (Cutlip et al. 1999), we see that public relations is explained as a discipline that encompasses much more than publicity. Specifically, it is "the management function that establishes and maintains mutually beneficial relationships between an organization and the publics on whom its success or failure depends." In other words, it is continual, two-way communication (VandeVrede 2007).

Signs of Good Communication Practices

- Involve communication professionals.
- Understand the audience.
- Demonstrate a tangible benefit.
- Recognize that timing is relevant.
- Build coalitions.
- Build two-way relationships.
- Tailor packaging.

The signs of good communication practice detailed below will help guide you through the communication process (the communication process is explained in Chapter 2).

Involve Communication Professionals

Integrating communication into the research process from the beginning requires bringing in professionals to assist the research team in communicating with various audiences. Our research shows an increasing recognition of the need for communication professionals to bring their expertise to the technical team; this is essential in effectively communicating research results. This is especially key in clearly communicating technically complex issues to the media, which is still the major conduit to policy makers and the broader public. These professionals can also advise the research team and leadership on how to communicate sensitive issues some research projects may produce before the results are published.

Understand the Audience

Researchers cannot afford to limit the communication of their results to other members of the research community. Communicating with the larger public, policy makers, and others is essential to being a good transportation researcher, just as a surgeon's ability to communicate with patients is a crucial, but sometimes-neglected, skill.

People can spend a lot of time figuring out exactly what to say without giving much consideration to whom it should be said. It is far more strategic and manageable to consider the target audience at the onset of communication and research planning before creating messages and venues for reaching them. To do this successfully, identify your audience targets and then research them so you fully understand your audience and how their key values and interests relate to your research. Not taking the time to analyze the impact of a research project on your potential audience can lead to problems later.

Demonstrate a Tangible Benefit

Successfully communicating the value of your research to a targeted audience requires tailoring your communication to resonate with its needs, interests, and backgrounds. Linking your research to tangible benefits for the audience will capture their attention. For example, as shown in the Missouri Statewide Installation of Median Cable Barriers case study, rather than reporting that the research project resulted in the installation of 179 miles of median cable barriers on Interstate 70 to keep vehicles entering from opposing lanes, Missouri emphasizes the more explicit, "the barriers have nearly eliminated cross-median roadway deaths." Audience members are more likely to listen to you if they can readily understand why and how the research is important to them. The key to moving your audience to act on or support your research is to meet them "where they are."

Recognize that Timing is Relevant

The point at which you release your research and begin to spread results can help you capture interest and amplify what you want to communicate in your findings. You should tailor the "ask" to the current mood and concerns of the audience and/or constituent interests. For example, if your goal is to influence legislation, you will want your research to sway policy makers before they vote. You should consider other seasonal trends or calendar hooks during the year to link your research with the current mood and concerns of your targeted audience or legislators' constituents, such as anniversaries of major events (e.g., September 11, landmark SAFETEA-LU ruling, the Interstate 35 bridge collapse) and other events important to targeted decision makers or stakeholders.

Build Coalitions

When it comes to influencing a decision or shifting a debate, the messenger can be as important as the message. Third-party champions or intermediary organizations can validate your research, and they often work with researchers to strengthen the credibility of their research and findings. Use these champions and allies to open doors and facilitate discussions with targeted audiences.

Build Two-way Relationships

Successful communication is a two-way process—an exchange of ideas and views. It has the element of feedback, which information dissemination alone does not provide. Consulting with a prospective audience or agent of the intended audience of the research helps establish a basis for exchange or reciprocity and helps you understand their values and needs.

Tailor Packaging

Packaging matters as well. While the previous six signs of good communication practices focus on words (the context, message) or people (the messengers), do not underestimate the power of the visuals or their packaging (such as design, layout, color, and typeface for printed materials). Packaging and the images it contains will trigger the context your audience associates with that issue. The most visible aspects of packaging indisputably affect perception of value. The location, size, and color of every image reinforces or undermines your message.

Many vehicles are available for communicating your research story, such as websites, advertising, brochures, fact sheets, and reports. You can control all the visual elements and, therefore, the messages they send.

QUICK TIP

Use Champions and Allies to:

- ✓ *Host a meeting between you and targeted decision makers or legislators.*
- ✓ *Speak at your press event.*
- ✓ *Author an introduction to a report.*
- ✓ *Offer a quote for your press release.*
- ✓ *Be on hand for follow-up media interviews.*
- ✓ *Write a supportive op-ed.*

"Being aware of these good practices is an important step in being a successful communicator of your research."

In the next chapter, we present the key elements of the communication process. The opportunities to apply these good practices will become readily apparent.

Chapter 2 The Communication Process

Communication can be a powerful means to further your research agenda. Without it, your research may have little influence on public policy, provide fewer overall public benefits, and decrease support for future research. Successfully communicating the value of your research generally leads to some sort of action, such as building support for or a better understanding of the research. This result in turn can open the door to new or additional funding and lead to the adoption of new technologies, designs, and structures in transportation engineering and construction projects.

What does "value" mean? Definitions include "worth," "desirability," and "a suitable equivalent for something else." Transportation research is often considered valuable when the result is perceived to be worth an amount equal to or greater than the funds spent on it—the **return on investment**. Therefore, a key step in communicating the value of your research is helping your audience grasp this exchange.

Communicating value means helping your audience realize the benefit of your research and return on investment.

Communicating value, or worth, is more than providing numbers, as in benefit-cost formulas. Decision makers frequently assess value in terms of how they **perceive** the importance and worthiness of the research outcomes. The invisible, intangible perceptions they form and will remember can mean the difference between funding a transportation research program or project or cutting it.

> *"Successful communication sends the right message in the right medium. It also uses the appropriate messenger to deliver the message to the proper audience."*

You can inform and influence these perceptions with a skillfully applied communication process or plan. The challenge is in anticipating, interpreting, and describing the social benefits that may come from your research results—the real value of transportation research—in ways that resonate with your audience.

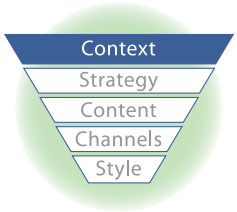
Success in communicating value starts with identifying the "issue to sell." This guidebook is concerned with how transportation professionals communicate (or sell) the value of their research to influence the perceptions and actions of decision makers. While the strategies used to "sell the value" vary among the groups studied for this project as best practices, the elements of the process they followed were surprisingly consistent. This observation led to depicting the process for communicating the value of research as the following funnel diagram:

Communication Process

Research programs must purposefully address each of the five elements contained in the funnel diagram—context, strategy, content, channels, and style—during communication planning. While every context and problem is different, the advice for success is similar:

- Understand the context of the problem or research issue and how it relates to the audience; conversely, consider how the particular audience relates to the research issue.
- Develop a logical, appropriate, and feasible communication strategy or plan that defines your audience and the information needs or messages you wish to communicate and how they relate to the value of your research.
- Prepare content that respects the context and conveys the messages crafted for your audience.
- Select the best channels for communication that will allow the audience to understand the message.
- Use accessible styles that match both your needs and abilities and those of your audience.

The funnel diagram shows that communicating the value of research is a multi-layer challenge: the upper layers of context, strategy, and content are just as important as—and in some cases even more important than—the lower layers of communication channels and style.



Context

What Is Context?

Context is the setting or background within which the audience will understand and assess your research. For example, what is happening in the world/nation/state that will make your research relevant? The state highway budget crisis? A growing tolling trend? A major bridge collapse? Persistent road congestion? The context encompasses issues and trends associated with your research that are important to an audience. The context in which communication takes place influences the selection of strategy, content, channel, and style.

Often, known facts, perceptions, players, opposition, and a debate about or associated with your research are already in play. Where appropriate, leverage current events as jumping-off points for introducing your research and why it matters.

To leverage current events successfully, you first must understand how people currently perceive an issue and then strategically identify and characterize the problems or opportunities you want to communicate to engage your target audience. When people understand issues as individual problems, they may feel critical or compassionate, but they will not see policies and programs as the solution. How you identify the problem makes all the difference in how people view your research and its products.

For example, in the Oregon Mileage Fee Concept and Road User Fee Pilot Program case study, a key element of the program's success was helping the public understand the context of the problem, so the fee program could be approved.

This ensured that the public understood why Oregon was pursuing an alternative to the gas tax for financing the road systems.

Why Is Context Important?

When you hear a newscaster say, "In a study released today…," what follows is a succinct wrap-up of the study's central finding. Take the following May 2007 news release from the California Department of Transportation (Caltrans): "4,304 people were killed in California traffic accidents in 2005, and Caltrans hopes that implementing VII [Vehicle-Infrastructure Integration] will lessen that frightening figure." Just as every report needs proper "framing," how well you frame the research you are trying to promote can determine how effectively you engage your target audience. Context is central for effective framing of your story.

"The key to moving your audience is to meet them where they are."

Describing context gives you more options in defining the problem and illustrating how your research product presents appropriate solutions. Without context, people think narrowly. Context can define an issue as public in nature.

How Is Context Used Effectively?

Using context effectively requires conducting an external scan to assess the environment, political or otherwise, for your communication efforts and taking stock of current events that will affect your communication strategy. Linking your communication with a current event or an issue of community interest brings it "closer" to your audience.

QUICK TIP

Using Context Effectively

- ✓ *Link current data and messages to long-term trends.*
- ✓ *Interpret the data: Tell the audience what is at stake and what it means to neglect this problem.*
- ✓ *Define the problem so that audience influences and opportunities are apparent—connect the dots, both verbally and in illustrations.*
- ✓ *Focus on how effectively the community/state/nation is addressing this problem.*
- ✓ *Connect the problem to root causes, conditions, and trends with which people are familiar.*

Source: FrameWorks Institute, "Framing Public Issues."

Another important element to using context effectively: **timing**. *When* you communicate is just as important as how and to whom you communicate. If you want to influence decision makers in your agency, for instance, you will want to time your communication to policy makers when they are evaluating the issues or considering the alternatives. Depending upon your research, timely pegs could be seasonal trends or calendar hooks (major holidays, winter storms, spring thaw, hurricane season); anniversaries of major events (natural and man-made disasters, landmark rulings); and events that matter to targeted decision makers or stakeholders (professional conferences or meetings).

Questions you might ask yourself when considering context include the following:

- What is the present state of debate on the research problem?
- Should key events or timing issues be factored in?
- Will timing be a constraint?
- Are other groups or people working on this issue or conducting similar research? Are they working with you or against you?
- Do misconceptions or misinformation about your research or your research problem interfere with your communication efforts?

If you are not gaining the support you are seeking (which may be in the form of a decision on the use of your research innovation or future funding for further research), you may need to reconsider your research context: sometimes you need to rethink how you talk about an issue.

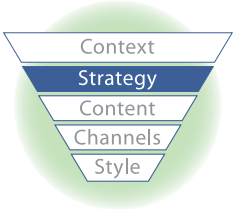
CASE IN POINT

California Seismic Bridge Retrofit Program

In the California Seismic Bridge Retrofit Program case study, the catalyst that motivated the research and defined its value was the problem of earthquakes and the threats they present to life and safety. The history of major seismic events in California and their catastrophic outcomes demonstrated the need for this research.

However, the value that decision makers place on research funding and the political situation still had to be considered. In deciding which research projects to invest in, these decision makers needed information from researchers. In this case study, communicating the value of research meant that researchers had to position their research in the right context to capture the interest and match the concerns of decision makers. They did this by communicating that their research was:

- ✓ *The right issue—They showed how research for seismic bridge retrofits was relevant to decision makers.*
- ✓ *The right level of importance—They demonstrated how serious earthquakes are and the negative effects of not retrofitting bridges.*
- ✓ *The right time—The researchers capitalized on and reminded decision makers about recent earthquakes while those events were fresh in the minds of decision makers.*



Strategy

What Is Strategy?

Strategies for communicating value depend upon identifying and understanding the audience and the purpose of the communication. Who are the decision makers? Who can best move your decision makers and help you achieve your objective? Since the goal of communication is to influence value perceptions, strategy depends on developing a clear understanding of who must be influenced and their values profiles. The more clearly you define your audience and what it cares about, the more strategic you can be about your approach.

Why Is Strategy Important?

Strategy is critical to achieving your research project or program goals. It must be consistent with the communication goals you are seeking (e.g., announcing, motivating, educating, informing, and supporting decision making). In the case studies we researched, the main communication objectives were to inform and influence transportation decision makers. This required attracting their attention, persuading them that a research project or program deserved funding, and convincing them to take action.

For example, in the Virginia Bridge case study involving a fiber-reinforced polymer deck, external communication conducted by Virginia Transportation Research Council public affairs staff was as important as the interagency communication in helping to secure the Innovative Bridge Research and Construction grant dollars from the Federal Highway Administration to help fund the research. The strategy for external communication focused on bringing the return on investment in transportation research to the attention of the public and the government leaders to ensure that federal and state policy makers would continue to provide department of transportation (DOT) research divisions and others with the necessary resources to conduct more innovative research.

How Is Strategy Used Effectively?

Consider these four steps in crafting your strategy:

- Identify your decision makers first; the audience will follow.
- Think about the research problem or value proposition from your audience's perspective.
- Consider messages that will resonate with your target audience's core concerns.
- Determine the best messenger.

Identify Your Decision Maker First

It is critical to first identify the decision makers you are ultimately trying to reach. These are the people who will ultimately say yes or no in response to your communication. The decision makers may be legislators whose votes you want to sway or a transportation director who can choose to use new technology in a highway construction project, or the media who may carry your research story.

Your decision makers are those who ultimately vote for or can change a policy, influence the use of new technology, and so on. Knowing who these people are will guide you in targeting your audience. You or your organization may not have direct access to the decision makers; in that case, you must decide whether you are going to target communication directly to the decision makers or reach them through other influencers. The focus is on the audience with the greatest influence over and access to the decision makers. Third-party champions or intermediary organizations can validate your research, and they often work with researchers to strengthen the credibility of their research and findings.

Sometimes the target audience and decision makers may be the same people.

Think from Your Audience's Perspective

Once you know who you need to influence, you can begin to determine how best to reach them. Assess their values or belief systems, and find common ground. Avoid selecting strategies that appeal only to you or are the easiest to implement. Rather, think strategically about your audience and the best ways to reach them.

In the National Cooperative Freight Research Program (NCFRP) case study, the main strategy for bringing national attention to freight issues was through the formation of the Freight Stakeholders Coalition (FSC). Aided by the credibility of its members, support from the freight industry and state/local governments, the FSC became the major factor in the NCFRP's inclusion in SAFETEA-LU.

Craft Messages That Resonate with Your Audience

Your target audience is the most important critic of your message. Use information gleaned in your external scan to focus on the context and recall your audience's stance on a certain issue; this way, your message reflects how it may perceive the problem or value your research solution.

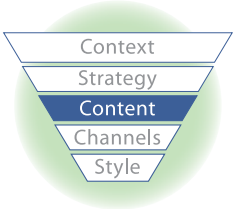
Often after spending months and even years conducting research and producing results, researchers focus primarily on how to convey their research to other researchers rather than the prospective users of their research results. Perhaps they believe the products of their research will speak for themselves. Successfully communicating the value of research requires the ability to craft and deliver key messages that influence—messages that are remembered the next day and the day after that. This can be referred to as creating a "sticky idea," or one that people understand when they hear it and remember later on and that changes something about how they act or think.

Craft a Sticky Idea

Incorporate these concepts into crafting your sticky messages:

- ✓ **Simplicity**. *Messages are memorable if they are short and deep. Proverbs, such as the Golden Rule, are short but also deep enough to guide the behavior of people over generations.*
- ✓ **Unexpectedness**. *Something that sounds like common sense will not stick. Look for the parts of your message that are uncommon sense to generate interest and curiosity.*
- ✓ **Concreteness**. *Abstract language and ideas do not leave sensory impressions; concrete images do. Compare "Get an American on the moon in this decade" with "Seize leadership in the space race through targeted technology initiatives and enhanced team-based routines."*
- ✓ **Credibility**. *Will the audience buy the message? Can a case be made for the message, or is it a confabulation of spin? Often, a person trying to convey a message cites outside experts when the most credible source is the person listening to the message. Asking "Have you experienced this?" can be more credible than referencing outside experts.*
- ✓ **Emotions**. *Case studies that involve people also move them.*
- ✓ **Stories**. *Use stories. They act as a mental stimulator, preparing us to respond more quickly and effectively.*

Source: The McKinsey Quarterly, *"Crafting a Message That Sticks."*



Content

What Is Content?

Whether preparing a research report, presentation, fact sheet, or news release or participating in a face-to-face meeting with your audience, think carefully about how you convey your message. Even if your material has great organization and is well written, it will not have the desired impact on your target audience if it fails to contain the right information.

The content of your messages will not stand alone. It depends on the context and strategy.

Why Is Content Important?

Selecting appropriate information to convey your messages is critical. If your content is inappropriate, you lose credibility, and your audience is likely to dismiss your message altogether. Determining your content requires considering your audience's values and perceptions of your research or the problem it is solving. Ask yourself the following questions when considering whether the information you are trying to convey is appropriate for your audience:

- Is this information necessary to address the audience's needs? What does the audience need to know? What does it want to know? What does it already know?
- Will the audience be lost and confused without this information?
- Is the level of discussion too general for this audience? Too technical? Not technical enough?

Failing to link the information with the audience, context, and strategy causes most of the issues with technical materials. Help your readers get through the information effortlessly and efficiently by analyzing and interpreting what you need to communicate and explaining what is important and why, without forcing them to wade through technical jargon, obtuse language, or undigested data.

QUICK TIP

Presenting Content

Consider the following tips in presenting information:

- ✓ **Use clear, direct, active language**, *not a bureaucratic or academic style.*
- ✓ **Minimize jargon**. *If you need to use a technical term, define it clearly. Use analogies and metaphors for additional explanation.*
- ✓ **Get their attention**. *Use photographs of technology, people, bridges, and highways, and clearly explain what is in the photographs.*
- ✓ **Keep it simple**. *Use complex plots and diagrams sparingly—or save them for technical publications.*
- ✓ **Use humor where appropriate**. *People will remember what you say or write if you make them laugh.*
- ✓ **Tell the whole story**. *Explain not just what you did, but why you did it.*

How Is Content Used Effectively?

Shaping information to meet your audience's needs depends on understanding your audience and the purpose of your communication. When considering information for your communication materials, the following techniques will help your audience derive the essential information from the materials:

- **Add necessary information**. Determine if any key information your audience needs to understand your materials is missing. For example, make sure you have included important background information about the main discussion, definition of key terms, and so on.
- **Delete unnecessary information**. Most readers feel obligated to read or scan all information in a document. Unnecessary information will confuse and even frustrate your audience.
- **Include examples**. Examples are one of the most powerful ways to communicate messages. When conveying a complex or technical concept, examples and analogies can illustrate the information.
- **Review the organization of your information**. You may be presenting the right information but you may have arranged or presented it in the wrong way. Elements of style (i.e., using transition sentences and presenting your information using images) can enhance the content of your material. This is covered in more detail in the Style section of this chapter.
- **Use cross-references to important information**. When presenting technical information, reference sources that supplement or support the information to add credibility.

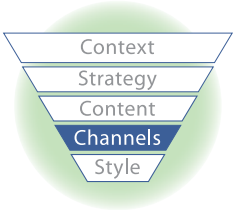
Pretest Content or Materials

An important step you can take before finalizing any communication content or materials is to pretest them. Pretesting content is a way of improving ideas and prototypes for your materials by submitting them for review to people who are similar to your target audience and getting their feedback before the design and production stage. Pretesting allows you to determine whether your communication materials are suitable for and understood by your target audience and whether they evoke the intended reaction, and to revise the concepts and approach, if they seem unlikely to produce the desired results.

Pretesting can be done formally through focus groups, or informally by asking five or six representatives from each target audience group, stakeholders representing your audience, or one or two technical experts for their opinions on the following information:

- ✓ *General understanding of the information, including technical level.*
- ✓ *Accuracy and amount of the information presented.*
- ✓ *Credibility of the information source (you or your organization).*
- ✓ *Reactions induced by the content.*
- ✓ *Usefulness of the materials for evoking reactions and viewpoints from participants.*

For more details on Pretesting, see Chapter 3.



Communication Channels

What Are Communication Channels?

Communication channels are the modes or pathways through which two parties communicate. When we watch late-night comedy shows, television delivers or communicates the message. A live audience has the added benefit of being a part of the setting in which the communication takes place and may react differently from a TV audience at home to the content because of this advantage. This example illustrates the idea that the selection of communication channels impacts how the message may be framed and how it may be received. As our population grows and technology evolves, these communication channels will change as well.

There are four basic types of channels:

- Printed or published materials.
- Oral channels (e.g., personal contacts).
- Broadcast media (e.g., radio, TV, videos).
- Electronic or Internet and computer-based modes.

Why Are Communication Channels Important?

The choice of communication channels is extremely important because it affects both the content and the impact of the communication.

Use Multiple Communication Channels

Our best practices review of non-transportation organizations that are successful in communicating their research show they deliberately use multiple channels and tools to communicate and involve audiences in their research. See Appendix 2 for summaries.

Communication Channel	Format	St. Jude Children's Research Hospital	Susan G. Komen for the Cure®	CGIAR	AFWA
Print	Publish in Journals, Trade	●	◉	●	●
	Brochures, Reports, Newsletters, Fact Sheets	●	●	●	●
Oral	Champions/Ally Program	●	●	◉	●
	Sponsorships and Partnerships	●	●	○	○
	Workshops, Conferences, Meetings	●	●	●	●
	Speakers Program	◉	◉	○	●
Broadcast Media	Video and PSA	●	●	●	◉
	Radio Interviews/PSA	●	◉	●	●
Electronic or Internet-based	Website	●	●	●	●
	Media Center	●	●	◉	●
	Message Boards, Blogs, Forums, RSS	●	●	◉	○

Key: ● = **Primary tool (*heavily relied upon*)** ◉ = **Secondary tool (*occasionally used*)** ○ = **Little or no use**
CGIAR (*Consultative Group on International Agriculture Resources*) AFWA (*Association of Fish and Wildlife Agencies*)

The four communication channels differ in levels of formality, immediacy, and interactivity, and each of the broad categories of channels has advantages and disadvantages. It is important to have specific communication goals set in advance so you can direct energy and resources toward the most appropriate channel for your message, audience, and budget. Based on your communication goals and the characteristics of each channel, you may decide to select only one channel or incorporate a variety of channels into your communication planning. Each of the channels are described below to help guide this decision-making process.

Printed or Published Materials

Written communication is inherently more formal than spoken communication—anyone who has ever read an interview transcript can attest to this fact. Incorporating printed materials into a communication plan can be extremely helpful in sending the same message to as broad or as targeted an audience as is necessary. Printed materials in the forms of fact sheets or press packets are also beneficial because they provide congressional staffers and media representatives with the appropriate talking points when discussing your project or program.

What printed materials lack in verbal immediacy is often made up for in visual immediacy. While we discuss the concept of packaging more fully in the next section, it is important to note that the visual appeal of a message through type, graphics, and color will affect both the willingness of your audience to read a message and the rate it retains that message.

> *"Printed materials in the forms of fact sheets or press packets provide appropriate talking points when discussing your project or program."*

Printed materials are less interactive than other channels of communication. As the sender, you have one chance to create the most focused and intriguing message possible and to distribute it to your audience. While written communication may be somewhat limited in this sense, it also ensures consistency in your message across audiences and time.

Oral Channels

Depending on context and audience expectations, oral channels of communication may vary in their level of formality. When asked to make a presentation for a program or project, you may wish to use more formal language than when discussing the project with a champion over lunch.

> *"Face-to-face communication is the most immediate of all communication channels."*

However, oral channels do not widely vary in their level of immediacy. Face-to-face communication is the most immediate of all communication channels; you, as a participant in the exchange of information, are sharing the physical space with your audience and can adapt your message to help fill gaps in knowledge, to fully explain a complex point, or to respond to the questions and feedback of your audience.

Conversations conducted over the telephone have many of these qualities as well, but they lack nonverbal feedback; you cannot see a furrowed brow over the phone. What you can do is ask the audience if the message is understood and clarify points where necessary. In this sense, verbal communication is often highly interactive. More formal verbal communication contexts (e.g., speeches or panel discussions) often have question-and-answer sessions built in to accommodate the interactivity.

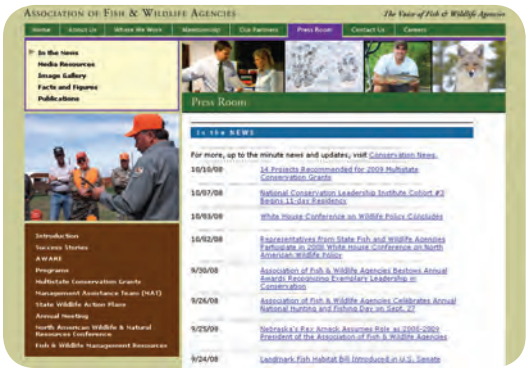
Broadcast Media

Mediated channels of communication (i.e., television or radio media) can vary widely in their formality and immediacy. A television spot may be conversational in tone and make use of visual and vocal impact to communicate the message. These components of campaigns can be another way to communicate the focused, "sticky" message that was created for a printed piece.

It may also provide the audience with a literal picture of the need for change and put a face on the problem or solution at hand. Through an interesting mix of vocal, visual, and audio cues, messages may come to life for the target audience who views them. Videos have the added benefit of accomplishing more in less time: they can thoroughly explain the importance and relevance of a project and complement a sticky message. In addition, while radio spots depend on voice and audio cues, they can be an inexpensive way to reach your audience in specific and/or broad geographic areas.

Although broadcast media may be more immediate than written communication (the audience actually hears a voice or sees an image in front of them), they are not as interactive as face-to-face communication or other oral channels. Because of this, it is essential to work with public relations and communications professionals who have the expertise to help you maximize the impact of your messages when using these media.

Association of Fish and Wildlife Agencies Press Room



http://www.fishwildlife.org/press_news.html. Accessed: October 13, 2008

Electronic or Internet and Computer-Based Channels

One of the most important developments in communication over the last two decades has been the advent and growth of the Internet. Through the Internet, messages can reach a global audience and help you to identify and connect with funders, researchers, practitioners, developers, media outlets, and community groups, to whom access was previously limited at best. Web pages and email have particular relevance in today's world of globalized communication.

> *"Through the Internet, messages can reach a global audience and help you to identify and connect with funders, researchers, practitioners, developers, media outlets, and community groups."*

Web pages are unique because they may incorporate virtually all of the features of the other channels. Their content may be formal, but many also provide a chat function that allows your audience to connect with experts for resources or information. Videos may be embedded into web pages to provide a variety of message formats in one central location.

Interactive tools may be integrated into web pages to give the user a sense of connection to the message that does not exist in other mediated formats. With such importance placed on

graphics, sound, organization, and accessibility, the best step a professional researcher/manager, who is a web design novice, can take is to connect with web professionals who can realize (and perhaps improve) the vision you have for your project or program's web page.

Email, on the other hand, is a computer-based mode of communication that is commonplace and essential for today's world. With that, there are both advantages and disadvantages to email in comparison to other available channels.

First, the formality of email is often fuzzy. When communicating with local champions or governmental backers, it may be better to treat email as a letter rather than as an online chat. Because professionalism is always a concern, err on the side of formality rather than informality.

Email is also complicated by the fact that it removes visual cues from the communication, which can make the intention behind messages difficult to understand. Make any messages communicated through email as unambiguous as possible.

Email, like much web content, is highly interactive—so much so that it is virtually instantaneous.

Email can include a link to a website or can be used to transmit attachments (such as one-page summaries, slides, or reports). It may also serve as a platform for interactive surveys regarding message strategies, may be an essential component of data collection, or may provide consistent links between interested parties through listservs or newsletters. While designing a web page is highly complex, maintaining a listserv can be an easy and convenient way to create and maintain a connection to your audience.

QUICK TIP

Web 2.0 Technologies

Most public agencies have been online since the late 1990s, and their presence on the Internet has grown in step with the growth of the Internet. From Wikis to blogs to online expert discussion panels, transportation research programs are incorporating Web 2.0 technologies into their programs as important communications and collaboration tools. Work with your agency's Public Information Officer or communication professionals to find the right fit for the following Web 2.0 technologies in your research program communication plans:

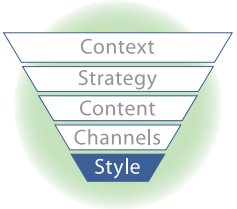
- ✓ **Blog**—*Short for web log, a type of website that hosts discussions by one or several people known as bloggers.*
- ✓ **Wiki**—*A web application that allows any number of users to directly create and edit content (e.g., Wikipedia, MediaWiki).*
- ✓ **Podcast**—*A series of audio or video digital-media files that are distributed over the Internet by syndicated downloads to portable media players and personal computers.*
- ✓ **Online Forum**—*A bulletin board system in the form of a discussion site in which panelists communicate with each other using messages (posts).*
- ✓ **YouTube**—*A video sharing website where users can upload, view, and share video clips.*

How Are Communication Channels Used Effectively?

In a world where we are constantly bombarded with messages, it is important to have a communication strategy that is specific and goal driven. In addition, the communication channel must match both the message and the audience. Consider the following when making use of communication channels:

- **Personal, face-to-face communication is often essential to build support and trust among community champions, legislative backers, and technical experts**. While attaining your goal for funding or research is important, there is also unquantifiable value in the relational element these connections can provide for future interactions. Once you have established these relationships, work to keep them.
- **Do not overlook the value of broad-based communication**. When awareness and education are the goal of communication, use a wide variety of channels to reach as much of your audience as possible. Consistent and continuous communication will help develop a solid knowledge base among your target audience.
- **Keep audience characteristics in mind when choosing a communication channel**. While access to the Internet is common, it is not ubiquitous. Rural or economically disadvantaged areas may not have the opportunity or the connection speed to access large files or web pages filled with graphics and interactive tools. Similarly, written materials must often be directed toward a broad audience, and the reading level of the material must be neither too technical nor too simple for the target audience. Work with your communication and public affairs staff to research the audience to help determine the most appropriate channel for them.

With these considerations in mind, you can make sound choices regarding the logistics, frequency, content, and duration of your communication throughout the research process. You will likely use more than one communication channel—e.g., a face-to-face meeting, where written material is presented, with email follow-up. The next step is to consider how that information will be presented—the style of your communication.



Style

What Is Style?

Style is an important element of communication. As the "physical wrapping" or the distinguishing features of communication, style can be thought of as the packaging of the communication; but it is frequently overlooked. As the most visible aspect of this packaging, such physical features as design, layout, color, and typeface for printed materials affect how the audience perceives and values the message. How the message looks, feels, and sounds will influence every encounter between an audience member and the transportation research advocate. Whether written or spoken, style is the polish of your communication. It can help you achieve your research goals.

Why Is Style Important?

Style is important because the physical attributes of a document or tone of a presentation can communicate as much to the audience as the words themselves. A presentation with graphics and a consistent theme throughout will communicate professionalism, pride in the research program, and confidence that it will succeed. Conversely, speakers who appear disheveled and who read highlighted lines from a research paper will effectively tell the audience that they do not take the presentation seriously and do not value the audience.

Whether focused on written or oral communication, consider the importance and impact that creativity can make on the reception of a message. For example, we have all sat through PowerPoint presentations in which the slides lacked clear graphics (other than a few difficult-to-read charts or tables) and the presenter read the content of each slide to the audience. Because no attempt to engage the audience is made, it is difficult for us to remember the message or the point of the communication.

Treating the presentation as a conversation with the audience returns the focus to the interactivity that face-to-face communication highlights. The slides become a visual aid—a way to explain a complicated point or to visually demonstrate either the problem at hand or the possible outcome of implementing a specific solution. Similarly, a written document that includes color, photographs, and interesting (but readable) type will add dimension and life to the words in the document. Creativity is what makes your message memorable. It can also help stimulate your audience to believe in the importance of your research or to take an action recommended by your results.

> *"The physical attributes of a document or tone of a presentation can communicate as much to the audience as the words themselves."*

With creativity, however, comes the responsibility for appropriate tone within the communication. Your audience has expectations for communication content, and to violate those expectations can be detrimental to the acceptance of your message.

Consider, for example, a toast. We, as the audience, expect glowing things to be said about the toastee, and we expect it to be brief. We expect news anchors to have a serious demeanor when discussing a crime or tragedy, and we expect sportscasters to be energetic and upbeat in their reports. The same is true when you plan and deliver your research communications. Think about and meet the expectations of your audience.

While a serious, scientific tone may be appropriate when communicating with technical experts, the general public needs a tone that is more conversational in nature. All of these considerations will ensure that the audience has a positive attitude toward you and your message and therefore will be more likely to accept the fundamental importance of your research.

How Is Style Used Effectively?

With such emphasis placed on the packaging and polish of your message, it is important to consider the following suggestions:

- **Use clear, concrete, and specific language**. Write or talk about tangible people, places, events, and outcomes to claim and retain your audience's attention. Not only will clear and concrete words help you relate to your audience, but specific, unambiguous language will help prevent misunderstandings and increase the persuasiveness of your message.
- **Adapt to your audience**. Adjust the formality of your tone and the sophistication of your message to reflect the context and knowledge level of the audience. The tone of a research report is different from that of a public service announcement, and experts in the field will better understand the nuanced complexities of your plan or proposal than a broad-based or general audience will.
- **Use visual aids and graphics that enhance your message**. Charts and tables can be extremely useful to demonstrate statistics or trends, and pictures and graphics can bring energy to written and oral communication. Choose charts, tables, and graphs that have clear relevance to the topic at hand. Remember that the goal is to enhance your message, not to divert attention from it.

QUICK TIP

Signs of Good Graphics

In Transportation Research Record, *No. 2046, Bremmer and Bryan (2008) showcase the Washington State Department of Transportation's use of "performance journalism" as its approach for communicating performance measures to a variety of audiences. They state the foundation for effective performance communication includes clear writing and storytelling, effective graphic presentation of data, and rigorous data analysis and data quality control. Along with clear examples and instruction, they outline the signs of good graphics:*

- ✓ *Are quickly comprehended and understood by the reader.*
- ✓ *Are relevant to the data and topic.*
- ✓ *Are formatted with a sense of balance, proportion, and clarity of design.*
- ✓ *Can stand out on their own (without accompanying text) if lifted from the page.*
- ✓ *Have data, analysis, and scale integrity.*
- ✓ *Answer some fundamental questions.*

The quality of your charts, graphs, and visual tools are important components in telling your research story. Keep these signs of good graphics in mind as you use these elements to convey data to your audience.

Source: Transportation Research Record: Journal of the Transportation Research Board, *No. 2046, "Bridging the Gap Between Agencies and Citizens."*

- **Make use of "white space."** Break up large blocks of text by inserting graphics or pictures. Do not, however, feel pressured to fill every inch of a document or fact sheet with something. White space provides visual breaks and helps distinguish between bullet points, provides visual cues to a change in subjects or themes in the text, and makes the message readable by reducing the chance of visual overload in the audience.

- **Use the resources available to you**. Whenever possible, consult your in-house communication professionals or a graphic designer or professional speech coach to help create the best possible package for your communications. While such consultation is ideal, it is not always practical because of time or budget constraints. You can get ideas for color schemes and graphic design by using the templates included in most design or presentation software. Also, look at web sites for other projects or programs, listen to other speakers or seek advice from those whose style you value, and make note of particularly effective presentations you see at conferences, lectures, or seminars. Allow proven communication experience to be your guide.

Whether creating a written document or a presentation, polish is the key. Edit all written text for clarity and specificity, keep all graphics relevant and readable, and practice presentations in front of an audience. Taking these steps will not only make your message visually or aurally appealing, it will also help your audience connect to and be persuaded by your communication efforts in support of your research.

CASE IN POINT

Oregon Mileage Fee Concept and Road User Fee Pilot Program

The Oregon Road User Fee Pilot Program generated a large amount of national and international interest. Mileage-based fees are new and are considered experimental and innovative. For this reason, the Oregon DOT (ODOT) and the Road User Fee Task Force deliberately chose to reach out to the public, not to generate publicity, but to ensure understanding of why Oregon was pursuing this. This public education was done with an understanding that the motoring public will not respond positively to change quickly and will need time to accept the nature of the problem and become comfortable with viable solutions.

The task force and ODOT relied on the website (http://www.oregon.gov/ODOT/HWY/RUFPP/mileage.shtml, accessed October 10, 2008) as the primary vehicle for an exchange of information, but also relied on oral and face-to-face communication to support public outreach, including:

- ✓ *Open meetings of the task force.*
- ✓ *Geographically diverse public hearings.*
- ✓ *A focus group.*
- ✓ *Openness and access to the media.*
- ✓ *Specific outreach to representatives of the retail fueling station industry.*
- ✓ *Presentations to stakeholder groups.*
- ✓ *Presentations to transportation professionals.*
- ✓ *Presentations to state and local government entities.*
- ✓ *Information provided to other jurisdictions (states, nations, and localities) when requested.*

Chapter 3 Planning & Evaluating Your Research Communication

Embarking on a program to establish value and influence perceptions requires careful planning, diligence, and patience. It is not a one-shot effort, nor can it be executed at the last minute when funding decisions are about to be made. Therefore, your entire program should adopt a principle of continual communication as part of your research process. Before you can successfully merge communication into the research process and begin establishing value, you should have a good understanding of the processes of communication planning and evaluation.

This chapter provides sound advice on the best ways to proceed in incorporating communication planning into your overall research process and options for evaluating the impact of your communication. It provides details on:

- Who should be involved in the process and when to involve them,
- How to use a plan to structure your communication, and
- What options you can use to evaluate your communication efforts.

We refer to your research communication planning and evaluation efforts as a "communication effort." We recognize that while some communication efforts tied to a research program may indeed be equivalent to a full-blown media campaign, most will typically be on a smaller, more conservative scale. Nonetheless, we use the term communication effort to mean any activity tied to communicating your research project or program.

Communication Planning

Transportation researchers are recognizing the importance of communication throughout the research process and that doing so includes more than disseminating research findings in a report when they complete a project. A well-designed communication process and structure can improve outcomes. This means that strategic planning needs to start at the onset of your research project to ensure that purposeful communication links your research to the appropriate audience during the design and conduct of the research. Doing so captures, involves, and retains their interest. A key to this is bringing the right people into the research process at the planning stage.

> *"Adopt a principle of continual communication as part of your research process."*

Typically, at the onset of a research study, a technical team forms to direct and monitor its progress. At a minimum, these technical teams include a research division manager and a technical liaison or principal investigator from the division's or research program's functional area. Broadening your research team to include input from trained and experienced communication professionals offers several benefits. These specialists can assist with the planning for the

eventual dissemination of results, especially if the results may attract public attention. But more importantly, these experts keep their ear on the ongoing public and political dialogue and can communicate with key public audiences throughout the research process. Seriously considering communication during the research process means strengthening your communication skills, through guides such as this one, and seeking the help of communication professionals.

Strategic communication decisions made early in the research process provide the basis for a successful communication plan and implementation effort. Think strategically rather than tactically at the onset of planning. High-impact communication is typically the result of strategy-driven tactics—not the other way around.

You can use a communication plan to guide your strategic thinking and document decisions about how to communicate the value of your research. This easy-to-use tool, familiar to every communication professional, will help your communication stay on target, create strong outcomes, and ensure you use resources effectively.

QUICK TIP

Include Communication Professionals on Your Research Team

A research team member frequently overlooked is the communication professional. The most important time to include the communication professional is during the proposal stage, when the research outcomes are being discussed. This person may be drawn from within your organization's public affairs or communications office or may be an outside consultant specializing in communicating transportation issues.

Prepare a Communication Plan

TITLE

Executive Summary
[Write this summary first, and then develop detailed pages as appropriate. Come back to the summary each time you edit or add to the document to ensure it remains accurate.]

Research/Situation Analysis
[Briefly cover any supporting research, historical background, and the current situation from which the communication need arises.]

Goal
[Describe the overall goals for this communication plan. If part of a broader initiative, indicate that.]

Target Audiences
[List whom you want to reach, their primary interests, and your call to action (your objective in reaching them). Group people if they will be regarded as the same and segment into separate groups if you will differentiate the objective, communication activities, and collateral materials. Typical target markets include other researchers, decision makers, the news media, current and prospective donors, and the public at large.]

Audience	Primary Interests	Objective

Key Messages and Key Message Testing
[List key messages to be delivered in this communication effort and indicate when and how the messages will be tested.]

Strategies and Tactics
[Briefly list the activities to be undertaken in delivering the messages to the target audiences. Include the channels, people involved, materials required, and other assets that you need to have for this effort.]

Implementation
[Indicate the lead person/group and other people involved in planning and carrying out the plan, including champions. Define their roles and responsibilities.]

Evaluation
[Identify how and when the communication efforts will be measured.]

Timeline
[Create a schedule for each discrete strategy or tactic.]

Budget
[Outline every element requiring funding, including evaluation, development of materials, media placement, and staffing resources.]

Plan Authorship
Planning process started: [m/d/yy] Plan authored by: [Name(s)]

The components or structure of your communication plan will vary according to the communication objectives of your research program. Well-defined objectives are the cornerstone of a good communication plan. If the objectives are too broad, the decisions will be difficult to make. You might have more than one objective, requiring different strategies.

It is likely that the decision makers, audience, and message for each objective will be quite different. Having different strategies is acceptable, as long as they do not contradict each other. Your objective in communicating the value of your research may be to affect a policy decision or to influence the adoption and use of new technology. To help you craft your own communication objectives, refer to Table 1, which highlights the communication objective or issue to sell for each of the case studies examined for this project.

With a strong research team purposefully formed and a clear objective in hand, you are well positioned for scoping out how you will make your research goals a reality.

QUICK TIP

Crafting Communication Objectives

Consider the following tips in crafting your communication objectives:

- ✓ **Multiple objectives**. *A separate communication plan may be required for each objective. It is likely that the target audiences and messages for each objective will be very different.*
- ✓ **Specific objectives**. *Avoid vague objectives like "raising awareness." Ask yourself why you want to raise awareness. Do you want to influence a behavior change or shape an opinion, influence the funding allocated to transportation research, or convince a highway engineer to adopt your new roadway construction technology? State a specific objective and decide how you will measure progress—i.e., "increasing the amount of funding for seismic research by $800,000."*

Table 1: Communication Objectives of the NCHRP 20-78 Case Studies

Case Study	Research Value to Sell	Communication Objective
Adaptive Control Software Lite	Public–private partnerships that advance signal software development.	Build public–private partnerships to develop new signal software.
Northwestern University New Bridge Steel	Beneficial properties of a new steel.	Convince decision makers to use new steel for bridge design.
California Seismic Bridge Retrofit Program	The life safety benefits from incremental research on seismic retrofit methods.	Divert funds from existing capital projects to retrofit bridges.
Virginia Fiber-Reinforced Polymer Bridge Deck	The cost and performance advantages of the application of fiber-reinforced polymer bridge materials.	Deploy fiber-reinforced polymer and other materials where appropriate in bridge repairs across the state.
Missouri Statewide Installation of Median Cable Barriers	A statewide solution to prevent a specific crash type.	Install median cable barriers statewide.
Oregon Mileage Fee Concept and Road User Fee Pilot Program	A more equitable and efficient way to collect road user fees to maintain, preserve, and improve Oregon's highways that is acceptable to the public.	Implement a substantial field test of the mileage fee system in Oregon.
National Cooperative Freight Research Program	The productivity and safety benefits derived from a national freight research program.	Establish a national freight research program funded under SAFETEA-LU.

Evaluation and Feedback

What Are Evaluation and Feedback?

Evaluation and feedback are additional and important ways for you to ensure that your communication relates to the audience's needs and values, makes the best use of channels, and, above all, is effective. Most transportation researchers have limited budgets, so getting the most from those dollars for any communication is extremely important. By seeking feedback and evaluating your communication effort at every step of the research process, not only will you stick to your budget, but you will also make the strongest impact on your audience.

Formal evaluation methods often use surveys or focus groups to determine important issues for the target audience. Large organizations employ these methods through nationwide phone surveys or focus groups to test a product and provide feedback. They may also test audience awareness or beliefs before and after reading, seeing, or hearing a communication campaign. This method of pre- and post-tests is valuable because it gives a baseline for audience knowledge or beliefs before exposure to the campaign, such that changes in beliefs or values can be tied to the campaign. Each method reveals information about the effectiveness of the campaign, but informal evaluation and feedback can be just as effective—and they are budget friendly.

Regardless of the formality of the evaluation and feedback methods, establish your communication goals up front. Goals provide targets for which audience you want to reach, what channels you should use, and how often you should communicate with that audience.

Conduct Budget-friendly Informal Evaluations

- ✓ *In the planning stages of your research, when you are determining the context in which to present the study, look for current trends in the field and the events of target communities and audiences. This provides a strong foundation for your communication planning, based on the values of the target audience.*
- ✓ *Once you have moved from planning to creating the communication plan, schedule time to pretest your messages. Pretesting by audience members and technical experts is emphasized in the earlier discussion of content. Although formal focus groups can help improve your message, a cost-effective alternative is to ask five or six representatives from your target audience to review your materials.*
- ✓ *Ask communication and subject matter experts and audience members for feedback on the content and style of your communication messages and materials. This feedback can alert you to distracting type and color choices and the emotions they evoke, as well as any part of the message that is unclear.*
- ✓ *Finally, conducting brief surveys or conversations with audience members at the conclusion of the research effort will alert you to the overall effectiveness of the communication and can inspire new ideas.*

Goals also direct communication toward a focal point, such as gaining acceptance for a new policy or procedure. Without a specific goal, you may inadvertently design a fantastic communication plan that accomplishes very little. While your communication efforts may be visually appealing and reach a large audience, the point of the communication may be lost without direction.

Decide on the end goal for the communication plan, and seek evaluation and feedback to ensure that the campaign strategy, messaging, and materials work toward and can achieve that goal.

Why Are Evaluation and Feedback Important?

Just as transportation researchers evaluate new materials for the effectiveness of structure designs, you will need to evaluate the success of your communication efforts for several reasons.

First, it will help you become a more successful communicator. By documenting the strengths and weaknesses of your communication efforts, you can incorporate strong elements into future efforts while improving upon weaker areas. Second, evaluation and feedback help ensure that the audience receives the intended message, demonstrates a new level of knowledge, and/or takes the actions encouraged. In essence, evaluation and feedback can show that you met the research communication goals.

Finally, evaluation and feedback are important because they document your success and show communities, political leaders, and granting institutions that you spent their money wisely. They may be more likely to give additional time and money to programs and projects headed by a team with demonstrated success. By evaluating and documenting their communication efforts, researchers can provide strong evidence for the value of their projects.

"Evaluation and feedback are important because they document your success and show communities, political leaders, and granting institutions that you spent their money wisely."

Because developing communication concepts, strategies, and materials is an art, evaluation and feedback can also play a role during communication planning. Individuals have backgrounds and experiences that influence how they see the world and, thus, how they perceive your research as communicated to them. Because of these different points of view, testing messages with stakeholders and members of the target audience takes on practical importance. Pretesting the concept or themes of the campaigns, the specific messages you plan to use, and the packaging of the campaign with actual members of your audience accomplishes several tasks:

- Pretests can make certain that messages are understood and memorable. It is often beneficial to have fresh eyes review your materials, because after spending large amounts of time looking at and thinking about a document or a presentation, you may see more in the message than is actually there. Asking new and relevant audiences to provide feedback can focus attention to unclear or unmemorable messages.
- Pretests help ensure the cultural and social acceptability of the content, channel, and style of the message. This cultural consideration directly impacts the communication channels that you will use.
- Pretesting can help you navigate the cultural and social complexities found in all target audiences. It is important to show sensitivity to racial, gender, and ethnic stereotypes, because these factors may all influence the choice of language and images that are incorporated into different messages. Also show sensitivity for social factors and contexts. While September 11, 2001, was a significant day in the entire United States, images of the World Trade Center may play differently in New York City and Washington, D.C. than in other parts of the country.

Asking the intended audience to provide feedback on communication efforts at the conclusion of research helps researchers and program managers evaluate how well the program achieved its overall objectives. Knowing what worked well and what did not informs researchers which goals were accomplished and which areas may need to be readdressed.

Evaluation is also important for learning, so in the future you can target your audience better and avoid the pitfalls of current communication efforts. Finally, evaluation and feedback allow you to document and share your best practices. Keeping track of lessons learned is valuable for your future efforts, and it also allows you to be a resource for other transportation researchers.

QUICK TIP

Using Evaluation Effectively

- ✓ **Have clear and realistic goals.** *These goals will guide your communication campaign and will help you determine what kind of evaluation and feedback you need to collect. Informal feedback may be appropriate in some cases, but more formal methods are necessary to measure the knowledge or intentions of your audience.*
- ✓ **Get feedback throughout the process.** *Get opinions and insight before you begin the campaign, at several points throughout the campaign, and after the campaign has concluded.*
- ✓ **Take pictures.** *Pictures of researchers in the field or interacting with audience members can be integrated into effective and personalized campaigns.*
- ✓ **Make use of existing relationships.** *Local champions and governmental leaders have insight into audiences' needs and values. They can help gauge whether or not your strategy is appropriate for the audiences.*
- ✓ **Collect case studies.** *Stories about a product or process from an audience member give campaigns a more personal touch.*

Chapter 4 Putting It All Together: Communicating to Specific Audiences

Let's face it: audiences differ. The audiences for various research projects and programs are different because each has a unique stake in the outcome, and each will value the research in a different way. When designing a new type of hybrid vehicle, for example, carmakers want to know what is useful and attractive to buyers, but they also need to demonstrate that the vehicle will not cost the company too much to produce and that it will stand out in a parking lot of competitors.

The same is often true for consumers of research results. The general public wants to know how the research will affect them, and the direct benefits of implementing a new process. Program managers and research funders want to know the technical aspects of the research and whether the financial costs of conducting research or implementing a new process will be in line with the benefits gained from that research or process.

As a researcher or manager, your goal is to talk about those issues to the appropriate audience—it would be useless to tell general consumers about the per-part costs of a new vehicle when they are concerned about the vehicle's safety features. Communicating the right information to the right audience not only affects the acceptance of your research, it also maximizes your time and your communication dollars.

When talking about your projects and research, consider the communication goals and how you can market to the appropriate audience.

Everyone wants to know "what's in it for them." By anticipating and answering that question for the audience, you will highlight how research, projects, products, and processes align with the audience's values. Even communication with the best intentions can fail if it is directed toward the wrong audience, so placing yourself in the shoes of the audience and speaking to it from its point of view, in understandable language and with its needs and wants in mind, are important steps to take when creating strategic communication plans.

"Communicating the right information to the right audience not only affects the acceptance of your research, it also maximizes your time and your communication dollars."

This chapter outlines several audience categories vital to advancing transportation research. These include research program managers, elected officials, policy makers (such as state and national DOT officials and funders), the media, and the general public. It provides practical tips and important considerations that will help ensure that the appropriate information is readily available for each audience.

Table 2: Key Audiences for Transportation Research

Audience	Potential Communication Objectives	Benefits of Communication
Research Program Managers	• Ensure continued funding and support. • Communicate technical aspects of research. • Form partnerships for collaboration or coalitions.	• Increases acceptance of the research program across the field. • Increases the ability to leverage existing resources.
Congress, Legislators, and Staff	• Explain the significance of research. • Demonstrate benefits to constituency. • Link spending to research outcomes.	• Introduces legislation that benefits the field. • Increases the potential to gain governmental funding for research.
Policy Makers	• Document a real need for research. • Explain the benefits of the research or program. • Demonstrate the success of the program.	• Implements action recommended by the research. • Adopts new products and processes.
Media	• Publicize the need for research. • Publicize the benefits through success stories. • Reach a broad audience.	• Increases exposure for the program. • Puts research on public's "radar." • Highlights a need for change or benefits of a practice or product.
Public	• Explain research findings in non-technical terms. • Show the importance of research to daily life.	• Creates a better informed public. • Creates community-level support for initiatives.

Communicating with Research Program Managers

When and Why

Communicate frequently with research program managers; these are often research peers and implementers of products or processes who need to stay current with research trends and findings. Consistent communication with this audience will help your work become an influential and relevant force in the field. Communicating with research program managers may provide the added benefit of helping to find and establish relationships with programs whose research goals are similar to your own. By creating coalitions and leveraging resources, these partnerships help you advance a common agenda or work toward a shared goal that would be difficult, time-consuming, or costly to accomplish on your own.

"Consistent communication will help your work become an influential and relevant force in the field."

Applying the Communication Process

Communication Process

Context: Research program managers (your own or others) are often the "in-house" decision makers who either authorize or reject research proposals or products on an organizational level. Support from research program managers is crucial to gaining widespread acceptance of your research in the field or industry where you operate.

Strategy: When communicating with research program managers, highlight how your research will help them meet their own research objectives. Relate projects to the agency's mission and goals, as well as to customer needs. Programs may not have the time or budget to take on entirely new projects, so demonstrating the fit between projects is essential. Effective communication with program managers can also lead them to adopt your tested methods or products, so keeping this audience updated on your findings should be a priority of your communication plan.

Content: Because research program managers are familiar with the industry, and because they often decide whether or not to accept your findings or adopt your process, you can communicate more of the intricate points of your research to them. While the technicalities of study design, the specifications of projects or products, or complex statistical analyses are not appropriate for every audience, they can enhance communication with research program managers.

Channels: A wide variety of channels may be used to communicate with program research managers, and many channels will likely be used simultaneously. Face-to-face communication is important to help form relationships and gain access to program managers, so connect with peers at panels or workshop sessions. Have strong summaries of your research prepared in the form of fact sheets and PowerPoint presentations. Finally, make use of the web by including links to those fact sheets, and archive full research reports for easy access by other researchers and program managers.

Style: Bulleted summaries of research findings are useful, but your document should also make complete research reports accessible to program managers by including references to any published findings and by listing your current contact information in the summary. Communication with program managers and research peers is often direct and professional. This is true of both written and oral communication. Demonstrate your expertise to program managers, but do so in a way that keeps you and your projects accessible to others.

CASE IN POINT

Adaptive Control Software Lite Case Study

Communication with research program managers was important to the implementation of Adaptive Control Software (ACS) Lite. The project, developed by researchers at FHWA/Turner-Fairbank Highway Research Center, provided a "self-teaching" software system that regulates traffic-signal timing through the use of real-time information obtained throughout the day. It is designed for the existing traffic signals in large cities. Though the software is successful at relieving traffic congestion, it is costly.

Based on its understanding of the context and the needs of suburban program managers, the research team was able to offer some program managers the ACS Lite software for free. In return, these industry players would pay half of the development costs for the "bridging" software required to make existing software compatible with ACS Lite. The acceptance of this offer led to the adoption of ACS Lite by communities in Ohio, Texas, and Florida. Researchers have continued to gather data and assess the performance of ACS Lite to communicate the value of the software to other program managers.

Communicating with Congress, Legislators, and Staff

When and Why

For transportation research, elected officials and the staff who work with them play key roles in policy making on issues affecting transportation funding. For example, in most states, we are talking about the members of the transportation and public works committees and the legislators who sit on fiscal committees that deal with budgets for transportation and infrastructure building. Speakers or majority leaders also play a role, particularly in deciding whether to give the go-ahead on major, new initiatives or big spending increases. Keep in mind that elected officials are usually generalists. They will know a fair amount on some issues, but not the full range of topics.

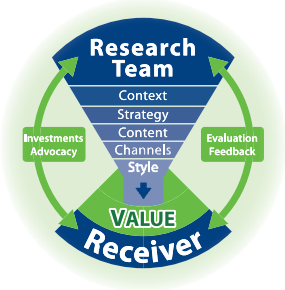
Elected officials are an important audience because they can introduce legislation and help secure funds for transportation research and projects. They are very busy, with little time to learn about issues or look at research unless it is directly related to something on which they are focused **on that day**. Typically, they are overwhelmed by people and documents and ideas coming at them and have little time to digest and respond. They need quick, often shorthand methods for understanding your research.

On the community, state, and national levels, connect with this influential audience by working with your agency's government affairs liaisons, but the timing needs to be right. Get to know when an important piece of legislation will be voted on or when budget decisions are made, and time your communication with them accordingly. Because elected officials are often very busy, it is very likely that your government affairs liaison will meet with a staff member rather than the official. Take advantage of this opportunity to provide the staff member with clear and direct information about your recommended course of action, because officials depend on staff members to brief them on issues and concerns from constituents. By communicating effectively with staff members, you can add your point of view to those briefings.

Assisting your government affairs liaison with establishing an ongoing relationship with elected officials and their staff can be valuable to your research. Identify opportunities to showcase research and results that are important to their constituencies, such as a tour of your research facility or a demonstration of your research. By developing an ongoing relationship with them, you will have greater access and credibility, and your relationship will be well established by the time they are asked to weigh-in on authorizing or funding your program.

Applying the Communication Process

Context: Elected officials have constituencies. Those officials are responsible for enacting legislation and advocating policies that will benefit the citizens they represent. This fact should guide all of your communication plans with this audience. Current events on the local, state, and national levels are all parts of the context that will directly affect your strategy for communication. Listen to and pay attention to what elected officials care about and address those concerns. Most legislators already have goals based on their own standards or their views of their constituency's interests.



Communication Process

Strategy: Your strategy for a meeting with an elected official should be to connect your research or program to the needs, wants, or events of the official's district or state. Assert the benefits of your research or program to the official's constituency up front. The final element of your strategy should be to make a clear recommendation for a course of action to the official. Acknowledge the current events and contextual factors, state the benefits you can bring to the table, and tell the official or staff member your recommendation. You should not assume elected officials will agree with research findings, nor should you try to convince them about what they should care about. Once you start arguing about values or goals, you become an advocate, not a researcher.

Content: When communicating with elected officials, stress how research can help solve problems in the official's district or state. Because legislators and other elected officials think in human terms, rather than statistical or research terms, they will appreciate research information that is explained in ways accessible to laypersons. It is important, therefore, to combine research data with examples of how people are affected. This connection to the context may also provide a link to a human element or news hook that can make your communication more relatable. For example, the collapse of the bridge in Minneapolis-St. Paul, Minnesota (2007), gave researchers an opportunity to talk about the need for studies on new building materials and the funds needed to improve the existing infrastructure.

Channels: Many meetings between researchers, officials, and staff are conducted in person. Other channels, however, can be extremely useful to help officials and their staff members remember you and your message. Leave a fact sheet with a program description and your specific talking points with the staff members after a meeting. Also, if you have a newsletter, ask if you can add elected officials to your mailing list to help keep them informed on the issues important to transportation researchers.

Style: When communicating with elected officials, keep it brief. A message that is condensed to one or two pages with the main points up front will be much more accessible than a full research report. Also, speak to officials and staff members as you would to a family member. Strive for clarity, and tell a story about the research so that it takes on a human-interest tone and is easy to remember.

QUICK TIP

Communicating with Congress

- ✓ **Work with your organization's government affairs liaison.** *Help build an ongoing relationship with elected officials by keeping your liaison informed of your research and identify opportunities to showcase your results.*
- ✓ **Know the issues.** *Be familiar with pending legislation, where the official stands on the legislation, and your preferred course of action.*
- ✓ **Be brief.** *Time is important to congressional members and staff, so be on time, expect to wait, and be prepared to discuss one or two issues at most. Finally, do not overstay your welcome.*
- ✓ **Leave a summary.** *Make sure the summary captures the reason for your visit and the points that you raised. Remember to leave your business card so you can be contacted if necessary.*
- ✓ **Do not make demands.** *Recommend a course of action, but threats or hardball tactics can undermine your credibility.*

CASE IN POINT

National Cooperative Freight Research Program Case Study

The Freight Stakeholders Coalition (FSC) demonstrated the importance of communication with congressional and legislative representatives. The coalition was formed in the early 1990s as the freight community began to recognize the benefits of coordinating its efforts to bring national attention to freight issues and to lobby for funding for freight-related projects on the federal level. The group had considerable experience communicating with government leaders, and it joined with the American Association of State Highway and Transportation Officials (AASHTO) to push for the National Cooperative Freight Research Program. Mandated by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), this program provides money for freight research in a variety of areas.

Communication with Congress was essential to the program's acceptance. To gain governmental support, a program or project must be advocated by a credible group that represents the key stakeholders. FSC, AASHTO, and others provided the proof Congress needed to understand that the research program was desirable and necessary. Additionally, FSC and AASHTO provided consistent advocacy, using arguments that focused on issues of broad, current, and national interest. Connecting the research needs with current events enabled representatives to see the value of the research program for the industry and for their constituents.

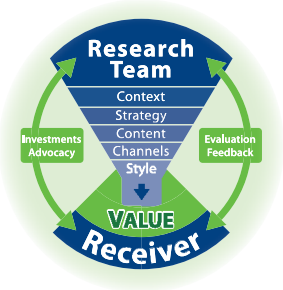
Communicating with Policy Makers

When and Why

In many ways, policy makers (e.g., state and national DOTs, other transportation-related organizations, or research supporters) can be considered a combination of research program managers and elected officials. They are a more technically knowledgeable audience, similar to research peers. They also have formal processes regarding decision making and budgets similar to congressional processes. Consistent communication with this audience is important because people in these positions often decide whether to adopt or test a new product or process. Policy makers who see research that has positive results in the early stages may be willing to devote resources—either money or personnel—to the later stages of the research.

Applying the Communication Process

Context: Policy makers are the gatekeepers between research findings and implementation and can become champions for a new technology or for the research program. They are also intermediaries between projects and funds and can become the champions for the research program. Policy makers are often fiscally accountable to others, so your communication must relate the benefits of your research in the context of a business model (i.e., how the research contributes to your organization's mission or offers a cost-saving new technology or alternative to a current practice).



Communication Process

Strategy: Because policy makers require both information and proper organizational procedures, an important strategic concern is to find an advocate for your program within the policy-making organization. Advocates know and understand the organizational rules and regulations, so they can help introduce your findings and recommendations through the appropriate panels and paperwork. A second strategy, as discussed below, is to make use of all available channels for communication. Leaving no communication stone unturned will not only educate policy makers, but may also help you connect and build professional relationships with potential program advocates.

Content: Policy makers need to know the specific details of research programs, and like elected officials, their time is also limited. You can use several methods to communicate the essential details. First, anecdotal success stories give a personal and human face to scientific research, so connect your ideas to real people and real problems. Second, because policy makers look for innovative ways to help save lives, conserve fuel, and increase efficiencies, highlight the innovative work you do and the benefits of that work to areas important to policy makers. Finally, provide policy makers and their liaisons with best practices and anecdotal evidence that can be used for education.

Channels: A wide variety of channels are appropriate for communicating with policy makers. Panel discussions at conferences can help you understand their needs, can introduce new research and important facts, and can help you meet potential advocates who share your program's interests and priorities. PowerPoint is frequently used for presentations, so do not overlook the importance of this channel. Because PowerPoint presentations often need to function as stand-alone presentations, they must be clear and make good use of visuals and graphics. Papers and reports in scholarly, professional, and trade publications can target prospective implementers. Finally, make use of the web by posting presentations, papers, and reports for easy access by policy makers.

Style: Like elected officials, policy makers have many demands on their time. Communicate your research agenda clearly, simply, and concisely. State the important points up front. Provide anecdotal evidence where possible, but be ready to answer any questions. Details are important, but only after you have "sold" your ideas to policy makers.

QUICK TIP

Creating Human-Interest Research Stories

Policy makers and research funders often want to know how research affects people, so consider the following:

- ✓ **Research stories must be human-interest stories.** *Look for and emphasize the benefits of research for people. Whether related to saving lives or saving fuel, tying research programs to real people helps to improve your message.*
- ✓ **Link to current events.** *Connect your research to what is happening in society or in a specific community. Do not overlook popular media as sources of inspiration. Social problems and movies can give your communications a point that is relatable to the audience.*
- ✓ **Give specific examples.** *As you conduct research in the field or interview community leaders about their needs, take pictures and keep notes. These can add personal elements to your communications.*

Source: National Sciences and Engineering Research Council of Canada, "Communicating Science to the Public: A Handbook for Researchers."

CASE IN POINT

Northwestern University New Bridge Steel Case Study

Communicating with policy makers was essential to gaining acceptance of using Northwestern University copper steel in bridge construction. Gaining this acceptance was difficult because the steel manufacturing community is small, and its members represent Northwestern University's direct competition.

To persuade this audience to adopt and use Northwestern University copper steel in bridge building projects, the developers demonstrated the value of the new steel in stages, starting with a small-scale test of the steel by the Illinois DOT (IDOT). Once this test was completed, a larger scale test was conducted and the results were shared with policy and decision makers. Important decision makers from the American Iron and Steel Institute, the Federal Highway Administration, U.S. Steel Corp., and others lent their monetary and personnel to support the product. This in turn led to the adoption of Northwestern University copper steel as part of a bridge retrofit in Illinois. Following this success, IDOT fully adopted the steel for use in the construction of new bridges.

Persistent communication with decision makers that emphasized the scientific results of field tests and the ongoing support of a champion within the IDOT contributed to Northwestern University's success. The steel developers successfully provided research program managers with the data they needed at testing sites, at conferences, and in papers and reports in scholarly and trade publications. Further, the IDOT champion made the personal connections required for acceptance of the new steel and helped the developers navigate the formal processes required by transportation organizations.

Communicating with the News Media

When and Why

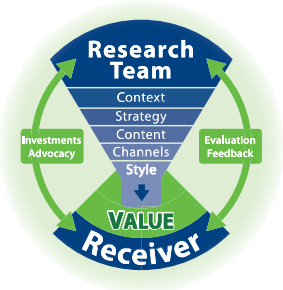
Communicating with the media is essential to sharing the value of your research because they function as agenda setters for communities and our society at large. Media coverage can be useful to your research because it can influence community awareness and support, which then, in turn, can impact policy-maker support (whether or not the policy maker personally cared about or supported the issue in the first place). It can also impact policy-maker support directly. But, the media does not tell people what to think; it tells them what they should think about and which issues are important. Thus, the more often an issue appears in the news, the more important it may appear.

This does not mean, however, that researchers should wait for the media to ask for a story. They should work with the communication professional assigned to the research team or with their organization's public affairs staff to determine the right time to contact the media with the right information. By contacting the media, you can demonstrate that your project is newsworthy and get your agenda on the public's radar.

Invite the media to test sites, or send a news release about upcoming research in the community. By developing a relationship with the media from the start, your relationship will be well established by the time you are ready to present your findings and implement your programs.

Applying the Communication Process

Context: The media differ from other audiences because they have very precise limitations for time and space. News cycles have shortened with new technologies, so you must be responsive to those deadlines and space requirements.



Communication Process

Strategy: When planning communication with the media, ensure that you communicate with the appropriate reporter. If a newspaper or television station has a science or transportation reporter, direct your communication to that person. Your strategy should be to cultivate a relationship with a reporter by using continuous, specific messages.

Content: Present the content of your communication with the media—whether related to problems or the research process, outcome, program, or implementation—as a story and explain how it will **benefit** their readers, listeners, or viewers. Highlight any breakthrough or new elements on an issue, and weave real-life examples into your story. Discuss data or research that confirms or denies existing suppositions, but do so in a compelling, timely way. Finally, always connect your communication to the audience, explaining why the problems matter and how your research program helps to solve them.

Channels: Reporters may ask for one-on-one interviews. If they do, it is important to have your research message distilled down to two or three key points. Researchers and program managers must also realize that reporters do background research to write their stories, so information about the program and the research project should be easy to access. Press releases can be sent to journalists, and they can also be incorporated into an online press room as an integral part of your web page.

Style: Journalists and reporters look for clear, jargon-free language in press releases and interviews. Because they have their own audience considerations, they look for a conversational style that will appeal to the general public. Be direct, and develop messages that focus on the main points of the communication.

QUICK TIP

Guidelines on News Release Content

Your communication professional or public affairs staff will know the "ins and outs" of the format for writing and delivering a news release, and will work with you on the content. Keep these guidelines in mind as you assist them in writing a news release about your research:

- ✓ *Identify the goal of the news release, then the audience before you consider the key messages or content.*
- ✓ *Convey the essential message quickly. This is the point in which you will capture attention. Consider the benefit of the research and how it is important to the public.*
- ✓ *Use quotes to help you spread important messages. While quotes generally should come from within the organization (the scientist, the director), it can also come from a valued source outside of your organization supporting the importance of the research.*
- ✓ *Use anecdotes, analogies, and examples as storytelling tools. They can humanize, simplify, and help explain your story.*
- ✓ *Include background information of your organization at the end. This section should be brief and focus on who you are and what your organization does.*

QUICK TIP

Creating an Effective Online Press Room

Reporters and journalists often visit web pages as a first place to find information before an interview or when writing a story. Create an online press room that includes the following:

- ✓ **Current contact information**. *Post the names, phone numbers, and emails for your project's contact person for press inquiries.*
- ✓ **Press releases**. *Archive past releases in your press room, and include a date and summary headline with each title.*
- ✓ **Frequently Asked Questions (FAQ) and fact sheets**. *Journalists want to know the "who, what, when, and where." Create a document that addresses these background facts about your program or organization.*
- ✓ **Research reports**. *Archive research reports with a brief abstract, but make links to full reports accessible.*
- ✓ **Photographs, video files, and calendar of events**. *These "extras" give reporters even more information to draw from.*

CASE IN POINT

Missouri Statewide Installation of Median Cable Barriers Case Study

The Missouri Department of Transportation (MoDOT) made great use of communication with the media to gain acceptance for statewide median cable barriers. Cables placed in the medians of highways and major thoroughfares help to reduce the number of cross-median crashes and the high rates of fatalities they produce. Because MoDOT aimed for statewide acceptance of the program, it was important to communicate the safety value of the barriers to a broad public audience.

The media helped MoDOT achieve these communication goals. Also, the message for median cable barriers is strong and easy to communicate—the press and the public see the number of cable hits when they drive down the road, so the story nearly tells itself. MoDOT representatives helped to supplement this anecdotal evidence by relying on crash data in nontechnical, brief terms that everyone can understand and relate to. Finally, MoDOT has found that communication about the cable barriers builds on itself. The more the topic is communicated, the more questions arise from within and from outside of the state. The increased press coverage leads to further acceptance of the program.

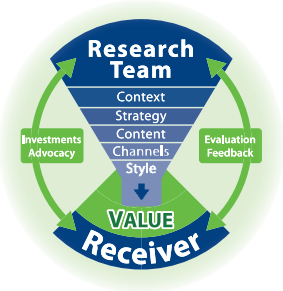
Communicating with the Public

When and Why

The public wants to know more about research and how it affects their lives. Public support for a research program can lead to support from elected officials, policy makers, and implementers. They want to know how they and their children can be safer on the road. In this time of increasing oil prices, they are especially concerned about maximizing fuel economy. Communication with the general public, as with many audiences, should be consistent, so people know what problems you are addressing and how the answers can improve their lives.

Applying the Communication Process

Context: "The public" is a very broad audience, so communication must be suitable for all educational, technical, and interest levels. Look for events in communities, states, and the nation that relate to your research. These events give an immediate point of reference for the audience and tie your work to something with which people are already familiar. Not only does this make your messages relevant, it makes them memorable.



Communication Process

Strategy: Communication with the public needs to be appealing in both content and style. Part of the strategy for communicating with the public should include pretesting your message. By asking people in your target area for their opinions and values, you can address your communication to the areas that are relevant to the public.

Content: While members of the public are interested in research and what it can do for them, they are generally not interested in the technical aspects of research. Instead, they want to know the benefits and practical outcomes from the research and knowledge that is gained. Keep your message focused on one or two key ideas that demonstrate the value and practicality of the research to the audience. Support those ideas with data, facts, and anecdotes to provide a variety of examples for the audience to relate to.

Channels: The public uses information they find in the media, but direct communication with the audience is also helpful. Mailers or town hall-style presentations and discussions are effective ways to communicate with the public. Presentations that also feature time for Q&A provide feedback from the audience that can be used to tailor future messages. With increases in technology, many people have access to the Internet, so websites should be user friendly and have information the general public seeks. Because the public as an audience is so varied, it is important to communicate with them through a variety of channels. While your audience may not receive every message, making use of multiple channels will increase your chances of success.

Style: Improve your written and spoken messages by pretesting your communication. Have others read your written statements, and practice speeches in front of audiences similar to the actual audience to whom you will deliver your message. Speak to the general public as you would speak to your family and friends to help ensure that the message is stylistically appealing and clear. When communicating with the public, photographs, illustrations, charts, and graphs add tremendous value to your message. Consult with communication experts to help develop appropriate images for your needs.

QUICK TIP

Easy Ways to Communicate with the Public

- ✓ **Write a letter to the editor.** *Think of the media as a gatekeeper to the public. A letter can put your message in front of thousands of people.*
- ✓ **Speak to a school group.** *Transportation is an integral part of our society, so connect with the youngest members and foster an appreciation for research from an early age.*
- ✓ **Invite the media to your events.** *Increased press coverage of your research program and outcomes will help educate the public on your activities.*
- ✓ **Get involved in community events.** *Many communities have expos and other events where members of the general public interact with business and other community leaders. Attend these events to get to know the community and let them get to know you.*

Source: National Sciences and Engineering Research Council of Canada, "Communicating Science to the Public: A Handbook for Researchers."

CASE IN POINT

Oregon Mileage Fee Concept and Road User Fee Pilot Program Case Study

In 2001, the Oregon legislature appointed a Road User Fee Task Force to investigate ways to design a method of revenue collection that could replace the fuel tax as a long-term, stable source of funding for Oregon's road system. The legislature developed a user fee—specifically a mileage fee based on vehicle miles traveled. Because mileage-based fees are new and considered experimental, the Oregon DOT and the task force went to the public to explain why Oregon was pursuing this source of revenue.

To gain success in its communication efforts, the task force held open meetings and hearings with a diverse public audience, made presentations to virtually all stakeholders, and welcomed public testimony at each of its meetings. The task force gave simple PowerPoint presentations to the public, gathered feedback on those presentations, and adapted them for the next presentation to anticipate and better answer the public's concerns and questions. Finally, the task force never published a paper document; instead, it relied on its website as the primary channel for exchanging information. The task force received public feedback through the website, and responded to all public concerns throughout the process to ensure that the public understood and supported this innovative plan.

Appendix 1

Transportation Case Studies

These are condensed from the full case studies presented in the final report for NCHRP Project 20-78, "Communicating the Value of Research," published as *NCHRP Web-Only Document 131*.

Case Study 1: Adaptive Control Software (ACS) Lite

Case Study 2: Northwestern University New Bridge Steel

Case Study 3: California Seismic Bridge Retrofit Program

Case Study 4: Virginia Fiber-Reinforced Polymer Bridge Deck

Case Study 5: Missouri Statewide Installation of Median Cable Barriers

Case Study 6: Oregon Mileage Fee Concept and Road User Fee Pilot Program

Case Study 7: National Cooperative Freight Research Program

Case Study 1

Adaptive Control Software Lite

Value to Sell:
Public–private partnerships that advance signal software development.

Context

In the mid-1990s when new technologies were booming, one of the innovations that changed the field was adaptive control technology. Adaptive control systems "teach" themselves by measuring their own performance and adapting to improve based on changing conditions, making them good candidates to deal with the increasing congestion in urban areas. The Federal Highway Administration (FHWA)/Turner-Fairbank Highway Research Center embarked on research to improve traffic signal control. The research yielded a program called Adaptive Control Software (ACS). ACS was well suited for large urban areas. However, in areas with small to medium population densities, installation and maintenance costs kept the ACS system from gaining wide acceptance. Given these barriers, FHWA identified a need to adapt the software to be suitable for use in small and mid-sized cities. The result was a new software tool called ACS Lite.

Strategy

Two strategies were used to develop ACS Lite. First, developers had to convey the message that ACS Lite was a product with the ability to solve a problem on a national scale. Second, the FHWA research team offered an incentive to the major industry players: they could obtain the ACS Lite software at no cost, and FHWA would pay half of the development costs for the "bridging" software to connect the old and new systems for each participating manufacturer. This incentive offered a big reward—better product and low development cost—for the risk of participating in the research with fellow competitors.

Content

The FHWA communicated that ACS Lite was the best way to significantly reduce congestion because it was designed to keep the signal settings and timing current. A second message was that ACS Lite, through the incentives offered to manufacturers, could serve as a cost-effective retrofit for existing systems, while requiring minimal equipment or replacement for its use.

Channel and Style

The channel and style used in this case were personal, conversational contact. The FHWA had to reach out to policy makers, technical researchers, and industry leaders to convey the industry-wide benefits of ACS Lite and to gain acceptance of the new software. By communicating directly with decision makers and industry influencers, the FHWA was able to successfully carry out its strategies.

Case Study 2

Northwestern University New Bridge Steel

Value to Sell: Beneficial properties of a new steel.

Context

The type of steel used in bridge construction is extremely important. Before investors and transportation entities will fund the use of new steel, research must prove the steel is reliable, durable, and feasible. Researchers at Northwestern University succeeded in developing Northwestern University copper, a new A710 Grade B structural steel. Its properties make it cheaper to produce, less expensive to maintain over the life of the structure, and equally as durable as the steel currently used in bridge construction. Despite these advantages, the challenge facing Northwestern was to sell the value of the new steel. To prove the new technology was useful, a steel bridge on State Route 83 (ILL-83) over a rail line near Lake Villa was constructed as the culmination of 10 years of research, collaboration, communication, testing, and, finally, gaining approval to use the new steel.

Strategy

The developers of Northwestern University copper demonstrated the benefits of their new steel to builders and decision makers through a variety of methods. They tested the steel under laboratory conditions and gained acceptance of the new steel in a retrofit project of the existing Poplar Street bridge. Based on consistent testing and demonstrated advantages, the new steel was approved by the Illinois Department of Transportation (IDOT) and ultimately used in the ILL-83 bridge.

Content

Northwestern University gained approval for its new steel through a combination of scientific data (years of research testing) and a brand champion. A senior metallurgical engineer in IDOT's Bureau of Materials and Physical Research contributed credibility to the project because of his status as a well-respected expert in the field. Through the use of scientific reasoning and credible proponents, Northwestern University was able to introduce the new steel in smaller projects. This application confirmed the laboratory results and ultimately paved the way to using Northwestern University copper for a full bridge application.

Channel and Style

The communication channel best suited for the IDOT ILL-83 bridge case study was personal, face-to-face interactions among professionals with shared activities and interests. Presentations of research and lab results at technical conferences was another avenue for communication that provided a forum for researchers and potential users to interact personally. Additional methods of communication included media coverage generated by news releases and more comprehensive stories from the public relations unit at Northwestern University, and written papers and reports in scholarly, professional, and trade publications. While the implementation of research results was successful, this case study illustrates the challenges involved in changing practices within an established field. The active support of a brand champion, the standardization as A710 Grade B steel, and the persistence of the developers were key factors in overcoming the obstacles.

Case Study 3

California Seismic Bridge Retrofit Program

Value to Sell: The life safety benefits expected from incremental research on seismic retrofit methods.

Context

Since the 1970s, four major earthquakes have struck California and, among other effects, demonstrated the serious impacts of earthquakes on transportation infrastructure. Researchers used information obtained from each quake for further investigations, and for the testing and deployment of materials and engineering modifications to bridges throughout the state. The goal of the research was to minimize the structural impacts and destruction caused by earthquakes and to maintain the integrity of bridges in vulnerable areas.

Strategy

California Department of Transportation's (Caltrans) Seismic Bridge Retrofit Program framed the issue around the serious threat of earthquakes and shared concern with officials and the public about transportation infrastructure stability and safety. To ensure rapid implementation of its recommendations, the program quickly summarized results from tests. In most cases, the program identified a better design of a particular element of existing infrastructure, rather than advocating an entirely new structure. In addition, partnerships and coalitions were built among researchers, engineers, sponsors, legislators, state agencies, and utility companies to help foster a team environment that bred efficiency and improved research results. The collaborations among research peers allowed for quality control—frequent review of papers, quarterly meetings—and better implementation of results. Furthermore, Caltrans allowed management to use streamlined processes, resulting in improved project flexibility and a more responsive and nimble program that was able to take advantage of research opportunities as they arose.

Content

Clear and concise messaging of technical information to nontechnical decision makers, media, and the public was carried out in visual demonstrations of test results. Caltrans used simple graphics that highlighted relationships between the data and the factors considered by decision makers. To help nontechnical readers comprehend technical writing, most papers were only three to four pages and focused on personalizing the findings as much as possible, as well as providing short illustrations or graphs with relevant and consistent scales.

Channel and Style

Personal interactions were the most popular channel used by Caltrans. The partnerships created among researchers, sponsors, and others allowed for a diverse group of experts to collaborate in solving problems. Interactions among researchers through open meetings provided the teams with avenues for peer review of papers and test results. Investment advisors were used to inform decisions on how funding should be allocated. The information used in these decisions was presented in short and concise printed reports that focused on presenting technical information in a comprehensive format. Broadcast and computer-based communication followed a similar format, with graphic displays being used to illustrate data in the form of video and slides. This format helped nontechnical audiences understand the technical information.

Case Study 4

Virginia Fiber-Reinforced Polymer Bridge Deck

Value to Sell: The value and performance of an innovative lightweight deck on a historic bridge, as well as the value of a state and federal partnership.

Context

The Federal Highway Administration (FHWA) classifies many U.S. bridges as "structurally deficient" or "functionally obsolete," one of the many reasons the nation's aging transportation infrastructure desperately needs more funding. FHWA awarded the Virginia Transportation Research Council (VTRC) funding from its Innovative Bridge Research and Construction (IBRC) program to employ a new lightweight fiber-reinforced polymer (FRP) deck in the restoration of a deteriorating historic bridge. (FHWA's IBRC program evolved into the Innovative Bridge and Research Deployment program, or IBRD, with the authorization of SAFETEA-LU.) VTRC is the research division of the Virginia Department of Transportation (VDOT). It led VDOT's analysis and implementation of the FRP technology used in the deck replacement during the restoration of the Hawthorne Street bridge in Covington, VA. Under the auspices of the Virginia Cooperative Center for Bridge Engineering, a partnership of VTRC and Virginia Tech, these two entities worked with the innovative materials in the laboratory and on test sites for several years before installing this deck. The result: the Hawthorne Street bridge, built in the late 19th century, reopened after a one-year closure with a new and innovative deck that increased the structure's load capacity nearly threefold, from seven to 20 tons.

Strategy

Selecting a relevant project on which to install an FRP bridge deck was an important first step toward gaining funding for the project. VTRC and VDOT Structure and Bridge personnel identified the Hawthorne Street bridge as the prime candidate because use of FRP for the deck would contribute to preserving the bridge's overall historic iron thru-truss structure, while also increasing its load capacity. When selecting IBRC projects, VTRC and VDOT carefully match mature innovative technologies with structures suitable for application. Building on VTRC's favorable reputation as an independent and objective research center, this attention to detail has resulted in Virginia receiving the most IBRC funding of any state over a five-year period. In the case of the Hawthorne Street bridge, the preservation of a historic landmark also made communication about this project relevant and important to the public.

Content

VTRC's proposal to FHWA focused on clearly presenting its prior research findings and field test results as a basis for using the FRP material for a bridge deck. VTRC wanted to show how VDOT could use FRP as a lightweight bridge deck in the rehabilitation of the Hawthorne Street bridge and how it could deploy the material in similar future cases. The positive and informative external communications VTRC and VDOT provided after completing the project also helped the public and policy makers understand the multifaceted research and materials involved in the project.

Channel and Style

Throughout the planning and rehabilitation of the Hawthorne Street bridge, VDOT and VTRC used both computer-based and personal-contact channels of communication. A systematic explanation of previous research findings, the technology, and its benefits proved effective in communicating with FHWA for the IBRC funding. This communication style also brought focus to the positive research. Personal contact with the FHWA representatives paved the way for them to help guide the proposal through the IBRC evaluation process. It also provided important feedback for building stronger proposals in the future. Frequent face-to-face meetings between VTRC's research team and VDOT's construction team helped both groups work together and keep the project on track. VDOT's regional office gained further momentum for the project through media relations and news releases to increase public awareness. A ribbon-cutting ceremony celebrating the bridge's reopening drew local officials and Virginia legislators as well as townspeople. This exposure helped to communicate the value of federal research funding for local transportation projects.

Case Study 5

Missouri Statewide Installation of Median Cable Barriers

Value to Sell:
A statewide solution to prevent a specific crash type.

Context

The state of Missouri began to focus on improving traffic safety by reducing cross-median fatalities after research using the state's database on crash sites and crash types concluded that cross-median crashes were a major source of traffic fatalities and severe injuries on Missouri roadways. Cross-median crashes typically involve head-on collisions, high speeds, and multiple fatalities. Using median cable barriers is a countermeasure to cross-median crashes that is both effective and relatively inexpensive. These factors eventually resulted in a unique situation where the state focused not on fatal crash locations (which are random), but on specific crash types (which are not random), and implemented a statewide solution.

Strategy

With a limited budget, the Missouri Department of Transportation (MoDOT) installed test sites in locations with a historically high frequency of cross-median crash sites. The test methods involved not only median guard cable, but also shoulder rumble strips and guardrail improvements. Throughout the late 1990s, after successful results with the test sites, additional mileage of median guard cable was placed along the interstates. The increased visibility of test sites to the public and policy makers served as references to the project's success and provided the advocates of median guard cable the ammunition they needed when promoting its use on a statewide level. Persistent advocacy played a key role in keeping the topic fresh in the minds of decision makers.

Content

Results from test sites were summarized in reports that were used to promote the program's early success. The earliest report on the original median guard cable located on I-44 indicated the cable had virtually eliminated cross-median fatalities. Other reports included information on improvements being made to installation design to increase the effectiveness of the cable on hills and turns. New installations were equally promoted to increase awareness, bringing attention to its eventual success. When presenting technical content to a nontechnical audience, MoDOT found the use of graphs and visual explanations helpful.

Channel and Style

Despite the multiple years that it took to deploy median guard cable as the statewide solution to cross-median crashes, many traffic safety engineers and project managers consistently championed the program. This advocacy sustained momentum for the idea of improved safety and saved lives with a proven and cost-effective countermeasure to a specific crash type. In this MoDOT case, it was important for advocates of the program both to speak with decision makers and to be persistent in sending emails and letters to keep the issue visible. Increased visibility was also supported through broadcast channels or media sources, such as town hall meetings and news releases. After the public became aware of the success of median guard cable, the costs of implementing a statewide solution were easier to justify. Actively pursing other channels of communication, such as webinars and web conferences, helped to further increase awareness of the program.

Case Study 6

Oregon Mileage Fee Concept and Road User Fee Pilot Program

Value to Sell: A more equitable and efficient way to collect road user fees that is acceptable to the public.

Context

In 2001, after an Oregon legislature hearing on the future of fuel-efficient vehicles, there was concern that the fuel tax would become a declining revenue source for Oregon's road systems. As a result, the 2001 Legislative Assembly addressed the long-term viability of Oregon's road finance through the formation of a 12-member Road User Fee Task Force. The task force was charged with designing a revenue-collection strategy that could effectively replace the fuel tax as a long-term, stable source of funding for maintaining and improving Oregon's road system.

Strategy

The task force identified a mileage or user fee program as a favorable alternative to the gas tax, but the challenge was to help the public understand the problem of limited transportation funding so the fee program could be approved. The Oregon Department of Transportation (ODOT) used public outreach activities to educate the public on the innovative and experimental issues surrounding the mileage/user fee program. Additionally, ODOT and the task force made an effort to be accessible to the media, whose reports were used to further educate the public and gain support and visibility on both state and national levels. The program's transparency provided the landscape for effective communication among interested parties.

Content

The public outreach effort was meant to ensure the public was educated on why Oregon was pursuing an alternative to the gas tax for financing the road systems. Through open meetings with the task force, focus groups, presentations to stakeholders and transportation professionals, and so on, ODOT was able to educate the public and gain its support. The task force approached this public education effort with an understanding that the motoring public will not respond positively to change quickly and will need time to accept the nature of the problem and become comfortable with viable solutions. The task force also made efforts to teach its allies about the program's fundamentals so they too could become advocates.

Channel and Style

ODOT posted all process documents and reported all decisions on its interactive website. The task force's reliance on web over paper documents allowed for immediate and efficient communication with the public, greater transparency, and the ability to hear opposing views. This information helped to create better supporting arguments and helped ODOT understand weaknesses in its approach. Making numerous personal contacts was also effective in gaining acceptance for the program. The task force director served as a key spokesperson and champion, with his tireless presentations and advocacy of the program. The open meetings and geographically diverse public hearings allowed everyone the opportunity to learn and express their opinions about the program. If attending a meeting in person was not an option, the public could become educated through reports by the media, news articles, and radio interviews.

Case Study 7

National Cooperative Freight Research Program

Value to Sell:
The benefits derived from a national freight research program.

Context

The deregulation of the freight industry in 1980 led to reduced focus on research due to a lack of public interest and the termination of data collection programs. As a result, freight research issues were not accounted for when decisions were made about public funding for transportation research. In recent years, the globalization of the industry and the increased demands on the movement of goods has heightened the public's interest in freight issues. In response, the National Cooperative Freight Research Program (NCFRP) was created as the federally sponsored freight research program in the most recent surface transportation authorization act, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

Strategy

The Freight Stakeholders Coalition (FSC) began to coordinate efforts to bring national attention to freight issues and to advocate for funding on freight research and public safety. Aided by the credibility of its members and support from industry, state, and local governments, the FSC became the major factor in the NCFRP's inclusion in SAFETEA-LU. Equally influential was the FSC's ability to build relationships with a diverse audience. By providing the groundwork for long-term interactions, the FSC was able to continually gain momentum with both the private and the public sectors.

Content

Rather than citing specific research while advocating for the NCFRP, the FSC chose a more general approach focusing on the importance of the field, its problems, and its connection to the national economy. Consistent messaging that highlighted broad issues of national interest was key. The NCFRP was patterned to operate similarly to the successful National Cooperative Highway Research Program and Transit Cooperative Research Program, which are respected because of the responsiveness of their research agendas toward their constituencies. These programs provided a proven model for a successful implementation strategy and the participation of an Oversight Committee that represented the private and pubic sectors.

Channel and Style

The American Association of State Highway and Transportation Officials (AASHTO), in a partnership with the FSC, became the primary advocate for the NCFRP. The AASHTO's commitment of resources to the program, along with its respected historical record, helped to escort the program through the passage of the bill. Both AASHTO's ability to act as a lead advocate, along with the FSC's efforts to build relationships with Congress as an advocate for the NCFRP, provided the credibility and exposure needed to gain momentum for the NCFRP's inclusion in SAFETEA-LU. Persistent and consistent collaboration among advocacy groups, government officials, and key stakeholders made personal contact the most important channel of communication for this research initiative.

Appendix 2

Non-Transportation Best Practices

These are condensed from the full best practices review presented in the final report for NCHRP Project 20-78, "Communicating the Value of Research."

Best Practice 1: St. Jude Children's Research Hospital

Best Practice 2: Susan G. Komen for the Cure®

Best Practice 3: Consultative Group on International Agriculture Resources

Best Practice 4: Association of Fish and Wildlife Agencies

Best Practice 1

St. Jude Children's Research Hospital

Context

The mission of St. Jude Children's Research Hospital is to advance cures, and means of prevention, for pediatric catastrophic diseases through research and treatment. Most importantly, St. Jude's goal is to increase the survival rate of children suffering from these diseases. St. Jude welcomes referrals from treating physicians of children and adolescents with newly diagnosed untreated or suspected cancer; HIV infections; or certain hematologic, immunologic, or genetic diseases. Since the hospital is a research center, every child accepted is enrolled in a specific study or "protocol." Information gathered from these studies is used in developing better treatments.

Research efforts are directed toward understanding the molecular, genetic, and chemical bases of catastrophic diseases in children, identifying cures for such diseases, and promoting their prevention. Research is focused specifically on cancers, acquired and inherited immunodeficiencies, infectious diseases, and genetic disorders. The current basic and clinical research at St. Jude includes work in gene therapy, bone marrow transplant, chemotherapy, and many more.

Leaders of St. Jude and The American Lebanese Syrian Associated Charities (ALSAC), the fundraising arm of the St. Jude organization, are crucial players in communicating the research conducted at St. Jude. The hospital and ALSAC also have staff dedicated to communicating within different areas of the organization through publications produced by scientific editors. The development of partnerships with medical institutions and fund-raising organizations to recruit support for key programs is paramount. (St. Jude has a specialist for handling each type of media, fundraising, and physician referral communication). Key audiences include patients—and their parents—physicians, donors, and the general public.

Communication Approach

Communication at St. Jude is centralized, but compartmentalized. All communication initiates from St. Jude's main campus in Memphis, Tennessee; however, the hospital, fundraising arm, and physician referral units all have their own communication specialists who generate communication for their own unit. Each communication unit incorporates information to demonstrate the value of St. Jude research in nearly every communication product created.

Outcomes

The value of research is communicated in terms of lives saved and the number of new and improved treatments through simple and easy-to-digest facts and updates. St. Jude facilitates frequent updates focusing on the research results and their direct impact on patients.

Best Practice 2

Susan G. Komen for the Cure®

Context

Komen for the Cure is the world's largest grassroots network of breast cancer survivors and activists working to save lives, empower people, ensure quality care for all, and energize science to find the cures. Since 1982, Komen for the Cure has invested nearly $1 billion in efforts to fulfill its promises, making it the largest source of nonprofit funds dedicated to the fight against breast cancer in the world by seeking breakthroughs in cancer diagnosis and treatment. More than 100,000 volunteers, the key actors in Komen's communication, make up a network of local affiliates. These volunteers keep the issue of finding a cure for breast cancer in the public eye. Some volunteers are involved in Komen's Champion for the Cure, which is a subunit of Komen that works to educate elected officials and Congress about breast cancer research and issues.

Communication Approach

Komen relies on its grassroots advocacy network to disseminate information to all audiences with whom it communicates. This is particularly true for communication with media, the public, and policy makers on a local affiliate level. The headquarters office of Komen for the Cure employs communication specialists who create materials and make them available to local affiliates. The single, most important message the Komen for the Cure organization works to broadcast about the research it funds or the research it supports is that the research saves lives.

Challenges

The most daunting challenge it has faced with communicating about research and its value is that "a lot of people, including many members of the press, see the word 'research' and either think they can't/won't understand it or they are afraid to even try. Coupled with this is the fact that Komen funds a lot of 'basic' research—inquiries at the cellular level, etc., and it is, at times, difficult to follow and even more difficult to visualize how the research is eventually going to benefit the patient." To address this challenge, Komen offers consumer-friendly breast health and breast cancer information congruent with eighth- to tenth-grade reading levels. The organization produces reader-friendly research/researcher profile stories for use in newsletters and on Komen's website.

Komen has worked over the years to make sure that reporters and editors know that when they come to Komen, they will receive reliable information and access to some of the world's leading breast cancer researchers and clinicians if they want to go in depth on a particular subject or they need more context.

Komen also added a chief scientific advisor, Dr. Eric P. Winer, an internationally known oncologist and educator from Harvard, to head its Scientific Advisory Board, composed of leading breast cancer researchers and clinicians. This board offers expert comment and perspective on breaking news in the breast cancer arena. Dr. Winer and the board make sure that Komen issues news and updates on research that are reliable and evidence based.

Outcomes

Komen has several measures for determining the success of its communication, including communication about research and its value. Indicators of successful communication regarding research include the numbers and types of media calls it receives, the number of hits Komen receives on a particular story on its website regarding grants and the research, the number of inquiries it receives about its research efforts, and the number and caliber of grant applications it receives—all of which are on the increase.

Donations to Komen for the Cure continue to increase, and the participation in Komen events, such as the Race for the Cure®, continues to be robust, as well. Funding from partner programs is expected to rise by nearly 40 percent this year.

Best Practice 3 Consultative Group on International Agriculture Resources

Context

The Consultative Group on International Agricultural Research (CGIAR) is a strategic partnership of countries, international and regional organizations, and private foundations supporting the work of 15 international centers to foster sustainable agricultural growth through high-quality science aimed at benefiting the poor through stronger food security, better human nutrition/health, and higher incomes and improved management of natural resources. Originally focused on increasing crop production for specific critical food crops, CGIARS research today incorporates biodiversity and environment research.

Key actors in research and communications efforts of CGIAR are its member organizations, the leaders of those organizations, and a CGIAR staff based in Washington, D.C. Their audiences include international aid agencies, policy makers (i.e., U.S. Congress and leaders of developing nations), private organizations and foundations, natural resource organizations, and the media (including international media).

Communication Approach

CGIAR uses both a centralized system of communication and local communication at its 15 centers. The foundation for the centralized system is the Internet—to keep members, the media, and mainstream interests informed on the most important and current issues. A more personalized approach is taken for policy makers and elected or appointed officials. CGIAR also leverages its members' and partners' communication abilities to disseminate information. For example, local CGIAR centers participate in radio interviews and local media discussions, a partner organization may produce a video that incorporates video from CGIAR, or research results from CGIAR can be found on links of websites of CGIAR partners.

CGIAR believes communicating the value of the research conducted must include concrete, compelling messages that emphasize the impacts of research conducted. The results of the research must be clear, and communication must link the results to CGIAR's goals of reducing poverty and hunger and protecting the environment. CGIAR often communicates these results in written materials as "leave-behinds" for officials in order to reinforce their face-to-face communications.

Challenges

CGIAR generates a large amount of information; one challenge, therefore, is that recipients can often feel bombarded and overwhelmed. This is particularly true for one particular audience—policy makers and officials—with whom CGIAR judiciously uses personal contacts to address this issue. Another challenge cited by CGIAR is that written communications often go unread, no matter how they are distributed. To address this challenge, CGIAR has put more focus on media coverage and finding ways to tell stories that reinforce the messages it wishes to convey.

Outcomes

CGIAR measures its success of communicating the value of research through increases in the number of donors and amounts of donations to its programs. The organization considers its communications to have been "moderately" successful over the past six years, as it has been able to garner new support and maintain existing support in a "competitive environment."

Best Practice 4

Association of Fish and Wildlife Agencies

Context

The Association of Fish and Wildlife Agencies (AFWA), representing all of North America's fish and wildlife agencies, promotes sound management and speaks with a unified voice on emerging fish and wildlife conservation programs and activities to protect the continent's natural resources. A Science and Research Liaison within the organization works closely with a variety of partners to initiate and provide timely, credible, science-based information that can be used by resource managers to protect and manage fish, wildlife, and their habitats in the public interest. Current issues involved in AFWA research include the impacts of wind power on fish and wildlife, global climate change, and hurricane restoration and recovery.

The AFWA considers its members to be its primary audience. The U.S. Congress, sportsman's organizations, conservation groups, and the general public are also considered to be key audiences. The AFWA has a Science and Research Program, which is designed to strengthen cooperation between state, federal, private, and international agencies and partners. The Science and Research Program seeks to expand and enhance scientific capabilities and services by matching state research needs with the science capabilities of federal agencies.

Communication Approach

Targeting communication materials and messages to specific audiences is common practice for the AFWA. The association creates several materials that are similar (such as newsletters, information kits, and fact sheets), but distributes the materials using different methods, depending on the audience. The AFWA believes in being creative with communications, particularly to bring attention to specific elements of fish and wildlife successes. An example of this creativity is the awards they bestow upon congressional members.

Building relationships with key decision makers, such as congressional officials, is considered critical to the AFWA. Regular, personal contact helps create a presence for the association and has helped the AFWA build a reputation among those officials. Developing relationships with congressional staff, as well, is considered as important as developing relationships with congressional officials. Furthermore, finding champions who will advocate for the association, its mission, and its research efforts is a part of the AFWA's communication strategy.

Challenges

Information overload on the part of communication recipients is considered one of the challenges of communication for the AFWA. Another challenge is ensuring that recipients understand the information given to them, particularly when it involves complex, technical information. The association focuses its communication efforts on issues of current interest, which is largely defined as those issues deemed most critical by the public. To ensure there are no misunderstandings or miscommunications about the information it distributes to congressional and elected officials, the AFWA feels it is imperative to have someone discuss the information with the official's staff beforehand.

Outcomes

With goals of increasing stable, long-term funding through federal legislation and seeking annual congressional appropriations to help finance fish and wildlife conservation programs, the AFWA has successfully targeted Congress as its key audience. In 2000, AFWA efforts included passage of the Wildlife Conservation Restoration and State Wildlife Grants Programs. In April 2006, when a massive cut threatened the State Wildlife Grants Program, the association led an intensive five-week campaign of grassroots leadership and media to help restore program funding in the Senate.

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Acronyms

Abbreviations and acronyms used without definitions in TRB publications:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation

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